

Science Bypass

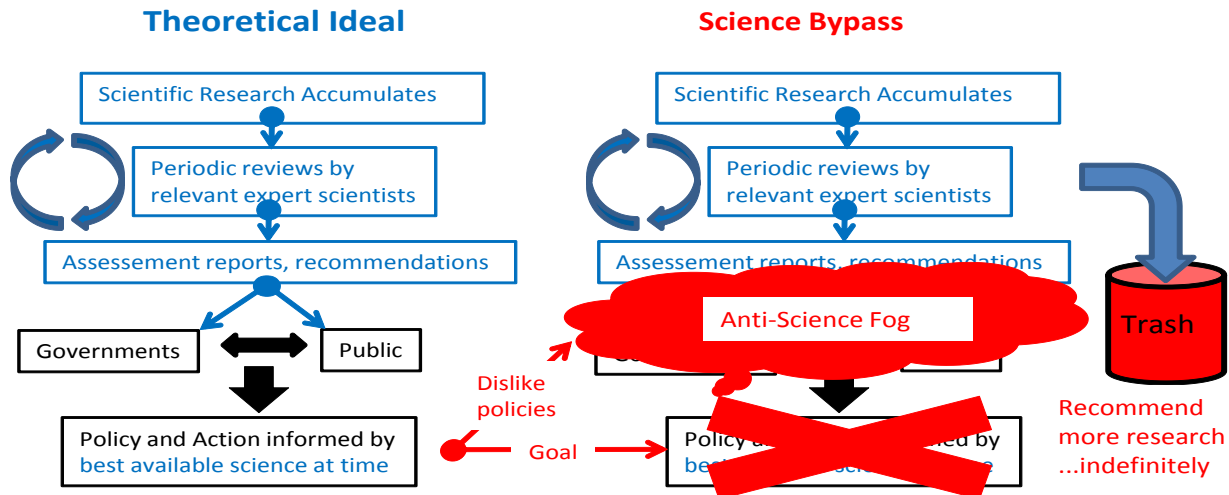
Anti-science Petition to APS from folks with **SEPP**, **George C. Marshall Institute**, **Heartland**, **CATO**
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 November 11, 2009

<http://www.desmogblog.com/another-silly-climate-petition-exposed>

Executive Summary

The American Physical Society (APS) was petitioned by 206 people, about 0.45% of the 47,000 members, to discard its climate change position and declare decades of climate research non-existent. The Petition was “overwhelmingly” rejected, but this *anti-science* campaign offers a useful case study. The Petition signers’ demographics are compared to those of APS in general. Then, the social network behind the petition is analyzed in detail, person by person for the first 121 signers. *This might seem a grassroots groundswell of informed expert argument with the existing position, but it is not. Rather, it seems to have originated within a small network of people, not field experts, but with a long history of manufacturing such things, plausibly at the **Heartland Institute’s** NYC climate conference March 8-10, 2009.* APS physicists can, do, and will contribute strongly to solving the 21st century’s conjoined climate+energy problem, *but this petition was a silly distraction, and rightly rejected.* However, its existence was widely touted to the public.

Science and Policy



Ideally, science should inform public policy, and sometimes does, but science may lead to policies some find undesirable for financial, ideological or other reasons. The (simplified!) ideal flow of science in informing policy is at the left, at the right is the approach preferred by a few others. Effective tactics to *bypass science* were invented for tobacco companies in 1954 and practiced for decades to generate doubt and delay. They are applied here by some of the same people who helped those companies, including those involved with **SEPP (S. Fred Singer)**, the **George C. Marshall Institute (GMI)**, the **Heartland Institute**, and/or the **CATO Institute**, usually several. Signers so involved (16 of the first 54, 18 total,) are shown in gray on the next page. All 11 “supporters” were/are likewise involved.

Science bypass is familiar to people involved with PR, lobbying, politics and those few scientific disciplines facing well-organized attacks, but simply alien and confusing to many scientists. This paper offers a case study to help people understand the tactics, *as APS is unlikely to be the only target of such campaigns, often mounted, not to convince scientists, but to create and maintain doubt in the public.*

APS Petition Signer List (A-I) (206), as of 11/06/09, plus 11 "Supporters"

B Agnew, Harold M.	D Cranmer, Steven R	C Hameed, Sultan	I Pearson, John T
D Aisenberg, Sol	E Cuderman, J.F	A Happer, Will	G Pell, Erik M
X <u>Akasofu, Syun-Ichi</u>	B Cuttler, Jerry M	I Harrison, Joseph G	I Petras, Michael F
D Alexander, Ralph B	G Degnan, James H.	B Hayden, Howard C	D Phipps, Thomas E
B Alexanian, Moorad	D Depp, Joseph G	E Hayes, Dennis B	I Post, Richard S
D Allamandola, Louis J	D DeSalvo, Riccardo	I Henley, John R	I Prince, Joseph F
F Allen, James L	F Deye, James A	I Hiller, Joseph F	G Przybysz, John
H <u>Anderson, Arthur G</u>	F Dirk, Eugene H.	B Hollander, Jack M	B Rapp, Donald
D Andrei, Eva	I Doskocil, Albert C	B Holtkamp, David B	E Rasor, Ned S
A Austin, Robert H.	B <u>Douglass, David H</u>	E Ingraham, John C	G Rauch, Richard T
H Bahr, David A.	C Drallos, Paul J	D Jackson, Helen	B Rhoads, John E
I Baker, John M	E Dryer, Murray	X <u>Jastrow, Robert</u>	B Ringermacher, Harry I
X <u>Baliunas, Sallie L</u>	E Duffy, William T, Jr	I Joffe, Michael A	B Robertson, Stanley L
I Bartlett, David F.	I Durakiewicz, Thomasz	E Johnson, H. Richard	B Robinson, Berol L
B Battaglia, Franco	E Edwards, David F	D Johnson, James R	G Rogers, Daniel J
D Benard, David J	B Engelhardt, Albert G	C Judd, O'Dean P	F Rohr, Robert C
I Benjamin, Richard W	E Enstrom, James E	B Kaldor, Andrew	F Roos, Kelly R
D Berger, Lev I	I Fanchi, John R	B Kaplan, Alexander E	I Ryan, John J
B Berger, Stuart B	B Feder, Jens	F Karr, Thomas J	G Sanchez, Isaac C
D Berkowitz, Ami E	E Fields, Douglas E	I Karras, Thomas W	E Sarwinski, Raymond
B Berman, Barry L	I Finn, Edward J	B Katz, Jonathan I	B Scafetta, Nicola
B <u>Berry, Edwin X</u>	I Fisher, Robert A	I Kaup, David J	X <u>Seitz, Frederick</u>
E Berting, Frances M	F Fitelson, Michael M	D Keller, William E	G Semon, Mark D
D Bevc, Vladislav A	I Florian, Joseph R	E Kennel, John M	B Sheahen, Thomas P
I Bigelow, Matthew S	G Forsen, Harold K	G Kingsbury, Paul I	E Sierk, Arnold J
D Bigham, Clifford Bruce	E Freeman, Bruce L	B Knox, Robert S	B Silverman, Joseph
B Bodek, Arie,	E Frese, Michael H	I Koslover, Robert A	I Simpson, James D
F Boring, John W	B Friedman, Peter D	F Kristiansen, Magne	A Singer, S. Fred
I Brasher, James D	E Fritz, Ian. J	F Kuchnir, Moyses	G Sluijter, Frans W
I Briggs, Richard J.	C Gamblin, Rodger L	B Kunc, Joseph A	F Smith, John R
C Brown, Lowell S	E Garth, John C	G La Celle, Paul L	X <u>Soon, Willie</u>
D Bubb, Daniel M	E Gathers, G Roger	C LeLevier, Robert E	X <u>Spencer, Roy</u>
I Burdett, William R	D Gerardi, Gary J	I Lester, James D	X <u>Sproull, Robert L</u>
I Buttler, William T	B Giaever, Ivar	B Levine, Robert E	X <u>Starr, Chauncey</u>
B Calvin, Timothy D	F Gillies, George T	A Lewis, Harold W ??	D Statz, Herman
H Camp, William J	E Giovanielli, Damon	B Lindl, John D	B Steph, Nick
F Campbell, Mark L	B Gold, Albert	H Llobet, Xavier	D Stilbs, Peter
B Canavan, Gregory H	F Goldfarb, Ronald B	E Lombardi, Gabriel G	E Stockwell, Norman D
E Castle, Jack G	A Gould, Laurence I	E Lubin, Michael D	E Stratton, Thomas F
I Cervero, Jose M	B Grant, Paul M	I Lytle, Farrel W.	F Stratton, William R
I Chadwick, C. Todd	B Greyber, Howard D	D MacRae, Alfred U	B Suckewer, Szymon
G Chiang, Joseph F	F Gripshover, Ronald J	B Mange, Phillip W	C Sundelin, Ronald M
X <u>Christy, John R</u>	I Grismore, Roger	F Mansfield, John E	H Szilagyi, Andrei
I Clover, Michael R	I Groce, David E	H Marinova, Krastanka	E Talbert, Willard L
I Coffey, William T	B Gruntman, Mike	I Marrus, Richard M	F Ting, Lu
A Cohen, Roger W.	D Hacken, George	I Marx, David T	B Tipler, Frank J
I Conger, Robert K	E Hacker, David S	E Maserjian, Joseph	B Torquato, Salvatore
F Crane, Barry D	I Hallin, AkseI	F McAdoo, John H	F Towell, Rusty S
Involved with SEPP, GMI, Heartland, or CATO			
(A) Organizers, Nature	6	4	D Troy, Edward S
(B) Signed by May	48	12	F Walters, William B
(C) Signed by 07/22	8		B Werner, Samuel A
(D) Signed by 08/07	28		B West, Bruce J
(E) Signed by 08/20	31		I West, John B
(F) Signed by 09/03	23	1	I Wills, Edward L
(G) Signed by 10/15	13		D Wojtowicz, Peter J
(H) Signed by 10/30	6	1	E Xie, Ya-Hong
(I) Signed by 11/06	43		D Yoder, M. John
(X) <u>Supporters, not</u>	11	11	I Zaezjev, Michael
signers, but relevant	<i>All (X) with S, G, H, or C</i>		G Zeller, Claude
			D Zombeck, Martin V

The reader should be undaunted by the 18-page length of this paper. Most people need only read about 30 pages (Sections 1-5, first few pages of 6, then 7-8). Appendices 1-3 give references of which at least some might be familiar to most readers. **Bold words** have entries there, **Bold names** in the Appendices 5 and 6. Appendix 5 gives summary tables from which I computed the simple demographic statistics. Appendix 6 describes each signer and “supporter”, in more detail for the first 121 signers. I’ve focused on those few authors that have ever written any climate pieces, peer-reviewed or not. Given the hundreds of hours of Web-searching done under time-pressure, I hope the inevitable errors are not large ones. Some redundancy of description was hard to avoid, as this was a moving target, and data was sliced and diced different ways. As per Mark Twain, with more time, I could shorten it. These Appendices provide the data from which I formed various opinions, and in the main body of text, *opinions are shown in Italics*.

Some conclusions are inherently qualitative opinions, and to some extent, are akin to those of commercial or military intelligence, in which one tries to understand actions that someone else would prefer not be understood. The mass of detail may at least convince readers that I have at least tried hard to identify every signer, find their climate publications or establish the unlikelihood thereof, and allow spot-checking of known people. The reader should assess the plausibility of each opinion, and if convinced, can usually skip the rest of that subsection.

Section 1 explains my usage of the terms *pseudoscience*, *science-noise*, and *anti-science*, of which the last is the focus of this paper. Fig 1.1 gives a timeline for past climate anti-science campaigns. A reader familiar with the Petition itself can skip Sections 2 and 3. Section 4 describes the Petition campaign timeline in detail, but Fig 4.1 shows the essence.

Section 5 compares the signers to the APS as a whole. *Signers, as a group, are quite unrepresentative of the APS. Figs 5.1 and 5.2 show age and geographic characteristics that hint at the existence of a social network, not a widespread grassroots movement.*

Section 6 builds a social network analysis of the first 121 signers, by chronological signing wave. A reader might just examine Figs 6.1 and then Fig 6.5, which shows a tight-coupled network of clear and plausible relationships among signers. Any reader who gets convinced that most of the people are part of a social network, not a grassroots groundswell, can skip to the end of that (long) Section.

Section 7 speculates on why a few well-educated (mostly) physicists might sign a *silly* petition, *when any such person could easily read a few books and a small part of the IPCC report and know better.*

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1. Introduction and Definitions

Science. Any APS member knows that real science starts with research, followed by peer-reviewed publication in credible places, and most crucially via repeated evaluation of field researchers. Scientists certainly expect this in their own fields. Any area of modern science has many central areas of strong agreement, with continual arguments at the edges, and one can always find some tiny minority that disagrees with anything. *But real science is rarely done by petition.*

Anyone is free to write what they wish, or sign any petitions they like – we have free speech. But claiming inappropriate scientific authority can have bad consequences for science and society. The public generally has a high regard for the opinions of scientists about science. I hope that continues, even as some people campaign strongly to discredit inconvenient real science. When people write “as physicists familiar with the science issues”, that is an argument from (scientific) authority. It seems fair to evaluate that claim of authority, and assess the extent to which this Petition is based on science or extra-science reasons. Some may have signed as favors to friends, perhaps not really understanding the goals of this petition, but others certainly understood quite well, having been heavily involved in similar past campaigns.

Pseudoscience. When ideas are repeatedly examined, often explicitly refuted, but originators persist in the face of a strong imbalance of evidence, at some point it becomes *pseudoscience*, an attempt to convince scientists to adopt an idea for which the balance of evidence is strongly adverse.

Science-noise. In communicating new results to the public, the end-to-end process easily over-interprets results, loses caveats, or creates outright errors, as often happens in space-constrained newspaper headlines. This might be called *science-noise*, for lack of a generally-accepted term. Good communication of science to the public is nontrivial. Signal is often obscured by noise, purposeful or accidental, which can either increase or lessen the perceived importance of some scientific result. Science-noise in one direction sometimes incites people to the other extreme, ignoring the real science. But organized *anti-science* is very different from science-noise, and many scientists are simply unaccustomed to dealing with it, since most scientific fields face no organized anti-science.

Anti-science. *Agnotology* was coined by Stanford’s Robert N. Proctor [PRO2008] to describe the deliberate production of ignorance and doubt. When applied to scientific topics, it might be called *anti-science*, employed when research results threaten strong economic or ideological interests. It is rarely intended to convince field professionals, but to confuse the public and especially decision-makers in government and business. Many modern anti-science tactics were invented by Hill & Knowlton in 1954 for tobacco companies and used thereafter, often by the same people and organizations, especially in fighting environmental regulations. (See **TIRC** in Appendix 2.)

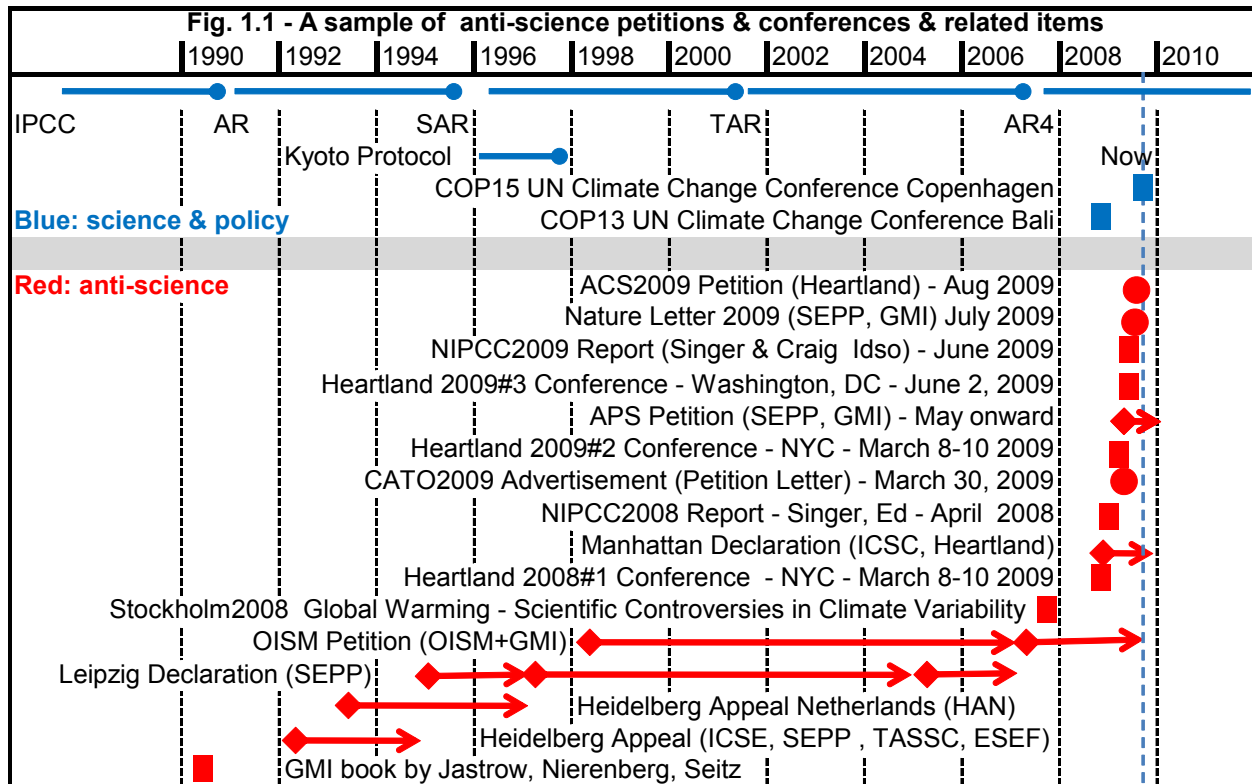
Anti-science sometimes employs its own science-noise and even pseudoscience. Suppose someone writes a peer-reviewed paper showing some well-caveated, modest effect, but then drastically and repeatedly over-interprets it for non-field audiences via OpEds, lectures, blogs, websites, claiming it has demolished decades of careful research. That is usually deliberate anti-science, not science-noise. A few signers have written books citing trivially-debunkable pseudoscience, of which specific examples will be given later. It is difficult to take claims of scientific authority seriously when such are found.

Petition to APS, but not for APS. This Petition is certainly anti-science, and others will certainly comment on the science, so this paper focuses elsewhere. The Petition seems to have little real connection with the APS membership as a whole. After 7+ months of collection, the 206 signers represent about 0.45% of APS’ 47,000+ members, and *their demographic profile differs strongly from that of the membership as a whole.* *Rather than representing a broad groundswell of opinion, this seems yet another climate petition organized by people who do this often*, of whom **S. Fred Singer** has long been especially active.

Few APS members are professional climate scientists, and very few signers have ever published *any* peer-reviewed climate science. Some that passed peer review has not survived further scrutiny very well, or been cited very much or positively by unrelated researchers in credible journals. Some have published websites, reports, books, articles or OpEds that disagree with mainstream climate science, or spoken as such at non-scientific conferences.

A patient has serious heart problems, and top cardiologists strongly recommend a quad bypass. If a tiny fraction of the world's **brain** surgeons sign an "open letter" saying that cardiologists are ignorant of heart disease, they might be right, but only the most wishful-thinking patients would listen.

Petition context. This kind of petition has been used since the early 1990s to create impressive lists of names to help maintain an illusion of serious scientific disagreement for the public. Appendix 3 describes some of those in which **SEPP**, **GMI**, **Heartland** and/or **CATO** have been involved, summarized in Fig. 1.1. Whenever the US Government might actually do something meaningful, this activity has intensified. The IPCC started in George H. W. Bush's administration (followed by **GMI** book), and the Kyoto Protocol was 1997 (followed by **OISM**). The 2001-2008 period was quieter. With a climate bill being worked in Congress, and the Copenhagen meeting coming soon, 2008-2009 activity is **intense**:



Instructive case. This climate petition is more enlightening to study than most, because:

- Almost all signers have PhDs in Physics or related disciplines.
- Most have published peer-reviewed research in credible journals and clearly understand scientific processes. Some have *quite* distinguished records in their own fields. Compared to the general public, strong extra-science motivation may be needed to get experienced physicists to sign such a petition.
- This petition is explicit enough to allow precise identification of most signers, given publications, locations, and affiliations. Affiliation histories are especially useful in understanding social networks, and sometimes affiliations listed on the petition were *not* the most relevant for discovering connections.
- It seems very likely that signers have knowingly supported this campaign, unlike some lists.
- This campaign has a clear core of organizers, followed by successive Waves recruited by earlier signers. It is easier to find the connections than in most other lists, and many "new" names were interesting. The petition is large enough to be instructive, but small enough to be tractable, and I had time to analyze the first 121 signers (**A-E**) in some detail. If someone just reads the signer list, it seems an impressive and widespread list of unconnected people, a popular groundswell, but in fact, most signers belong to one or more fairly obvious social networks, analyzed in detail in Section 6.

Methodology. I know none of the signers personally. For each signer, I started with the description in the Petition. I searched for CVs, used Google Scholar to find papers, locations, and co-authors, and sometimes used the *Pipl* search engine for location and birthyear crosschecks.. I used *NewsMeat* to find political donations, and accumulated per-person information and possible connections in Appendix 6. For the first 121 signers, I searched for articles, Web postings, combinations with others (such as joint authorship), but did less for the later signers (**F-I**).

Organizations and petitions named in **Bold** have entries in the earlier Appendices, and a reader swamped by unfamiliar acronyms might scan those.

This paper is long, and much is about interpersonal connections, so surnames alone are typically used for brevity, University is abbreviated as U, and standard codes are given for US states, intending no discourtesy to any. Most references are given via in-line URLs, as per Web pages, most convenient for those reading the PDF on-line, but URLs are shown visibly to maintain usability when reading a paper copy. On-line/paper combinations are still works in progress. I apologize for the dense encodings of attributes needed to display data compactly to help me find relevant attributes and relationships. I do my best to focus on facts, but some opinions or speculations are necessarily included, and *italicized*. I have tried to reference substantial backup information let the reader assess the plausibility of these opinions.

Very important qualification. Whenever groups are mentioned as connections among signers, absolutely *nothing* is implied about other members of the group. Group names are simply used as familiar labels and to help understand connections, whether certain, likely, or at least plausible. For example, 2 organizers are senior members of the Physics Department at Princeton University. That Department has 40+ faculty members, most of whom are APS members who have *not* signed this petition. Many signers have been associated with Los Alamos National Laboratory (LANL) or related NM organizations, but their number is dwarfed by the large number of non-signers there. A few **JASONs** are involved, most are not. Senior signers must have many contacts who have not signed.

Caveat. Wiki web pages are never regarded as authoritative, just useful guides to further references. However, they can be helpful introductions to new topics, and often summarize information not easily findable in any other single place. Real researchers tend to ignore truly awful papers, but sometimes good refutations exist only in blogs, and are sometimes useful, although the reader must be careful.

2. The Petition Itself, Plus 10/30/09 Letter to Senate

www.openletter-globalwarming.info/Site/open_letter.html

“Regarding the National Policy Statement on Climate Change of the APS Council: An Open Letter to the Council of the American Physical Society

As physicists who are familiar with the science issues, and as current and past members of the American Physical Society, we the undersigned urge the Council to revise its current statement* on climate change as follows, so as to more accurately represent the current state of the science:

Greenhouse gas emissions, such as carbon dioxide, methane, and nitrous oxide, accompany human industrial and agricultural activity. While substantial concern has been expressed that emissions may cause significant climate change, measured or reconstructed temperature records indicate that 20th 21st century changes are neither exceptional nor persistent, and the historical and geological records show many periods warmer than today. In addition, there is an extensive scientific literature that examines beneficial effects of increased levels of carbon dioxide for both plants and animals.

Studies of a variety of natural processes, including ocean cycles and solar variability, indicate that they can account for variations in the Earth’s climate on the time scale of decades and centuries. Current climate models appear insufficiently reliable to properly account for natural and anthropogenic contributions to past climate change, much less project future climate.

The APS supports an objective scientific effort to understand the effects of all processes – natural and human --on the Earth’s climate and the biosphere’s response to climate change, and promotes technological options for meeting challenges of future climate changes, regardless of cause.

* The statement of the APS Council, adopted on November 18, 2007 is as follows:

“Emissions of greenhouse gases from human activities are changing the atmosphere in ways that affect the Earth’s climate. Greenhouse gases include carbon dioxide as well as methane, nitrous oxide and other gases. They are emitted from fossil fuel combustion and a range of industrial and agricultural processes.

The evidence is incontrovertible: Global warming is occurring. If no mitigating actions are taken, significant disruptions in the Earth’s physical and ecological systems, social systems, security and human health are likely to occur. We must reduce emissions of greenhouse gases beginning now.

Because the complexity of the climate makes accurate prediction difficult, the APS urges an enhanced effort to understand the effects of human activity on the Earth’s climate, and to provide the technological options for meeting the climate challenge in the near and longer terms. The APS also urges governments, universities, national laboratories and its membership to support policies and actions that will reduce the emission of greenhouse gases.”

Letter to Senate, 10/29/09:

www.openletter-globalwarming.info/Site/Letter_to_Senate.html

A Gaggle is Not a Consensus

You have recently received a letter from the American Association for the Advancement of Science (AAAS), purporting to convey a “consensus” of the scientific community that immediate and drastic action is needed to avert a climatic catastrophe.

We do not seek to make the scientific arguments here (we did that in an earlier letter, sent a couple of months ago), but simply to note that the claim of consensus is fake, designed to stampede you into actions that will cripple our economy, and which you will regret for many years. There is no consensus, and even if there were, consensus is not the test of scientific validity. Theories that disagree with the facts are wrong, consensus or no.

We know of no evidence that any of the “leaders” of the scientific community who signed the letter to you ever asked their memberships for their opinions, before claiming to represent them on this important matter.

We also note that the American Physical Society (APS, and we are physicists) did not sign the letter, though the scientific issues at stake are fundamentally matters of applied physics. You can do physics without climatology, but you can't do climatology without physics.

The APS is at this moment reviewing its stance on so-called global warming, having received a petition from its membership to do so. That petition was signed by 160 distinguished members and fellows of the Society, including one Nobelist and 12 members of the National Academies. Indeed a score of the signers are Members and Fellows of the AAAS, none of whom were consulted before the AAAS letter to you.

Professor Hal Lewis, University of California, Santa Barbara

Professor Fred Singer, University of Virginia

Professor Will Happer, Princeton University

Professor Larry Gould, University of Hartford

Dr. Roger Cohen, retired Manager, Strategic Planning, ExxonMobil

List of 160 signers of the APS petition available at tinyurl.com/lq266u

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Unsurprisingly, this letter was up on Marc Morano's Climate Depot by 11/02/09, entitled:

“Team of Scientists’ Open Letter to U.S. Senators: ‘Claim of consensus is fake”:

climatedepot.com/a/3606/Team-of-Scientists-Open-Letter-To-US-Senators-Claim-of-consensus-is-fake

and starting to be spread via various blogs. *Morano was either quick to notice this, or he was informed.*

As of 11/02/09 it is early for many search engines to have indexed this, Appendix 4 has some examples, and it is likely dozens will exist shortly, from past experience.

The AAAS letter to the Senate can be found here:

www.aaas.org/news/releases/2009/1021climate_letter.shtml

3. The Petition – Commentary

This petition is silly. One need only study the **2007 IPCC AR4** to know how meaningless or wrong is the paragraph starting “Greenhouse gases..” The unusualness of 20th and 21st century climate change is well-established by multiple lines of evidence. It certainly has been warmer, and during most of those times, large parts of the current USA were under water. Any serious gardener knows Liebig’s Law - growth is limited by the most restrictive factor. No amount of extra CO2 will grow corn in the Sahara Desert.

en.wikipedia.org/wiki/Liebig%27s_law_of_the_minimum

Extra CO2 can be helpful in greenhouses with sufficient water, sun, and other nutrients, a condition untrue for most farms. Those who grow up on farms usually learn this by the time they are 10, *but apparently the signers have not.* Water is the most common restriction. Higher temperatures and Hadley Cell expansion will move rain elsewhere and increase evaporation, especially in places like the US SouthWest. CA is seriously-dependent on Sierra snowpack, always has water problems, and grows half the fruit and vegetables in the USA. Oddly, at least a third of the signers live in the US SouthWest.

“Studies...” simply asserts ideas contrary to the large, well-tested body of peer-reviewed research in top journals, with no backup whatsoever except belief. All of this is simply anti-science, akin to brain surgeons declaring cardiologists ignorant of heart disease.

The APS Council’s existing 2007 statement is consistent with those of the American Association for the Advancement of Science (AAAS), the American Geophysical Union (AGU), the American Meteorological Society (AMS), the Geological Society of America (GSA), the US National Academy of Sciences (NAS), and most other relevant learned societies:

en.wikipedia.org/wiki/Scientific_opinion_on_climate_change

Climate science is a major focus for AGU, AMS, GSA, but not APS. Very few signers have ever published any climate research, and yet all seek to declare null-and-void decades of research in other disciplines. *Given the Petition’s introduction, signers have now publicly bet their reputations as scientists that they know enough to dismiss another field’s research supported by all relevant scientific societies. This seems unusual.* In my experience, most scientists respect the knowledge and skills of those in other real scientific disciplines. Many scientists describe their own work to the public with careful caveats. If asked about another topic, many say “Not my field, sorry,” often disappointing reporters who wish to quote “a scientist.”

Like other petitions organized by some of the same people, this seems designed not for scientists, but for the public, especially the readers of various blogs and websites, and for politicians. The unwary can be impressed by this list of names, even though it is a miniscule and *unrepresentative* fraction of the APS.

A few signers have written articles or books about climate change, although nothing I could find in the peer-reviewed literature. A few have published a few peer-reviewed papers, of which most have not survived further scrutiny very well. I could find only one actual climate scientist signer with a credible sustained track record. Exact classifications might be arguable, and of course, any signer might well have studied the literature extensively and be able to prove mainstream climate science wrong, albeit without ever publishing their results in credible journals and undergoing normal scrutiny. Most people here have published peer-reviewed papers in their own fields, so they know how to do it. *However, when (for example) atomic physicists write books purporting to refute mainstream climate science, it might raise a red flag regarding credibility, especially when they spend several pages applauding outright pseudoscience, like that of Ernst-George Beck.* See Appendix 6, **Alexander** or **Hayden**.

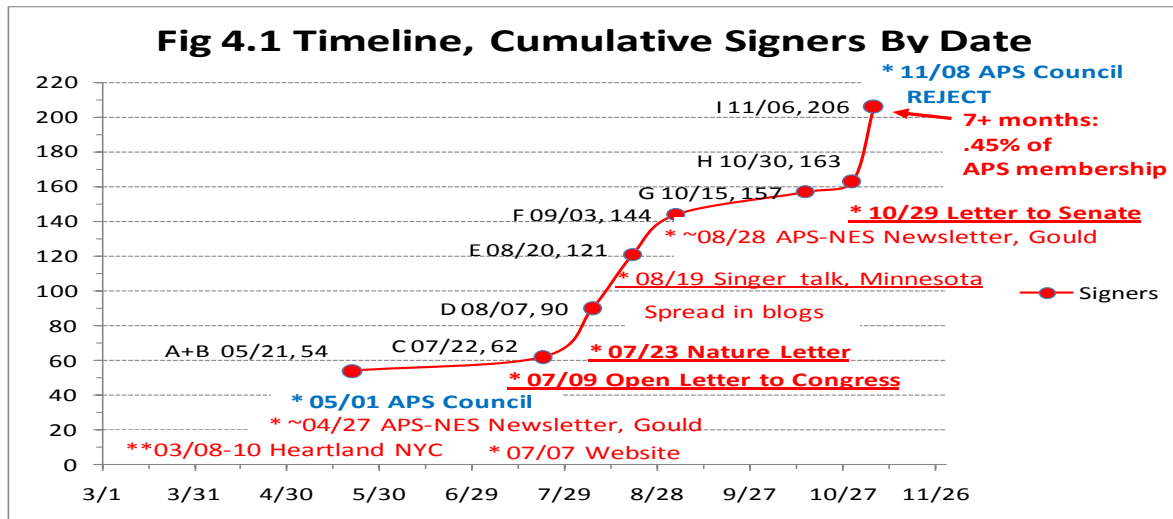
Any physicist could read: David Archer, *Global Warming – Understanding The Forecast, 2007* (an undergraduate textbook), Spencer Weart (AIP) *The Discovery of Global Warming, 2008* (a fine history), or online below, and the 73-page IPCC WG I AR4 *Technical Summary, and know just how silly this petition is.*

www.aip.org/history/climate

www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-ts.pdf

4. Petition Timeline – Likely Origin, Organizers (A), Signer Waves (A-I)

This section outlines the history of the Petition, including the not-obvious, but *likely* Petition origin at the **Heartland** Conference March 8-10, 2009, explained at the end of this Section. I have no visibility for the growth rate before 5/21/09, but the growth burst in **(D+E)** is clear, as the website went live, and blog traffic and advertising were done (Appendix 4). From 5/21 to 10/30, this resembles a logistic curve, which often arises in population growth, epidemics, technology diffusion, customer acceptance, etc. For a population primarily recruited by earlier members, exponential growth is followed by saturation, as the pool of easy potential recruits gets drained. A final push (I) occurred in the last week before the Council meeting.



At the 05/01/09 APS Council meeting, **Robert H. Austin** moved to reconsider and perhaps change the APS statement on climate change. APS appointed a distinguished committee to consider it, and said the next Council Meeting (11/08/09) would resolve the issue, and invited comments:

10/09 Vol 18, No 9 “Climate Statement Gets Renewed Scrutiny”:

www.aps.org/publications/apsnews/200910/climate.cfm

On 07/09/09, the 6 *organizers* listed below, plus Richard S. Lindzen, wrote an “Open Letter to Congress,” mentioned here because it seems part of this coordinated campaign:

www.marshall.org/article.php?id=727

On 07/23/09, *Nature* printed “Petition for a revised statement on climate change” by 6 people, presumably the *organizers* of this campaign:

(A) S. Fred Singer, Hal Lewis, Will Happer, Larry Gould, Roger Cohen, and Robert H. Austin,

www.nature.com/nature/journal/v460/n7254/full/460457b.html

www.openletter-globalwarming.info/Site/Nature_Letter.html.

(B) They described a petition to the APS, of which I found a plausible copy at **Alexander Kaplan’s** site, created 05/21/09, implying 48 additional *signers* **(B)**, a total of 54:

striky.ece.jhu.edu/~sasha/Public/APS.open.letter.09.pdf

The website www.openletter-globalwarming.info/Site/open_letter.html was created to request signers, registered by **Robert Austin** July 7, 2009, and one of the email addresses is **Cohen’s**.

(C) By 07/22/09, the website was available, 8 names had been added (total 62), and **Lewis** had temporarily disappeared. Given little publicity, most **(B+C)** signers likely were gathered via existing personal contacts. **Gould** and **Cohen** had requested signatures in the Spring 2009 APS-NES (New England Section) Newsletter. APS-NES has 2,000+ members, and perhaps a few were recruited in that way.

www.aps.org/units/nes/newsletters/upload/spring09.pdf (PDF created 04/27/09)

Shortly thereafter (one seems earlier), Web articles started appearing and propagating, a sample of which are given in Appendix 4. See especially **Singer's** 08/19/09 presentation, which includes the (premature): "Outline: Breakthru: APS to modify Climate Statement"

"Double Breakthrough: This is the first time a professional scientific society has agreed to reconsider an alarmist policy statement on climate change... (more in Appendix 4)"

(D) By 08/07/09, 29 new names (28 real) had been added, for a total of 91 (90 real), although **Drallos** and **Torquato** were missing temporarily. **Falconer** was clearly a fake that got through any screening, as pointed out by August 9. More may have just "signed up" with no obvious personal connections.

(E) By 08/20/09, 31 new names appeared, **Drallos** and **Torquato** were restored, and **Falconer** removed. Their count was 120; my total was 121 (+**Lewis**). Los Alamos Lab & related entities in NM, astrophysics/aerospace in CA accounted for most of the new names.

Waves **(A-E)** form the 121-person subset for which I did extensive searches to find fairly good estimates of birth years, publication and affiliation history, sometimes find coauthorship or other strong relationships.

About 09/01/09, **Gould** again advertised the Petition in the APS-NES Newsletter, this time linking to the Petition website above, and directing readers to **Heartland's** website for more information:

www.aps.org/units/nes/newsletters/upload/fall09.pdf (PDF created 08/28/09; see p.8)

"Additional information about the "skeptics" side of the "global warming/climate change" controversy can be found at: www.heartland.org/events/NewYork09/proceedings.html"

The full group of 206 signers **(A-I)** includes anyone who appeared on any iteration. For **(F-I)**, I did quick searches of Google Scholar, *Pipl* for locations, and *NewsMeat* for donations, and checked petitions without trying to chase detailed histories. All are listed in Appendices 5 and 6, but usually with minimal detail.

(F) By 09/03/09, 23 new names appeared. This Wave had an obvious surge from VA+MD (11) (near **Singer**). Their count was 143, mine 144 (+**Lewis**).

(G) By 10/15/09, 13 more names were added, including **Przybysz**. **Lewis** returned, totaling 157.

(H) By 10/30/09, 6 new names were listed, but **Przybysz** disappeared. Their total was 162, mine 163. Also, a new page appeared, labeled "Letter to Senate", supposed to have been sent 10/29/09: www.openletter-globalwarming.info/Site/Letter_to_Senate.html, shown earlier in Section 3.

(I) By 11/06/09, 43 more names appeared, **Przybysz** reappeared, for an agreed total of 206.

On 11/09/09, the APS Council "overwhelmingly" rejected the Petition:

physicsfrontline.aps.org/2009/11/10/aps-council-overwhelmingly-rejects-proposal-to-replace-societys-current-climate-change-statement

(X) I added a few non-signing supporters crucial to understanding the social network behind this petition. **Nierenberg**, **Jastrow**, **Seitz** and **Starr** were deceased, so obviously made no phone calls, but are they were truly eminent, had vast influence and connections, and created the core of this network and recruited many. **Akasofu**, **Baliunas**, **Soon**, **Michaels**, **Christy**, **Spencer**, **Sproull** are plausible supporters as well.

Heartland is described in Appendix 2. *It is not a scientific institute*, but is well-known for long support of tobacco companies. At the March 8-10, 2009 NYC **Heartland** climate conference, speakers included organizers **Singer** and **Gould**, signers **Berry**, **Douglass**, **Hayden**, and supporters **Akasofu**, **Michaels**, **Soon**, and **Spencer**. **Gould's** presentation mentions APS under "Censorship Issues" and "Under the Veneer of legitimacy "Consensus" says:

www.heartland.org/bin/media/newyork09/PowerPoint/Larry_Gould.ppt, (page 97)

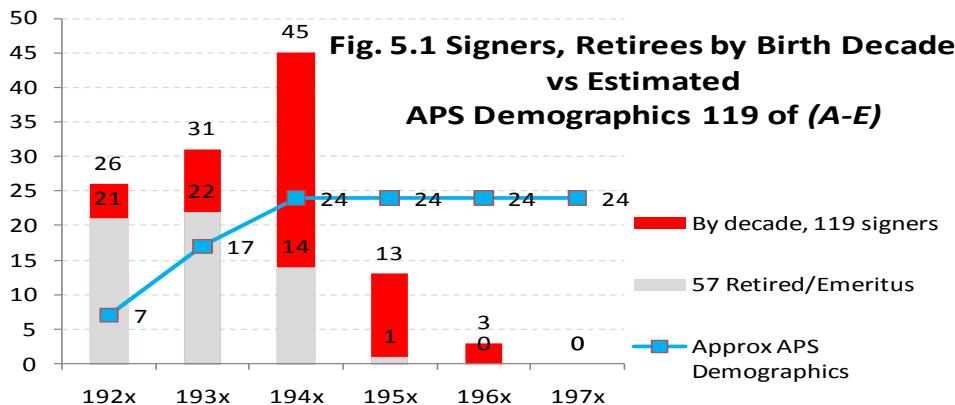
It seems likely that the APS Petition got organized, or at least accelerated at this conference.

5. Demographics of Signers versus APS Membership

Are the signers representative of APS? This section examines age distribution, gender, geography, politics, careers, and exposure via APS FPS. APS's list of Units indicates subject emphasis, geographies: www.aps.org/membership/units/index.cfm

A few of these can be relevant to climate science, but most are not, other than sharing some commonality of basic physics, mathematics, and statistics. APS has many Divisions, but none on climate science, whose professionals are far more likely to be involved in the American Geophysical Union (AGU), the American Meteorological Society (AMS), the Geological Society of America (GSA), or others. The following uses: www.aps.org/membership/units/upload/Unit-Demographics-09.pdf www.aps.org/about/governance/committees/commemb/upload/2004_US_Member_Survey.pdf, p.12.

Age of signers versus APS. I have reasonable birth-year estimates for 119 of the 121 (**A-E**) signers, at least to decade, usually to year +/-1. For comparison, APS membership age distributions are roughly estimated and scaled to 119. In early 2009, APS membership was 47,189, about 4X larger than in 1950s. Fig. 5.1 shows total signers by decade (red), and Retired/Emeritus part (gray). Waves (**F-I**) has a slightly lower percentage of Retirees. Many birth years are found in authoritative sources, or well-inferred from college dates, so I think few are badly wrong. The age profile of APS members (other than Student or Junior) was estimated several ways, scaled to the 119 number, and plotted as the blue line. This is probably good enough, although it may underestimate the fraction of younger members. The APS profile cannot resemble the signer profile, or APS would be rapidly downsizing, not growing. *Either signers do not know many younger APS members, or the latter have little interest in signing, or both.*



Signer age demographics do not resemble those of APS as a whole. Of the 119 (**A-E**) signers, 102 (86%) were born before 1950, compared to about 40% for overall APS. *This is a strong effect, and cannot be due to "retired scientists are finally free to tell the real truth", given that only one plausible climate scientist is a signer, and he is not retired.* *Few signers have ever published research even vaguely related to climate science, and at least some of them signed similar petitions before they retired.*

I know many Retired/Emeritus researchers who continue to do fine work, usually in fields related to lifelong research interests. Rarely do scientists switch fields drastically at/near retirement and then quickly demolish the total mainstream accumulated results of a different field. It is quite possible that professional physicists have studied climate science enough to assess its status, given that basic understanding needs little more than a good undergraduate textbook (like Archer's mentioned in Section 3). Some signers write many letters to editors, web pages, OpEds, articles in local papers, a few books, or lecture non-field audiences. I'll quote some in detail later, and let the reader assess the quality of arguments. *If the signers legitimately claim to be familiar with the science, the most knowledgeable ought to be those who have written articles or especially, have gone to the trouble of writing books, plausibly and know it well enough to avoid obvious pseudoscience. Several books some actually feature outright pseudo-science.*

Geography. APS provides data on geographic Sections, and it is worth comparing the distribution of signers with that of the APS. Picking a single most relevant state for every person is nontrivial, as people move, but most have not moved very far very often. This is the best approximation I can offer.

www.aps.org/membership/units/upload/Unit-Demographics-09.pdf

APS data is used to estimate relative distribution of physicists in geographic sections, in which about 1/3 of APS' members participate. States belonging to Sections account for 153 of 191 US signers and their distribution is compared to the APS Sections in Fig 5.2. Any person might or might not be a member of a Section, and in some places, a person might easily be a member of several (New England/New York, Four Corners/Texas. Even with these caveats, a few patterns are worth highlighting. At upper left, Four Corners (especially NM) and CA together account for 50% of the signers in states belonging to Sections, compared to the 23% one might expect from a random survey. Alternatively, NM+CA (68=29+38) account for more than a third of the 191 USA signers, via Los Alamos connections plus CA aerospace and nuclear.

A truly representative broad groundswell of signers ought to be fairly randomly spread around roughly in proportion to the APS Sections, and spread across the Waves. The burstiness hints that many signers are acquired by direct recruiting. Signers may recruit others, who perhaps help recruit, but then quickly exhaust their common contacts. Some may be willing to sign, but not persuade others. Some scattered signers have no obvious connections, and some may well have just signed up via publicity. Organizers and some key signers are shown in red, with Singer twice for VA+DC+MD. The grayed show dense concentrations, all around organizers (A) or early signers (B). Section 6 addresses the patterns in detail.

Fig 5.2 Geographic Demographics: APS Sections vs Petition, and Waves																	
APS Sections	Total	% APS	APS % of 34%	Pet % of 153	Petition Totals	Waves											
						A	B	C	D	E	F	G	H	I			
					3 AZ		1										2
					4 CO	Canavan				1	1						2
					29 NM	Agnew	4	2	1	16	2	1	1				2
					2 UT	Engelhardt											2
Four Corners	1,499	3.2%	9%	25%	38	Gruntman											
California	2,310	4.9%	14%	25%	39 CA	Lewis	1	Kunc	6	1	7	13		2	1		8
					3 AL	Rapp											3
					1 FL												1
					1 KY												1
					1 LA			1									
					1 MS								1				
					4 NC			3									1
					1 SC												1
GA, TN:0					10 VA	Singer	1		2			6					1
Southeastern	2,737	5.8%	17%	14%	22												
					5 CT			1	3					1			
					12 MA	Gould		Hayden	3			6					3
					1 ME								1				
New England	2,377	5.0%	15%	12%	18												
AK, ID, OR, WA, AB, BC: 0					1 MT			1									
Northwest	1,190	2.5%	7%	1%	1												
New York	2,511	5.3%	16%	12%	18 NY	Douglass	7	1	1	1		3	4	1			1
Ohio	1,507	3.2%	9%	2%	3 OH	Knox	1	1	1	1							
					5 IL				1	1	2						1
					1 IN			1									
WI: 0					2 MO			2									
Prairie	498	1.1%	3%	5%	8												
Texas	1,538	3.3%	10%	4%	6 TX							3	1				2
Tot in Sects	16,167	34.3%	100%	100%	153 Tot		3	33	7	17	31	17	11	3			31
States not in sections....					1 DC	Singer		1									
One would expect that:					14 MD			5				5	2				2
Some in NJ or CT would be NY members					2 MI				1	1							
Some in OK would be TX members					3 MN	Happer				1				1			1
Not US:					12 NJ	Austin	3	3	5								1
CA:4					1 NV	Cohen											1
AU, BG, CH, ES, IE, IT, MX, NO, ch: 1 each					2 OK			2									
					3 PA					1							2
					US Tot		6	44	8	25	31	22	13	4			38
Signer % of APS:					Not US		4	3		1			2				5
APS Tot	47,189	0.44%			World Tot		6	48	8	28	31	23	13	6			43

Gender. About 12% of APS members are female, compared to 2% (4 of 206) signers (**Andrei, Berting, Jackson, Marinova**). See Figure 1, p.9 in:

www.aps.org/programs/women/workshops/gender-equity/upload/genderequity.pdf.

I originally thought low female percentage might be relevant, but this is unclear. The percentage of Physics PhDs earned by women has increased from a few percent in the 1960s to about 16% lately. Of the 119 signers in (**A-E**), 102 (86%) were born before 1950, and the demographics of (**F-I**) are not obviously much different. One would expect to find fewer female physicists in the older age bands. Relevant gender-related subdiscipline choices or other viewpoint differences may exist, but signers include too few younger members and thus too few females to reach strong conclusions. However, this effect is consistent with much larger lists and observed activity. *Very few active challengers of mainstream climate science are female.*

Politics. People are entitled to their own political views, about which reasonable people can disagree. Conservative (liberal) political preferences sometimes correlate with negative (positive) views of climate science, but if there is actual causation, it could possibly work either way. Conservative politics need not lead to rejection of its results. Well-known climate scientist James E. Hansen labels himself moderately conservative. Republicans for Environmental Protection is interesting:

www.repamerica.org/

Peter Darbee, CEO of Pacific Gas and Electric, is a self-labeled conservative:

www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/10/18/BUG2BLR5031.DTL

In explaining why PG&E recently withdrew from the US Chamber of Commerce, Darbee offered a particularly succinct comment relevant to people of varying political views:

www.next100.com/2009/09/irreconcilable-differences.php

“In our opinion, an intellectually honest argument over the best policy response to the challenges of climate change is one thing; disingenuous attempts to diminish or distort the reality of these challenges are quite another.”

“Physicists familiar with the science issues” would certainly be familiar with: conservation of energy, radiative absorption/emission properties of greenhouse gasses, the minimal changes in Total Solar Irradiance over the last few decades, the Earth’s energy imbalance, and related physics. They would know that a time-series in which yearly noise is larger than yearly trend, multi-year series must exist that run counter to the trend, and hence would ignore ideas like “warming stopped in 1998”. They would know about using regressions, not just drawing a straight line between two data points. They would know how to recognize avoid cherry-picking data from time-series. They would be familiar with surface temperatures and satellite measurements, as well as glacier retreat-vs-advance data, and with the vast numbers of biological studies consistent with temperature measurements. All this is fairly basic science whose understanding should be totally uncorrelated with political views. But as a quick test, I used the (oddly-named) *NewsMeat* political donation search engine to check the public records.

www.newsmeat.com/fec/bystate_detail.php

For anyone with valid-looking results attributable to either (Republican+Libertarian+other conservative) or (Democratic) parties/candidates, I added a **Contrib:** field to Appendix 6 entries, showing party, range of years, and a URL for the *NewsMeat* entry. Some categorizations are inherently ambiguous. I included donations to recognizable general-political PACs, but ignored company PACs, which often split money between parties, and also a few seeming typos, with amounts less than \$200 or even negative. I ignored special-purpose PACs, like Pro-Choice / Pro-Life.

Of the 191 American signers, 47 distinct people (24%) were counted under the rules above, 5 gave to both parties. Money totals were dominated by large donors (top 5: \$45K, \$40K, \$16K, \$12K, \$9K). A social scientist might spend more time looking for patterns, like having given some money to one party 20 years ago versus people who have given numerous donations for years, and local versus national races. I just did the simplest analysis of overall donations. To check recent national preferences, I counted only people giving money explicitly to (Bush or McCain) vs (Kerry or Obama), ignoring PACs and National Committees:

Fig. 5.3 - Donations				
People	%	\$ Rep+Lib	\$ Dem	Category
35	74%	\$178,739		Republican+Libertarian only
5	11%	\$ 2,450	\$3,199	Mixed
7	15%		\$7,465	Democratic only
47	100%	\$181,189	\$10,664	Totals
		94%	6%	Total \$ Percentages
13	100%			Bush 04 or McCain 08
0	0%			Kerry 04 or Obama 08

This is a very rough survey, and should not be over-interpreted, especially as many donations were for local candidates. *Are these signer ratios representative of the APS as a whole?*

Unlike collections of people on some climate petitions, many of the signers have published substantial peer-reviewed work in credible journals, and seen it exposed to scrutiny via normal scientific processes. Some signers' writings express intense political views, combined with claims about climate science that would be stunning if published normally. Some essentially disprove Conservation of Energy, easily worth a Nobel if true. *Most signers seem to make these claims anywhere except appropriate peer-reviewed journals. Most of the few who have published anything also give talks, do newspaper interviews, write OpEds, blog posts, letters to editor, books that do not necessarily match peer-reviewed work well. This raises the possibility that some people signed, not due to relevant scientific expertise, but for extra-science motivations, of which politics and ideology might be among the candidate explanations. (See Section 7 for further discussion).* Many who reject mainstream climate science claim that it is entirely politics that distorts the real science, including several signers, including organizer **Austin**.

Of the 191 American signers, 35 gave only to Republican+Libertarian. An additional 12 had some involvement with conservative/libertarian **Heartland**, **GMI**, or **CATO**, and at least 7 more (of the 114 Americans in **(A-E)**) had written something with a clear conservative political view, such as claiming to address science, but quickly shifting to economics or attacks on Al Gore, neither of which are about science. Some comments were intemperate, at best. Examples are quoted in Appendix 6. Altogether, that accounts for at least 54, and more may have been found had I searched **(F-I)** as extensively as **(A-E)**. To summarize, even knowing none of these people, it was reasonably easy to find strong political expressions (by donations, associations, and people's own writings) for at least 30-40% of the signers, and those expressions tilted strongly rightward.

Scientists have generally earned the credibility from the public when talking about science. If a physicist explicitly says "I am a physicist who knows this science", I hope they are right, for the sake of the credibility of science and our society. *If some scientists acquire a reputation for claiming scientific expertise for politically-driven opinions, the public will less likely listen to other scientists talking about real science. As seen later, that effect (of causing the public to doubt or ignore scientists when their results are awkward) is exactly what some people (including a few otherwise-outstanding physicists, sad to say) have worked to accomplish over the last few decades, starting with tobacco and expanding to environmental issues. See TIRC and TASSC for example, as well as GMI, SEPP, Heartland, and CATO, all in Appendix 2.*

The relationship of science and society matters greatly, to the USA and the world.

APS Forum on Physics and Society. According to the APS demographic data, about 12.5% of APS members are FPS members. FPS Newsletters have offered numerous discussions of climate issues, including a few strongly-negative comments, often by signers. Since anyone can read online Newsletters, whether or not signers as a group are more or less involved with FPS is unknown. However, thousands of APS members and any other FPS readers have seen these arguments over the last few years:

www.aps.org/units/fps/newsletters/2007/october/commentary.html

www.aps.org/units/fps/newsletters/2008/january/commentary.html

www.aps.org/units/fps/newsletters/200804/marsh.cfm

www.aps.org/units/fps/newsletters/200804/williams.cfm

www.aps.org/units/fps/newsletters/200804/wilson.cfm

www.aps.org/units/fps/newsletters/200804/schroeder.cfm

www.aps.org/units/fps/newsletters/200807/editor.cfm

www.aps.org/units/fps/newsletters/200807/hafemeister.cfm

www.aps.org/units/fps/newsletters/200807/monckton.cfm Monckton thanked signers **Douglass, Knox,** and **Gould**, supporters **Soon** and **Spencer**. **Gould** was quite supportive of Monckton elsewhere:

scienceandpublicpolicy.org/press/proved_no_climate_crisis.html

Heartland still insists that APS FPS is peer-reviewed, despite what APS said at the time:

www.heartland.org/books/PDFs/LegislatorsGuideGW.pdf (Created 07/23/09):

“His 2008 article “Climate Sensitivity Reconsidered” appeared in the *APS Forum*, a peer-reviewed journal, and triggered international debate.”

www.aps.org/units/fps/newsletters/200810/editor.cfm

www.aps.org/units/fps/newsletters/200810/shore.cfm

www.aps.org/units/fps/newsletters/200810/wurtele.cfm

www.aps.org/units/fps/newsletters/200901/levine.cfm (signer **Levine**)

www.aps.org/units/fps/newsletters/200904/trenberth.cfm

www.aps.org/units/fps/newsletters/200904/bevc.cfm (signer **Bevc**)

www.aps.org/units/fps/newsletters/200904/schwartzkopf.cfm

www.aps.org/units/fps/newsletters/200907/bowen.cfm

FPS offers a valuable informal forum for essays and discussion, but I was surprised to see FPS publish dense technical articles that would have been Earth-shaking had they been published in credible peer-reviewed journals and scrutinized normally. Thankfully, I think FPS recognizes this issue.

Career mixtures. Appendix 5 shows a “Career” column that summarizes career types among Government, Industry, and Academe. The first page of Appendix summarizes the distribution. Given the subjective nature, no great significance can be attached, but a few patterns are plausible.

Almost half (82) of the 191 (A-I) USA signers have long careers with various branches of the US Government, or have at least spent significant time there. Academics in experimental areas, receive government research grants, and some have done extensive consulting for US Government. Many Industrial signers have worked at defense contractors. Relatively few signers have been employed primarily in other commercial industry. A few have had long careers in the petroleum companies or in petroleum-related research elsewhere, and it is unsurprising to find a few such as signers. Maybe the government connection is just a result of signer age distribution - older physicists often worked for the government during WW II and the early Cold War era. Other reasons can be imagined, and some quotes hint at motivations. A few USC aerospace engineering signers want grants for climate research.

Still this seems odd. Many signers have long been paid directly or indirectly, in whole or in part from Federal tax money to do scientific research or national defense work on behalf of the USA as a whole, and some have earned high prestige in their fields. They now put that prestige behind attacks on other areas of science mostly funded by government, but far outside most signers’ careers. Perhaps this is inter-discipline rivalry? Perhaps it is lingering Cold War thinking? I offer no strong conclusions.

Summary. *The signer list seems unrepresentative of the APS membership. As a group, the signers are certainly older, seem likely more politically conservative, and somewhat more likely to be male than the total membership. Their geographic distribution exhibits strong concentrations and bursty recruiting. This leads to an obvious hypothesis - many of the signers might be members of one or more connected social networks, by which a few dedicated individuals recruit as many others as they can, and later recruits continue the process, until nearby recruits are exhausted. The heavy concentration in astrophysics, aerospace, defense, nuclear, and a few US National Laboratories is actually unsurprising, given the historical origins of the core network, addressed in next Section.*

6. Social Networks Behind the Petition

Key background references. A few prestigious physicists have long campaigned to nullify the results of climate research, especially policies deriving from it, or more generally to obscure any science that might lead to government environmental regulation of almost any sort. This has been done, not by publishing peer-reviewed research, but via PR techniques for creating doubt in the general population. The general approach was created by Hill and Knowlton in 1954 for the tobacco companies to fend off unwanted regulation [**BRA2007**], in the booklet “A Scientific Perspective on the Cigarette Controversy.” legacy.library.ucsf.edu/tid/wye21a00/pdf

This approach was classic *science bypass* – get quotes from authoritative-sounding sources, distribute to a large public audience, to create doubt and delay. This approach has long been employed since to fight most environmental regulation, whether warranted or not. Read the document, and assess whether or not *Sourcewatch*'s summary is fair. The themes were:

- The evidence is still inconclusive.
- Something other than smoking may be responsible.
- Statistical evidence can't be trusted.
- It's all a scare campaign.
- The issue is too complicated, even for scientists.
- Nit-picking at irrelevant details.
- More research is necessary.

See further discussion in Appendix 2 under **TIRC**.

Robert Jastrow, **William Nierenberg** and **Frederick Seitz** founded the **George C. Marshall Institute (GMI)**, with which **Singer**, **Happer**, **Canavan**, **Nichols** are strongly involved. **S. Fred Singer's SEPP** has long been closely tied to **GMI** in multiple ways, in fact going back before either existed, no later than the 1982 study on acid rain run by **Nierenberg**, with **Singer** (oddly) on committee. Many here are also involved with the **Heartland Institute** or **CATO Institute**. Some signers were quite familiar to me, but many were new, and some had not even signed the common **OISM** petition. From past experience, some signers may not really understand such anti-science campaigns, as they are often not what they seem, and work in ways completely unlike normal science. *Some signers may be surprised to discover the entities with which they have effectively allied themselves have long helped tobacco companies in their efforts to avoid regulation and retain their profits by addicting children. They have fought regulations on acid rain and CFCs. This is not to suggest guilt-by-association, but signers might think to check these entities.*

How did signers get on *this* petition?

First, everyone is supposed to be a past or current APS member, and a physicist as well. I think most signers are or were both, although some have not worked in physics for decades. One is an epidemiologist. One is a biologist. Two are graduate students in Mechanical Engineering.

Second, a signer must *know* about the petition. The earliest Waves (**B+C**) must have heard about this from the organizers and others, or possibly, have read the Spring APS-NES Newsletter and contacted **Gould** or **Cohen**. By (**D**), some may have seen the letter in *Nature*, read about it on other websites, or heard of it from (**A-C**) signers. *Wave (E) is so clearly dominated by CA aerospace and NM, that focused personal recruiting was very likely.* The burstiness in Fig. 5.2 has more examples, and this Section illustrates relevant connections among many of the people involved.

Third, people must be eager, ready, or at least persuadable. Signers range from active persuaders, to people who have signed past petitions and just need to know about this one, to people with no other visible advocacy, perhaps just signing as a favor to an old colleague or someone senior nearby. Motivation of belief and actual contact for this petition may well have been done by different people. Supporters, even those deceased, must have made many introductions, and convinced many earlier.

Overall structure. *Organizers (A)* form the central core, surrounded by *supporters (X)*, and then by successive *signer Waves (B+C), (D), and (E)*. “Unclear” at lower right shows people I could not easily place. Fig 6.1 shows the overall structure of the Waves and groups, then Figures 6.2-6.5 add people by chronological Waves. This is more difficult than social network charts that show one kind of relationship. The Petition was a moving target, with redraws as new Waves arrived, and new connections emerged.

Edged boxes show small, tight-coupled groups:

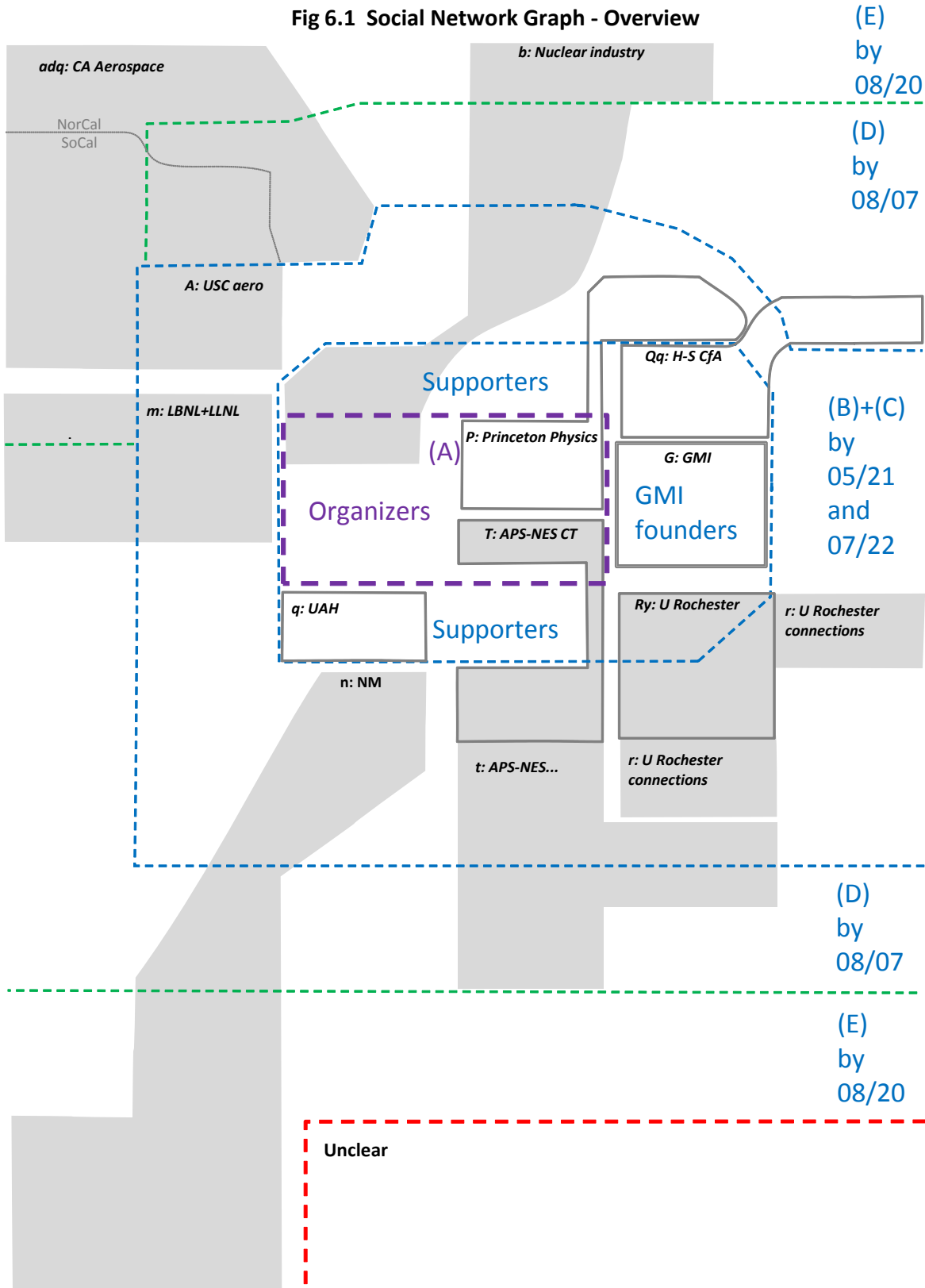
GMI founders, U of Rochester Physics, APS-NES (Connecticut), U of Alabama-Huntsville (UAH), U of Southern California (USC) Aerospace, Princeton U, and Harvard-Smithsonian Center for Astrophysics. One would expect people in these boxes to know each other well, often over years or decades.

Un-edged gray areas show major groupings whose connections are at least plausible. One would expect that anyone there knows some others, although explicit connections may not be visible. These include: U of Rochester-related, APS-NES (as a whole), New Mexico (**LANL, Sandia**, etc), **LBNL+LLNL**, California aerospace+astro-sciences, nuclear industry. Some people could easily be placed in several areas.

Section 1's **Very Important qualification** applies here. Connections range from 100% certainty down to speculations that might be total coincidences, with appropriate commentary.

This Section is long, and more detailed than most readers will want to consume. *I think it confirms the hypothesis that this Petition looks like a grassroots list, but is really the product of a closely-related core group that has done active recruiting, using social networks of people that happen to be APS members.* If someone comes to agree, they might examine Fig. 6.5 for the complete graph of **(A-E)**, and then skip to the end of this Section.

Fig 6.1 Social Network Graph - Overview



Per-person Notation. Attributes are extracted from Appendix 6 and Appendix 5, with codings summarized in first 3 pages of Appendix 5. Following text and Figures use different subsets for brevity:

General Form: (Signer Wave) Name (yyyy?, DTTPets) Fields: a few affiliations	Figure Example (A) Singer 5GH_o qx: SEPP	Text Singer (1924, 5GH_oM)
---	---	---

Birth year yyyy(**R**etired, **E**meritus) is very useful in finding contemporaries and seniority relationships.

D is Dedication field (1..5) from Appendix 5, showing activity in opposing the consensus on climate science. This is somewhat subjective, and it is easy to miss activity, so the ratings are generally minima. Signing impetus is usually assumed to flow from higher **D** to lower.

Dedicated:

5: Very dedicated, seems to spend full-time doing this, over many years.

Active:

4: Very active, organizes, often writes letters, articles, books, speaks at **Heartland** conferences, etc.

3: Active, may write letters, post often on blogs, have own website in which climate issues are featured.

Passive:

2: Has signed at least one more petition (**OISM**, **Manhattan** or **CATO2009** ad), but I have no evidence of doing any more than signing petitions. It is easy to miss letters to local papers and such. People who have signed previous petitions would be natural choices to contact, even if outside any personal network.

1: Not on **OISM**, **Manhattan**, or **CATO**. They may be on other lists, but most people who have been active have at least signed the **OISM** petition. At this level, someone may just have signed as a favor to a friend.

TTPets summarizes the 5 **Think tank** /Petitions columns in Appendix 5:

G: **GMI**, **George C. Marshall Institute** or **SEPP** (strongly related)

H: **Heartland** Institute speaker on climate change, or writer of report for them, and “expert”

H: **Heartland** speaker/writer, but not on experts list.

h: **Heartland** global warming experts list, but not speaker/writer (i.e., on list, but nothing visible)

h: Have attended at least one of the 3 **Heartland** Climate Conferences, hence almost certainly would have met some of the speakers. Attendee lists would likely show more.

Q: Organizer/writer for material with **OISM** petition (**Seitz** and **Soon**)

q: Signed **OISM**, by August 2000.

o: Signed **OISM**, on or before January 16, 2008.

o: Signed **OISM** after January 16, 2008. A person marked only **2o** might well have been recruited as part of the APS campaign, whereas **2_o** shows earlier involvement, and **2_q** shows long-time involvement.

M: Signed **Manhattan Declaration**, March 2008, present at conference.

m: Signed **Manhattan Declaration** later.

c: Signed **CATO2009** advertisement, March 30, 2009, meaning that a signer was on some **CATO** list.

Anyone marked **G** almost certainly knows the others so labeled, and have often cooperated. Most people marked **H** or **H** would know most others. These are Strong Groups in Appendix 5, and in some sense should be shown as interconnecting lines, but that would complexify the graph beyond any hope of readability. The spider web is already messy enough. Because **GMI** and **Heartland** are so crucial to this network, anyone marked **G**, **H**, **H**, or **h** is shown in **Bold**.

The **CATO Institute** is also a Strong Group connection for some people here, but seems relatively less involved in this one. These entities are so intertwined it is difficult to know.

Another Strong Group connection is J (**JASON**), some subset of whom spends a month together each year working on problems for the US government: Historically, most **JASONS** have been physicists, and thus likely APS members. The 4 **JASON** signers (**Happer, Lewis, Katz, LeLevier**) would together know most other **JASONS**, including **Nierenberg**, but most **JASONS** are *not* signers. Many Strong Groups exist for other reasons, not advocacy, but people know each well.

The second line shows some relevant subdisciplines, or additional connections. **Singer's** background is astrophysics (q), and satellites (x), and he has long run a personal **think tank, SEPP**.

Unstarred lowercase letters show plausible/likely group/subdiscipline membership. Senior researchers working at the same site for decades would likely know each other, even if no explicit connection can be documented. Membership in a subdiscipline is a weak but possible hint. A common group or discipline is usually shown once at the top of a vertical list to save space.

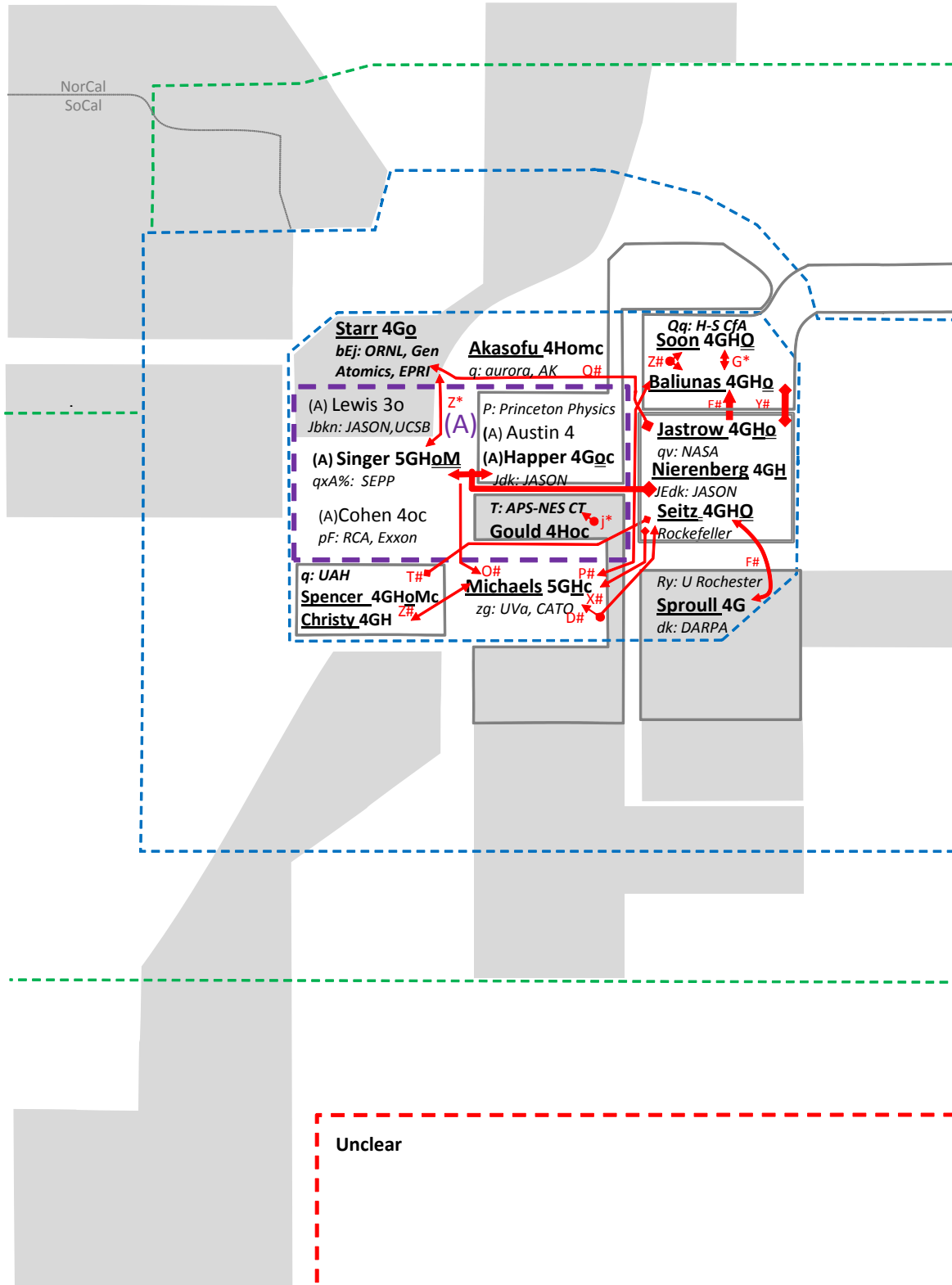
Most personal connections are represented as arrows with connection codes, enumerated in Appendix 5, with capital letters showing Strong Personal Connections. One-way arrows hint at likely direction of influence, usually from senior to junior. Not all are shown, especially when connections seem merely plausible. Some are shown as short arrows with alphabetic connection codes to lessen the spaghetti.

In text here, <something> is a label for a specific connection, listed at end of Appendix 5.

The reader is encouraged to focus on overall patterns. Lacking email or telephone logs, much of this is inherently circumstantial. *Still, rather than being a grassroots effort spread through APS, this starts with a tightly-connected, dedicated core group, and spreads out mostly by direct personal recruiting. It is supposed to look like a grassroots effort, but seems another form of Astroturf laid specially for APS.*

Every short per-person summary here has a longer entry in Appendix 6, with more comments, references, URLs to help the reader assess the plausibility of the summaries. The more Dedicated members usually have much longer entries. As usual, opinions are *italicized*.

Fig 6.2 - Originators (6) + Supporters (11)



Supporters (X) and Organizers (A)

Organizers. Figure 6.2 shows the 6 organizers at center. In order of signing the *Nature* letter, they are: S. Fred Singer, Hal Lewis, Will Happer, Larry Gould, Roger Cohen, and Robert H. Austin. It is easier to describe the 11 supporters (X) first, as many of connections among (A) and later signer Waves almost certainly were originally created by members of (X), even when not directly identifiable.

(X) Supporters (not signers, underlined), starting with original core, GMI

Robert Jastrow (1925-2008, 4GHo), William Nierenberg (1919-2000, 4GH), and Frederick Seitz (1911-2008, 4GHQ) (the “trio”, as per [LAH2008]) founded GMI in 1984, focused to help promote SDI (“Star Wars”), against the public advice of many physicists. They were pre-eminent scientists, involved in nuclear physics, solid-state physics, astrophysics, defense policy, and others. Many signers have connections with one or more of those fields. They were close to the Reagan Administration, and intensely involved in the Cold War, whose 1989 downturn freed some time for other issues, although defense certainly remained. GMI is located at the premier lobbyist location Washington, DC, “K-Street.” Its current President is William O’Keefe, past Exec. VP and COO of the American Petroleum Institute.

GMI has long fought environmental regulations of any sort, not just climate-related, but including at least acid rain, CFC regulation, and Environmental Tobacco Smoke (ETS). Seitz had long been involved with tobacco companies from his days at Rockefeller U, and similar tactics could be used to generate doubt and delay. All were quite well-known in the science community, but Jastrow was especially visible, even at the popular level. I read a few of his books in high school, and enjoyed them. Jastrow lived in Los Angeles during 1992-2001 (at least), and he must have known many people in the SoCal aerospace community. *It seems likely that many aerospace/astrophysicist signers had some connection with Jastrow or were influenced by him*, just as nuclear/atomic/solid-state physicists were more likely connected to the other two, and defense people to all three. It is impossible to track down all the connections of 3 world-class scientists with 50+ year careers.

GMI’s first major group effort on climate came in 1990 when GMI published the book “*Scientific Perspectives on the Greenhouse Problem*.” [JAS1990] By 1990, substantial theoretical reasons existed to worry about greenhouse gases and climate change, but climate signal was only just starting to emerge from noise. They emphasized uncertainties, downplayed CO2’s role, raised concerns about costs, argued for further research and against CO2 regulations: doubt and delay, tactics well-honed in the cigarette wars.

The book included a paper by two young climate scientists, Roy Spencer (1956, 4GHoMc) and John Christy (1954, 4GH), both now at U of Alabama-Huntsville, who have done much work on satellite temperature analysis. They (*properly*) extolled the benefits of satellite temperature analyses, but were skeptical of human influences. For years, their analyses showed little evidence of the warming seen by ground stations and other satellite analyses, and were widely quoted (by Singer and others), but their software was discovered to have serious errors. When fixed, most discrepancies disappeared, but their early skepticism seems to have strengthened, especially in non-peer-reviewed interviews, articles, etc.

Seitz wrote the cover letter for the OISM Petition in 1998, in a misleading form to which the National Academy of Sciences objected when they discovered it.

Chauncey Starr (1912-2008, 4GQ) was a well-known nuclear power, defense, and risks expert, founded EPRI, an employee of which contributed an EPRI-funded economics paper with thanks to Starr, who was also on GMI’s board for many years. Nierenberg was on EPRI’s board.

Robert L. Sproull (1920E, 4G) cooperated with Seitz in creating early materials science labs, was a founder of DARPA. He was GMI’s Chairman in the mid-1990s, and still on the GMI Board through 2008. At U of Rochester, he was VP/Provost (1968), President (1975), then retired as Physics Professor (1985). U of Rochester Physics is home to a relatively dense group of dedicated and well-connected signers, and *it seems plausible that Sproull had some influence in that direction.*

Sallie L. Baliunas (1954, 4GHQ) was a young astrophysicist at the Harvard-Smithsonian Center for Astrophysics (H-S CfA) who wrote a 1985 paper cited in the **GMI** book, and whose Preface thanked her for help. She and **Jastrow** also published a 1990 paper, so they had already started a long working relationship. He became Director of the Mount Wilson Observatory 1992-2003, where she had visited since 1977. At some point, perhaps as early as 1992, she became Deputy Director there, and they often wrote papers together. She has written articles for **GMI**, and is on the **CFACT** Advisory Board as was **Seitz**. She co-authored the 1998 version of the **OISM** Petition.

“It is the sun, not CO2 so much, or at all.” has been a common theme, often found among a few astrophysicists involved in climate arguments. Of course, quantifying/attributing solar behavior and contribution is an important science topic, but non-peer-reviewed writings need study as well to understand viewpoint. *Continually trying to make the Greenhouse Effect disappear does not seem like science.*

Willie H. Soon (1966, 4GHQ) got his PhD in 1991, was also an astronomer at Mount Wilson from 1992, and at H-S CfA starting about that time, no later than 1993. He has written many articles with **Baliunas**, and long been involved with **GMI** and **Heartland**. He co-authored 1998 and 2007 versions of **OISM**.

Patrick J. Michaels (1950, 5GHc) earned PhD 1979 at U WI, in ecological climatology. He has been Visiting Scientist with **GMI**, written papers for it, and edited a **GMI**-copyrighted book, with chapters by **Christy**, **Baliunas**, and **Soon**. He is Senior Fellow at **CATO**. He is on the **CFACT** Advisory Board with **Baliunas** and **Hayden** (later), as was **Seitz**. He overlapped with **Singer** at U of VA. **Baliunas** is a past Contributing Editor for his blog, World Climate Report.

Syun-Ichi Akasofu (1930E, 4Homc) was an eminent aurora researcher at U of Alaska-Fairbanks for decades, with hundreds of papers, then retired and got involved in climate anti-science in the last few years, writing website papers, explicitly not peer-reviewed research. He is included as a clear link to an otherwise-unconnected NOAA signer **Dryer**, although the latter actually signed **OISM** earlier.

Richard Lindzen (1940, 4GHoc) and **Freeman Dyson (1923, 3hom)**, long-time **JASON**, did not seem to highlight new connections to any additional people, else they might easily have been included.

(A) Organizers, in order of Signatures on Nature letter, starting with lead author Singer

S. Fred Singer (1924E, 5GHqM) started **SEPP** around 1990, and was always a close ally of **GMI** founders, dating back to at least 1982 (hence the thick connecting arrow), pursuing the same issues, including Environmental Tobacco Smoke. **Seitz** was the Chairman of the **SEPP** Board, **Nierenberg** and **Starr** were Scientific Advisors. **Singer** started creating petitions in 1992, and has written numerous books, letters, articles, spoken at **Heartland** events, edited the **NIPCC** papers for **Heartland**, etc. As of 10/28/09, the **SEPP** website still lists the deceased as members. He has only rarely written any peer-reviewed climate research, but he is probably the most active promoter of the efforts described here.

He also was the lead author on “The EPA and the Science of Environmental Tobacco Smoke”, 1994: legacy.library.ucsf.edu/tid/ech40c00/pdf?search=%22singer%20jeffreys%20epa%20environmental%20smoke%22

Harold W Lewis (1923E, 3o) is a well-known nuclear-power, safety and defense expert, now Emeritus at UCSB after a long career there. Many people in the nuclear industry would know him. *I would guess that he and Starr (both well-known long-time CA nuclear people) knew each other.* He was also a **JASON**, so that **Happer** is the likeliest recruiter. Unlike the other Organizers, most of whom have been vocally dedicated for years, I have not located any additional activity from him. His 1990 book, *Technological Risk* included fairly straightforward science-based positions on tobacco, acid rain, and global warming that would have conflicted with those of **Heartland** and **GMI**. His name was missing (**C-F**), returned in (**G**), slightly odd. His name appears on **OISM**. The area labeled “Nuclear industry” may or may not really arise from him, as many other connections are possible for those in that group.

Will Happer (1939, 4Goc) is the current Chairman of **GMI**. He is a distinguished atomic physicist (member NAS), a long-time **JASON**. He was a Bush appointee at DOE who left in 1993, arguably after

clashing with Clinton and Gore over attention to global warming and ozone holes. He was a strong advocate of Ronald Reagan's SDI ("Star Wars") program, the original reason for creating **GMI**.

He is quoted in 2009: www.dailyprincetonian.com/2009/01/12/22506/

“Physics professor William Happer GS '64 has some tough words for scientists who believe that carbon dioxide is causing global warming. “This is George Orwell. This is the ‘Germans are the master race. The Jews are the scum of the earth.’ It’s that kind of propaganda,” Happer, the Cyrus Fogg Brackett Professor of Physics, said in an interview. “Carbon dioxide is not a pollutant. Every time you exhale, you exhale air that has 4 percent carbon dioxide. To say that that’s a pollutant just boggles my mind. What used to be science has turned into a cult.”

The following includes a 7-minute video of Happer, comments by Duke's Bill Chameides:

www.huffingtonpost.com/bill-chameides/non-climate-scientist-clip_173422.html

Laurence I Gould (1942, 4Hoc) is a Physics Professor at U of Hartford, CT, where he has been since 1985, generally doing theoretical physics. He has Co-Edited the APS-NES Newsletter for several years. Since 2007, his Editorials (strongly against mainstream climate science) and arguments with readers have accounted for many pages of the Newsletter. He has used it to advertise the Petition and 2009 NYC **Heartland** climate conference several times each, referring people to its Proceedings,. He is also a dedicated supporter of Viscount Christopher Monckton's views on climate science. He might be responsible for recruiting a handful of the 2300+ members of the APS-NES, so APS-NES location or plausible membership is highlighted <t>. See Appendix 6 for the long details.

Roger W Cohen (1927R, 4oc) was at RCA, then at ExxonMobil Research (Florham Park) for 25+ years, originally studying superconductivity, and later managing strategic planning, which included several scientists studying climate change, and who actually contributed to the IPCC. He and **Gould** were contacts for petition signup via the APS-NES Spring Newsletter. He wrote an open letter supporting Viscount Monckton's 2008 APS FPS paper.

Robert H. Austin (1946, 4) is a distinguished biophysicist at Princeton U, (NAS Member) in the same department as **Happer**, but he seems relatively recent to these campaigns. He registered the petition website, and was the email contact for the *Nature* letter.

He was quoted (by Marc Morano, then of Senator James Inhofe's staff):

“Unfortunately, Climate Science has become Political Science...It is tragic that some perhaps well-meaning but politically motivated scientists who should know better have whipped up a global frenzy about a phenomena which is statistically questionable at best,” Austin told the minority staff on the Environment and Public Works Committee on March 2, 2009.”

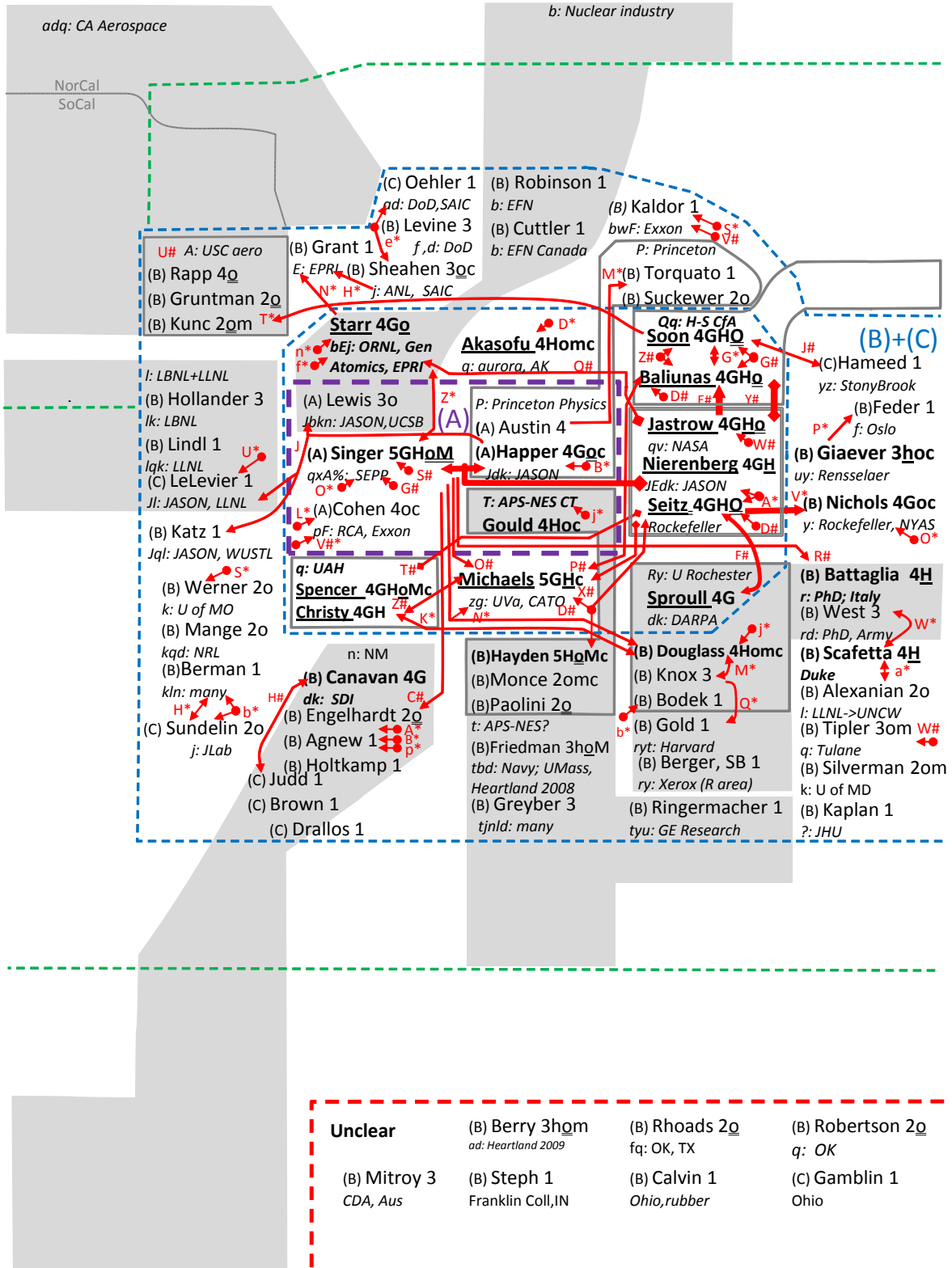
Summary of (X+A):

This is a very tight-coupled social network, in many cases, stretching back to 1990 or earlier. It is easily possible to discover numerous connections among these people, even with no personal knowledge, just using basic Web searches.. The **(X)** group is relevant because quite often, connections from **(A)** members to later Waves may go through **(X)** via earlier introductions.

The few of these (and only 1 signer) that have ever published any peer-reviewed climate science that I could find (**Spencer, Christy, Baliunas, Michaels, Singer**) have often seen their work overtaken by newer data, or refuted fairly quickly, but their papers get referenced again and again as definitive by some people, although usually not professional climate scientists. It is instructive to compare their peer-reviewed papers with their large output of non-peer-viewed material.

All this clearly started with **GMI**, which remains heavily involved, but without the towering presence of the deceased founders. **CATO** has long been involved. In the last few years, **Heartland** has done serious market expansion from its long-time tobacco-industry focus into other areas, including especially climate change. None of these publish peer-reviewed science, but are clearly advocacy organizations. All 11 supporters are/were heavily involved with **GMI, Heartland** and/or **CATO**, as are 4 of the 6 organizers. The first is true almost by definition, because **GMI**, and then **Heartland**, and sometimes **CATO** are truly key organizations in climate anti-science. Wave **(B)** has 12 more people so involved, and 2 more appear later.

Fig 6.3 - Add Wave (B) + (C) Signers (48) + (8)



Wave (B) (48) by 05/21/09, Wave (C) (8), by 07/22/09, Together for Graphical Simplicity

The Spring 2009 APS-NES Newsletter (PDF created 4/27/09) called for signatures to be sent to **Cohen** or **Gould**, so possibly a few signed.. Unless some other mass mailing occurred then, most (**B**) signers were known to Organizers or earlier (**B**) signers, and likewise for (**C**) signers, most of whom were 1s, thus likely to be close associates of some earlier signers. Most in (**B+C**) have fairly clear connections with the others. Clockwise from middle-right the signers are:

Miscellaneous New York & Connections (4)

Rodney W. Nichols (1937R, 4Goc) was a manager at contractor Melpar (missiles), was later VP / Executive VP at Rockefeller University 1970-1990, so he worked for **Seitz** during the early years, and wrote at least one paper with him <V*>. He later was President/CEO of the New York Academy of Sciences (NYAS), so is presumably well-known in the New York physics community. He is an “expert” for **GMI**, has been on its BoD, would know **Singer** and **Happer**. He is involved with conservative/libertarian organizations, such as the Manhattan Institute, and ACSH <O*>, by which he would know **Enstrom**.

Ivar Giaever (1929E, 3hoc) is a Rensselaer U Nobel physicist (for superconductors) who later shifted mostly to biophysics. He has been quite active in climate discussions, is a **Heartland** “climate expert” and signer of the **CATO** advertisement. *Many in New York physics community would surely know him.* He is widely quoted as calling Global Warming a new religion.

Jens Feder (1942, 1) is a Professor of Physics of Geological Processes (Petroleum-related), and a long-time colleague of Giaever, with whom he wrote at least 6 papers. <P*>

Sultan Hameed (1941, 1) is a Professor at Stony Brook in NY, has published many climate research papers, some of which are well-cited. He is convening a session with **Soon** at the AGU Fall 2009 meeting, <J#>, so perhaps he has shifted to the “It’s the Sun” worldview. He seems the single real climate scientist in the entire list of signers, has not seemed very active, and is a bit of a puzzle.

University of Rochester Physics Department <R> and Rochester Connections <r> (8)

The next 3 long overlapped with **Sproull**, (Chairman of **GMI** in mid-1990s, still on BoD in 2008) and it seems likely that multi-decadal Rochester physics professors would know others around the state (<y>).

David H. Douglass (1943, 4Homc) has been in Rochester Physics since 1969, studying condensed matter physics, superconductivity. In 2001, he declared that “the Holocene is about over and that a new ice-age is imminent”, and since then has published a handful of climate papers, generally attempting to refute or downplay global warming, writing with **Knox** <M*>, **Michaels** and **Singer** <N*>, and **Christy** <K*>, in various combinations. (The Holocene would be very slowly sinking into a new ice age, but that seems very unlikely to happen any time soon. See carbon cycle expert David Archer’s fine *The Long Thaw*, 2008.) *Douglass’ papers have not seemed to survive scrutiny well. For example, some relied heavily on UAH satellite analysis to show lack of warming trend, but errors were found in the UAH code, and the trend then appeared there, as it had been shown in other analyses. This can happen to anyone, but when someone keeps writing papers in which errors happen mostly in one direction, it is a red flag. He has spoken at 2008 2009 Heartland climate conferences, not venues most climate scientists would consider appropriate.* www.heartland.org/policybot/results/15727/Global_Warming_Computer_Models_Seriously_Flawed_Studies_Show.html, 10/01/04:

“As bad as things have gone for the IPCC and its ideologues, it gets worse--much, much worse.”

Robert S. Knox (1931E, 3) has written a few climate papers with **Douglass**, and some alone, starting in 1999.

Viscount Christopher Monckton claims he earned the status of Nobel Peace Laureate:

scienceandpublicpolicy.org/images/stories/papers/rEPRInt/Letter_to_McCain.pdf

“His Nobel prize pin, made of gold recovered from a physics experiment, was presented to him by the Emeritus Professor of Physics at the University of Rochester, New York, USA.”

*If not completely invented by Monckton, that seems likely to be **Knox**, but might have been **Sproull**.*

Arie Bodek (1947, 1) is a particle/high-energy physicist, at Rochester since 1977. He would likely know **Sundelin** <b*> and perhaps **Berman** <b*> via JLab usage, but *I would guess the signing impetus came from dedicated senior members of his department.*

Albert Gold (1935R, 1) was at Harvard, but did his PhD at U of Rochester, simultaneously with **Knox** and with same advisor. They wrote a book together <Q*>, and both were in U of Rochester administration.

Stuart Berger (1935R, 1) was a long-time researcher at Xerox in Rochester, and *it seems plausible he would be known to at least one of the U of Rochester physicists.*

Franco Battaglia (????, 4H) got his PhD in chemical physics at Rochester in 1985 <r>, so would have overlapped with all of the above, although in a related department. He co-authored a book with a U of Rochester professor in 1998, so has maintained some ties. He helped write the March 2008 **NIPCC** report for **Singer** and **Heartland**<R#>.

He wrote a book (translated title): “*Green Outside, Red Inside: Deception of Environmentalists,*” a common worldview in which environmentalists are automatically anti-free-market Communists, i.e., “watermelons.”

Bruce J. West (1943, 3) has been employed by the Army Research Office in North Carolina since 1999. He got his Physics PhD from Rochester in 1970, overlapped with **Douglass** and **Knox**. He has written a handful of climate papers, usually with **Scafetta** (next).

Miscellaneous SouthEast (4)

Nicola Scafetta (1956, 4H) is at Duke U. His PhD was from U of North TX and his dissertation referenced **West** (on faculty there during that time) 16 times. Both do statistical analyses across a wide range of domains, and have in the last decade started writing climate papers, generally using statistical techniques that emphasize the role of solar variations and deemphasize greenhouse gas contributions. The general topic (attribution) is quite reasonable, and real climate scientists write about this constantly, but they mostly argue about several-percent effects, rather than downplaying greenhouse gases, and they emphasize physics. He spoke at UNCW early this year, so probably knows **Alexanian** <a*>, and gave a fascinating talk at the EPA earlier this year. Some of his research has been funded by the Army Research Office. ***Scafetta** and **West** papers have generally not held up well to serious scrutiny, seeming to use statistical study of noisy data to discover cycles that seem to lack physical explanations, a well-known problem of finding patterns that might or might not be real when examining masses of data. From watching **Scafetta**'s talk at the EPA, he seems determined to convince people that he has new theories that will overturn mainstream climate science. . Watch his EPA talk or examine the slides. He even references **Rhodes Fairbridge**'s theories on the effects of other planets' motion on Earth temperature, pseudoscience.*

Moorad Alexanian (1938, 2o) was at LLNL 1964-1970 ,<l>, and has been at UNCW 1986-, where **Scafetta** spoke for his department Feb 11, 2009 <a*>.

Joseph Silverman (1922E, 2om) was in nuclear engineering <k> at U of Maryland and perhaps belongs with the nuclear industry , or one of the DOE sites. “Silverman” is hard to disambiguate.

Alexander E Kaplan (1938, 1) does optics/photonics research at Johns Hopkins U. *Connection was unclear, although he seems a strongly anti-communist Russian émigré, and the GMI cold-war viewpoint may have been motivational at some point.*

Frank J. Tipler (1947, 3om) does mathematical physics and cosmology at Tulane. **Jastrow** favorably reviewed one of **Tipler's** books <W#>, and of course, Tipler would have known **Jastrow** by reputation at least. **Tipler** expresses clear political views, and strong views on climate science:

“Anthropogenic Global Warming (AGW) is a scam, with no basis in science.....It is obvious that anthropogenic global warming is not science at all, because a scientific theory makes non-obvious predictions which are then compared with observations that the average person can check for himself. As we both know from our own observations, AGW theory has spectacularly failed to do this. The theory has predicted steadily increasing global temperatures, and this has been refuted by experience....

A perfect example of a pseudoscience like astrology...In actual fact, satellite observations show that the Earth is now cooling, and has been cooling for about 10 years.”

Tipler is obviously sure all major science societies are wrong, and the 10-year comment betrays lack of familiarity with the behavior of noisy time-series. He lives in New Orleans.

Connecticut Higher Education <T> (3)

Most of the following seem to have had long careers in Connecticut higher education, many involved in APS-NES. **Gould** is at U of Hartford, and the other schools are nearby. *It seems likely they would know each other.* **Hayden** had signed **OISM** by April 2000 and has been a **CFACT** advisor starting no later than 2003, and he may have helped attract this concentration of signers in unlikely nonobvious place. Perhaps talks by **Christy** and Richard Lindzen at the 2004 APS-NES meeting also helped.

www.physics.ccsu.edu/aps-nes/fall_2004_highlights.htm

Howard C. Hayden (1940E, 5Hqmc) is an atomic physicist recently retired to Colorado after a 32-year career at U of CT (Storrs main campus, about 30 miles from Hartford), and was involved in APS-NES. He is extremely dedicated, speaking at **Heartland** Conferences, signing petitions, and is a **CFACT** advisor with **Baliunas**, **Soon**, and **Seitz**. He writes:

““From the long-haired hippie carrying No Nukes placards to the tweedy philosophy professor writing learned antinuclear articles for the Sunday supplements...-- nuclear power is maligned by all but the cognoscenti.” (See comments on **Greyber** earlier.)

He has written “A Primer on CO2 and Climate.”. **Alexander** got advice from him for his own book. <E*>. *His book highlights outright pseudoscience*, such Ernst-Georg Beck's infamously bad paper that claimed real global CO2 levels gyrated wildly for many years, and just happened to settle down when modern measurements came in, but the IPCC purposefully ignored the earlier data. He cites the incredible Gerlich and Tschuschner paper that claimed to prove the Greenhouse Effect non-existent. He uses Wall Street Journal OpEds as factual sources, quotes Steve Milloy, **Heartland** climate conferences, etc.

He writes:“The alarming fact is simply that *Science* would publish such a review. Alarming, but not surprising. *Science* has long since given up its objectivity.”

Thus, pseudoscience and Heartland are preferred to Science. Many scientists would not do so.

Michael Monce (1952, 2omc) does atomic and ion research at Connecticut College (New London, about 60 miles from Hartford).

Frank R. Paolini (1934R, 2g) was at University of CT, Stamford, about 70 miles from Hartford. He had worked in Cambridge, MA after doing his PhD, but was difficult to find. I think he now lives in VT.

Other New England, plausible APS-NES <t> (3)

Peter D. Friedman (1962, 3hoM) is an Associate Professor of Mechanical Engineering at University of Massachusetts Dartmouth (about 90 miles from Hartford), previously served in nuclear submarines for the US Navy. He might be involved via APS-NES connections, but also attended **Heartland** March 2008 conference, and frequently writes for a local publication. He expresses clear political positions and references **Heartland** favorably.

"I am not surprised. Less than a month ago, I wrote that the American Dream, which is based on opportunity, is drowning under the weight of an intrusive and oversized government..."

I am not exactly sure what that has to do with the physics of Greenhouse Gases.

Howard D. Greyber (1924, 3) has lived many places with many potential connections <tmnld>. He spent substantial time in MA, so I included him here <t>, but he could have been several other places. He writes: www.nytimes.com/2007/09/30/opinion/30iht-edletters.html?_r=3

"I respond as a physicist that he cannot comprehend that it is still not proven that carbon dioxide emissions actually are causing global warming.... Reputable scientists oppose this unwarranted alarmist hysteria. If fanatic leftists who hate America's progressive capitalistic system had not opposed the building of nuclear power plants by wild allegations and interminable lawsuits, the United States could have built dozens of safe, modern reactors."

This seems to mean that climate science is all wrong because some environmentalists fought nuclear power years ago, puzzling logic not unique to Greyber. If I were working on fission or fusion power (as was my career goal through age 21), I would be supporting climate science results as a strong reason to increase work on those technologies (as in fact many nuclear industry people do). Some visible climate scientists (like James E. Hansen) are quite supportive of nuclear power development, especially Gen IV.

Harry I. Ringermacher (1947, 1) works at GE Research in Schenectady, but also worked in CT for at least 16 years<t>. His connection might well be **Giaever**, or APS-NYSS <y>. Outside the obvious Rochester group, explicit connections among New Yorkers have proven elusive.

New Mexico <n> (7)

Gregory H. Canavan (1943, 4G) has been with LANL and DOE for decades, specializing in space sensors, various defense issues, especially regarding missiles and SDI. He is a Director at **GMI**.

Albert G. Engelhardt (1935, 2o) was at LANL, now runs a business in NM. He was the internal contact for a debate between **Singer** and a LANL staff member October 21, 1998 <C#>, and an early **OISM** signer.

Harold M. Agnew (1921R, 1) was LANL Director (1970-1979), President of General Atomics (1979-1984), and advisor to the Reagan Administration. He has been on committees with **Happer** <B#> (2002), **Nierenberg & Seitz** (1980)<A#>, and would be well-connected with **GMI**.

David B. Holtkamp (1955, 1) has been at LANL at least since 1983.

O'Dean P Judd (1946R, 1) was at LANL, and other US government agencies. He was Chief Scientist for SDIO 1987-1990, i.e., Star Wars "brilliant pebbles". He wrote several papers with **Canavan** <H#>.

Lowell S. Brown (1937E, 1) has done nuclear/particle research at U of Washington, but often at LANL, as now. He has been a visitor at **SLAC**, **FermiLab**, and UCSB, so has many potential connections.

Paul J. Drallos (1952R, 1) was at Sandia, later ran companies in Ohio and Michigan. Although he has ties to **Alexander** <E*>, and has lived in MI for a while, the NM connection seems relevant because he signed before **Alexander**, so he is drawn half inside the NM area.

Others, with plausible connections to LANL, LLNL, LBNL, JLab, NRL (5)

Phillip W. Mange (1928R, 2o) worked at the Naval Research Lab (**NRL**), in many defense and space applications. Exact connections are not obvious.

Samuel A. Werner (1937E, 2o) had a long career at U of Missouri – Columbia. He once chaired a committee of which **Kaldor** was a member <S*>, *but some closer connection likely exists*.

Barry L. Berman (1936, 1) is at the George Washington University in Washington, DC, but worked at many years at **LLNL** and **LBNL** <I>, occasionally at **LANL** <n>, and often at **JLab** <H*> where he would have known **Sundelin**. He might also know **Bodek** via **JLab** activities <b*>.

Ronald M. Sundelin (1939E, 2o) was **JLab** Director for years, would certainly know **Berman** <H*>, perhaps **Bodek** <b*>.

Jonathan I. Katz (1951, 1) is at Washington U – St Louis, was involved with **LLNL** 1969-1973 <m>, and has consulted for **LANL** <n>. He is a long-time **JASON**, and as best as I can tell, overlapped with the other **JASONS** listed here (**Nierenberg, Happer, Lewis, LeLevier**). It is nontrivial to discover who participated each year, *but Happer seems the likeliest recruiter*.

LBNL+LLNL <I> (3)

Robert E. LeLevier (1923R, 1) was at **LLNL**, **RAND**, **R&D Associates**, and **EOS**, the last with a long overlap with **Payton** <U*>. He was a long-time **JASON** <J>, and would certainly know **Happer** and **Lewis**.

Jack M. Hollander (1924E, 3) was at **LBNL** for decades<I>, and wrote the book *The Real Environmental Crisis*, which covers many other topics, but has a definite negative view on climate science.

Lindl (1946, 1) does fusion research (NIF) at **LLNL**.

University of Southern California Aerospace (3)

Jastrow lived near UCLA, not far from either USC or Caltech/JPL, at least from 1992-2001, and would have had many contacts in the SoCal aerospace/astrophysics community.

Donald Rapp (1934R, 4o) was at **JPL** 1979-2002, and a Chief Technologist in Mechanical and Chemical Systems, then consulted there afterwards. Since 2008, he has been a Research Professor in the Viterbi School of Engineering at USC. He has recently taken up climate change, writing at home.earthlink.net/~drdrapp/:

“I have surveyed the wide field of global climate change energy and I am familiar with the entire literature of climatology.” *This is an impressive claim.*

I can find no peer-reviewed climate research by him, but he has written a \$180 book, which begins:

“Global-warming alarmists believe...

Dr. James E. Hansen, perhaps the most respected spokesman for the alarmists, said...”

*I bought the books by **Alexander** and **Hayden**, but at \$180, Google Books was sufficient for me on this one.*

Mike Gruntman (1945, 2o) is Professor of Astronautics, Aerospace Engineering, and Systems Architecture Engineering at USC, and wrote one paper with **Kunc**.

Joseph A. Kunc (1943, 2_{gm}) is Professor of Astronautics, Aerospace Engineering, Physics, and Astronomy at USC. He was **Soon**'s PhD advisor <T#>, and they wrote at least 7 papers 1989-1992.

All 3 are involved in the USC Climate Change Research Group:

astronautics.usc.edu/research/climatechange.htm

“The framework of the Institute will revolve around national and California climate change research programs (see Appendix), which are the expected sources of funding...

At the cutting edge of this new science is climate system dynamics in which observations are coupled with computer models that simulate the complex behavior of the ocean, land and atmospheric systems on various time scales. Consequently, advanced cyber infrastructures are an essential element of these evolving inter-disciplinary endeavors. This new science also requires new organizational structures that bring scientists from multiple disciplinary back. Traditional oceanographic or atmospheric programs are not necessarily well-equipped for such a challenge.”

Interdisciplinary work can be especially productive, but usually people coming to a discipline from outside learn it first, before claiming it totally invalid. These 3 (senior) people whose career focus has been in aerospace research and engineering have signed a petition that rejects the interdisciplinary climate research done over decades. **Rapp** has written an entire book dismissing that work as “alarmist.”

Miscellaneous, possibly DoD/DOE or nuclear-related (3)

Robert E. Levine (1943R, 3o) has worked in fossil fuels and defense, and wrote to APS FPS: www.aps.org/units/fps/newsletters/200901/levine.cfm, “Advocacy Threatens Scientific Integrity.” He quotes only 3 sources as support for his views:

Richard Lindzen (in **Energy and Environment**, a journal of poor repute, not listed in Web of Science), **Douglass** and **Christy**, another paper accepted for **Energy and Environment**, and **Spencer** testimony for James Inhofe.

Thomas P. Sheahen (1941, 3_{gc}) did nuclear and later superconductivity work at **ANL** and NREL, wrote superconductivity papers with **Grant** <R*>. He signed **OISM** early and **CATO** 2009.

Paul M. Grant (1935R, 1) had a long career at IBM, then worked at **EPRI**, and wrote articles with **Starr**. **EPRI** was nuclear-focused in its earlier days, and the connection with **Starr** is clear, but the more likely impetus for signing seems **Sheahen**.

Gordon C. Oehler (1942, 1) worked for the CIA 1972-1997, SAIC 1998-2004, and has been involved in nuclear weapons nonproliferation. **Depp** and **Payton** were at SAIC <e*>, but SAIC is a large entity, so that may be spurious. He quit CIA when Clinton/Gore administration reduced nonproliferation budget:

www.encyclopedia.com/doc/1P2-745279.html

It is naturally difficult to find publication traces for CIA employees. *I would guess he was likely familiar with the Reagan-era SDI issues and people involved with **GMI**.*

Nuclear industry and connections (3)

Berol L. Robinson (1924R, 1) is a nuclear physicist, who worked at UNESCO, and is currently President of EFN (Environmentalists for Nuclear Energy).

Jerry M. Cuttler (1943, 1) is a Canadian nuclear power expert, (and as of 10/5/09) Acting President of EFN-Canada, whose board includes **Robinson**, James Lovelock, Bruno Comby, and Patrick Moore,

*In view of EFN's stated goals, and board composition, and Robinson noting he drives a Prius, these EFN signatures are puzzling. See comments on **Greyber**, and **Hayden** earlier.*

Princeton U Signers (2)

Szymon Suckewer (1943, 2o) and **Salvatore Torquato (1954, 1)** are Professors at Princeton U. **Austin** was on the Executive Committee for creating PRISM, Princeton Institute for the Science and Technology of Materials, with which Suckewer and Torquato are involved.

Miscellaneous NJ/Exxon Signer (1)

Andrew Kaldor (1944R, 1) had a long career at Exxon Research at the same site as **Cohen** <V#>, and also served on a committee chaired by **Werner** <S*>. The former connection is likely more relevant, as that site was substantial (several thousand people), but not immense.

Unclear (6)

These signers are mostly locatable, but with no clear findable connections. I often found reasonable birth years from *Pipl* or could strongly infer them from alumni publications, and find nothing else about their careers or connections.

Edwin X. Berry (1935, 3hgm) is a meteorologist with a varied career, has now lived in Montana for several years. He published papers on clouds and other meteorology through 1980. He attended the **Heartland** 2009 Climate Conference in NYC, at which **Baliunas, Michaels, Soon, Spencer, Gould, Singer, Douglass**, and **Hayden** spoke. He could be placed in one of the miscellaneous groups, but I had no reason to pick any in particular. See Appendix 6 and his website to calibrate his views, which included doubt about President Obama's birth certificate.

John E. Rhoads (1945R, 2o) and **Stanley L. Robertson (1944E, 2o)** were physicists at OK universities. *I think Rhoads also worked for fossil fuel companies.* Both seem to have done work in astrophysics, but these names are nontrivial to disambiguate.

Nick Steph (1947, 1) is at Franklin College, IN, with no obvious connections.

Jim Mitroy (1956, 3) is at Charles Darwin University in Darwin, Australia.

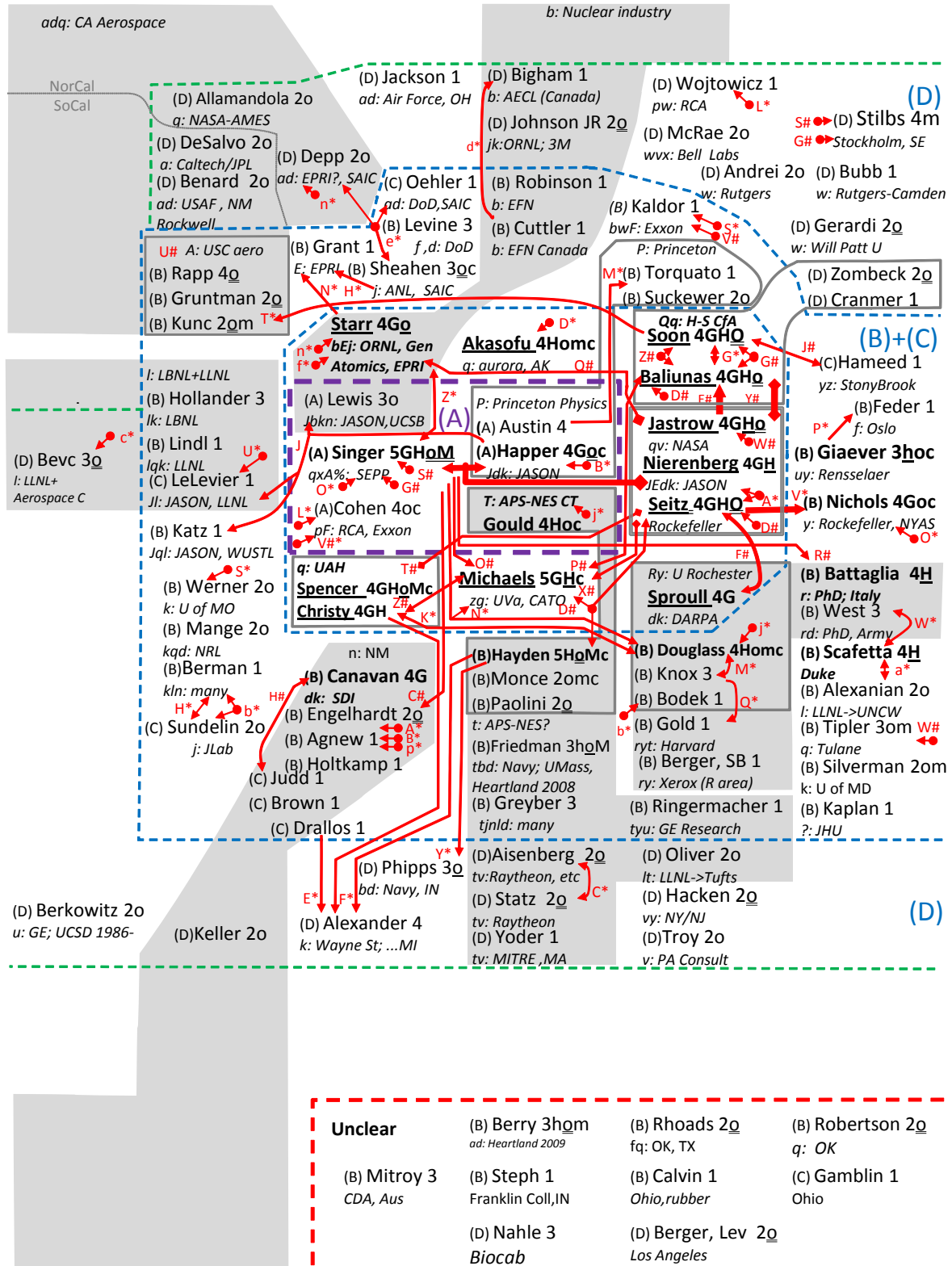
Timothy D. Calvin (1947R, 1) appears to have done industrial work on rubber products in Ohio, now retired to Florida, and except for a few patents, difficult to find.

Rodger L. Gamblin (1932R, 1) is an Ohio inventor who did work for (at least) IBM and Mead.

Summary of (B+C):

*The organizers quickly collected active (B) signers they have known for years, i.e., Dedication 5, 4, and sometimes 3: **Giaever, Nichols, Battaglia, Scafetta, Douglass, Hayden, Canavan**. With their help, and the help of various supporters' contacts, they recruited 2s, and even some nearby 1s who could be persuaded. Almost everyone here would likely have been recruited via personal contact.*

Fig 6.4 - Add Wave (D) Signers (28)



Wave (D) (28), by 08/07/09

This Wave includes more whose direct connections are less obvious, including some that may well have signed by seeing this in APS-NES newsletter or mentioned in blogs. Clockwise from lower right:

New England, possibly APS-NES <t> 4)

All might plausibly be APS-NES members, might know others, or have just signed up from via **Gould** and **Cohen** mention in newsletter.

Sol Aisenberg (1928, 2o) and **Herman Statz (1928R, 2o)**, wrote papers together at Raytheon. They and **M. John Yoder (1945, 1)** all have New England aerospace/electronics backgrounds<v>.

William P. Oliver (1942 2o) has been at Tufts U since 1981, but earlier spent some years at **LBNL <l>**, and has done research in nuclear and high-energy physics, including cooperation with FermiLab.

Miscellaneous, NJ/NY, PA, IL, MI (4)

George Hacken(1942, 2o) is a nuclear physicist turned software engineering manager, was at **Singer/Plessey/Marconi Aerospace <v>**, but (I think) lives in Northern NJ and works in NYC.

Edward S. Troy (1952, 2o) lives in Eastern PA and does aerospace consulting<v>.

Thomas E. Phipps (1925, 3o) had a long career in nuclear physics, US Navy work, and retired to write from home in Illinois. He has various connections with **Hayden <Y*>**.

Ralph B. Alexander (1944, 4) was a nuclear physicist and professor at Wayne State U in Detroit at least during 1982-1986 and perhaps longer. Since at least 2002 he has been consulting in materials sciences (surfaces). He and **Drallos** wrote several papers 1983-1986., and **Drallos** reviewed his book on Amazon quite favorably. He got advice from **Christy** and **Hayden** (a retired atomic physicist), for his 2009 book, *Global Warming False Alarm*, which I bought. He writes:

“Global warming may be real, but there’s hardly a shred of good scientific evidence that it has very much to do with the amount of CO2 we’re producing,..” p.1.

“As a scientist, what I personally find most troubling about the global warming debate is the gross misuse of science by those on the alarmist side. The worst public offender is the IPCC,..” p.6.

*His general argument seems to be “CO2 restrictions will cause economic problems, therefore no evidence exists for the effects of human-produced greenhouse gases. Actually, isotopic fingerprints are absolute proof of this, see **Bevc** on next page. He dismisses the IPCC, but some of his favorably-cited references are not only pseudoscience, but exceptionally poor pseudoscience, like the work of Ernst-Georg Beck mentioned under **Hayden**. Hence, his authority claim “As a scientist...” should be assessed very carefully.*

NM, Southern CA, LLNL (3)

William E. Keller (1925R, 2o) was at LANL<n>.

Ami E. Berkowitz (1926E, 2o) has been at UCSD since 1986, but worked at GE Research in Schenectady 1968-1986. He would not have overlapped there with **Giaever** (at GE 1958-1964), but GE Research is about 15 miles from **Rensselaer U**, where Giaever has been since. Some of their research was related, and with an 18-year overlap in Eastern Upstate NY, it is quite plausible that they would know each other. Also, **Nierenberg** was a long-time resident of La Jolla, CA, and **Berkowitz** lives about 15 minutes away.

Vladislav A. Bevc (1938R, 3o) has been at LLNL<l> and Aerospace Corporation, was a Visiting Fellow at the Hoover Institution. In a 2009 letter to APS FPS, he wrote:

www.aps.org/units/fps/newsletters/200904/bevc.cfm

“Unfortunately it cannot be established where the carbon dioxide in the atmosphere is coming from and this leaves the field wide open for speculations a la Hafemeister and Schwartz.

The question arises whether destroying the United States economy would have a significant effect on the global warming trend.”

Sources of atmospheric CO₂ are fairly well understood, due to isotope footprints, and anyone “familiar with the science” must surely know that.

www.realclimate.org/index.php/archives/2004/12/how-do-we-know-that-recent-cosub2sub-increases-are-due-to-human-activities-updated/

It is unclear why an economics argument negates basic science. He also wrote favorably of Joanne Nova’s “Skeptics Handbook”, of which he hoped to get copies to give away. Nova is an Australian “freelance science presenter & writer ...and former TV host.”

joannenova.com.au/2008/09/about-the-sceptics-handbook/, about which see:

www.realclimate.org/wiki/index.php?title=Joanne_Nova

CA aerospace (ad) and astro-sciences (q) (4)

Riccardo DeSalvo (1957, 2o) was at CERN, now at Caltech. He has been at Caltech at least since 2002, about the time **Rapp** retired from JPL and continued as a consultant there.

David J. Benard (1946R, 2o) was at AFWL in NM<n>, but later moved to Rockwell in Southern CA, so would likely have connections both in NM and CA aerospace.

Joseph G. Depp (1943R, 2o) is located in Northern CA, with a varied career at the Defense Nuclear Agency, and industry, including some work for **EPRI** locally <n*>. He might be included in nuclear industry or defense <d>.

Louis J. Allamandola (1946, 2o) has been at NASA-Ames Research Center in Mountain View, CA, but other than astro-sciences <q>, no direct connection is obvious.

Helen Jackson (????, 1) is located at Wright Patterson Air Force Base, or nearby Wright State University. She is difficult to find otherwise.

Nuclear (bk) (2)

James R. Johnson (1925R, 2o) had a long career at 3M, but was at **ORNL** <j> at least through 1956, and would naturally have connections with various **ORNL** and other nuclear researchers.

Clifford Bruce Bigham (1928R, 1) worked many years at Atomic Energy of Canada, Ltd (AECL), whose HQ is in Mississauga, ON, where **Cuttler** has been located <d*>.

Miscellaneous Sweden (1)

Peter Stilbs (1945, 4) organized the **Stockholm2006** conference, including speakers **Baliunas**, **Singer**, and **Soon** <G#>. He wrote a paper with **Singer** in 2007 <S#>.

Miscellaneous New Jersey <wy> (5)

APS has no NJ-specific Section, so NJ APS members might easily join the New York State APS <y>. Many connections are plausible, but not clear. Northern NJ residents especially connect more with NYC.

Peter J. Wojtowicz (1931R, 1) worked at RCA Labs with **Cohen** <L*> and lives about 3 miles from Princeton U <p>.

Eva Andrei (1951, 2o) is a Professor at Rutgers' main campus in New Brunswick, and may well be known to **Austin** via APS activities, or via geographic proximity.

Daniel M. Bubb (1971, 1) has worked since 2005 at the Rutgers Camden campus, and would plausibly know **Andrei**. Princeton U is about an hour away, and he spoke there May 2006 for Aerospace and Mechanical Engineering, (**Suckewer**)<h*>. He has also worked at **NRL** <j>.

Alfred U. MacRae (1932R, 2o) retired from Bell Labs after a long career in semiconductors and satellite communications. He might be connected via astro-sciences/satellites <vx>. He might know people at Rutgers or even Princeton, which has a history of relationships with Bell Labs people, and is an hour away.

Gary J. Gerardi (1941, 2o) has been at William Paterson University in Paterson since 1971, spent 1981-1985 with US Army Research Lab (**ARL**). Northern location argues more for ties with NY<y>.

H-S CfA (2)

Steven R. Cranmer (1968, 1) is at the Harvard-Smithsonian Center for Astrophysics, and his home page states that APS and AGU are mistaken in their positions on climate change. **Zombeck (R, 1936R, 2o)** had a long career there. Both obviously intersect with **Baliunas** and **Soon**.

Unclear (2)

Lev I. Berger (1929) runs the California Institute of Electronics and Materials Science, which seems to be a 3-person testing/consulting company located in Hemet, CA.
www.ciems.com/

Nasif Nahle (1951) is a biologist (*I think*), with his own small Mexican research institute/consulting company. He frequently posts on various blogs under Nahle or biocab. The interested reader might assess the level of credibility by examining the following:

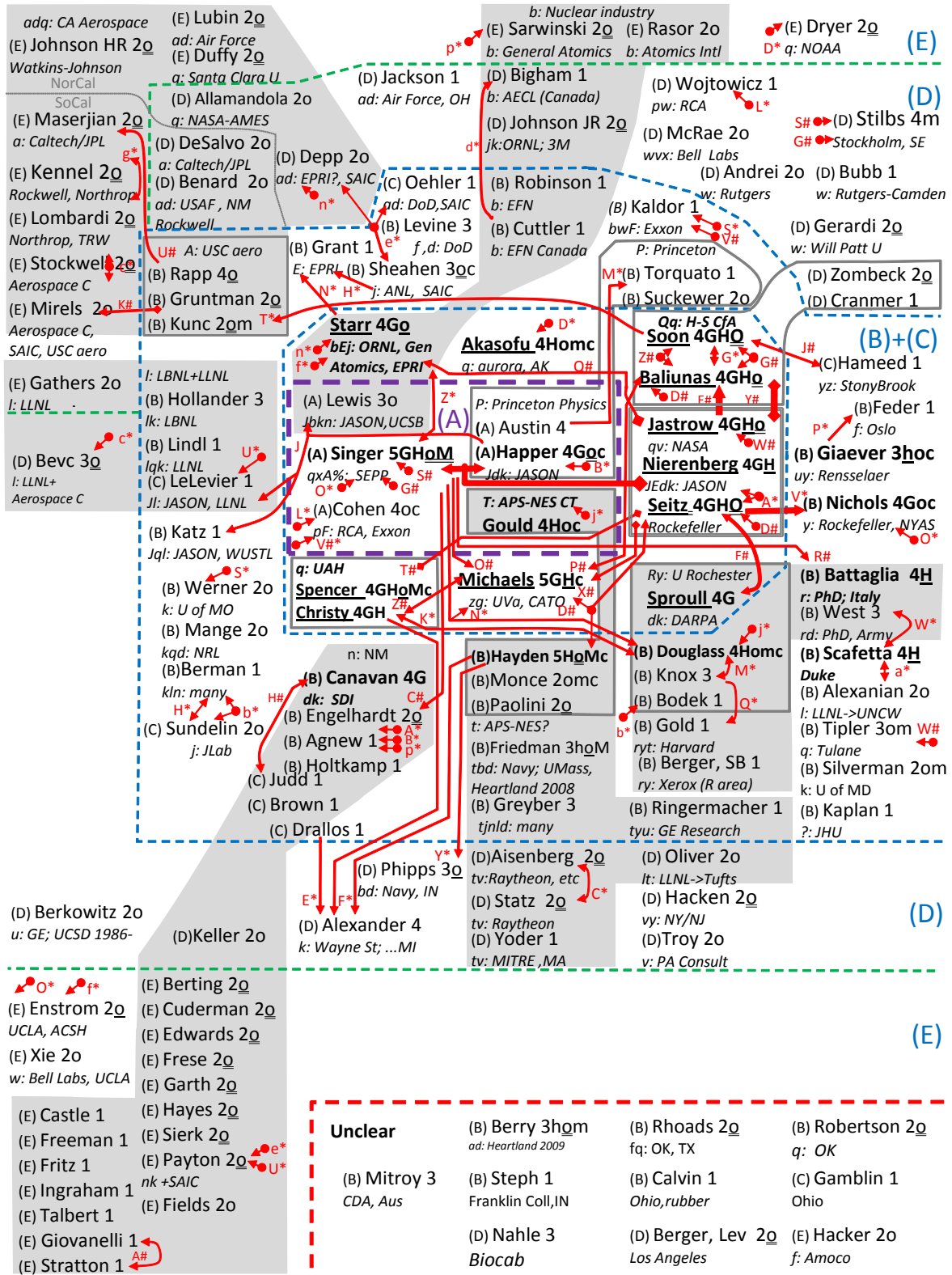
biocab.org/About_Us.html and
biocab.org/Academic_Curriculum.html

I would guess he read about this and just signed up, but I suppose he could have been recruited.

Summary of (D):

At this point, connections are sometimes less clear. Most here are 1s and 2s, and either signed up, or needed some hunting to find and recruit. *My impression is that earlier signers finally remembered old colleagues and recruited them, because people close by and well-known to be Dedicated would likely have been recruited for (B-C).*

Fig 6.5 - Add Wave (E) Signers (31)



Wave (E) (31), by 08/20/09

Clockwise from lower left.

New Mexico <n> (16).

I did not try to track the connections in detail, but this dense concentration of signers is unlikely to be coincidental. The list includes **Frances M. Berting (1927R, 2o)**, **J. F. Cuderman (1940, 2o)**, **David F. Edwards (1931R, 2o)**, **Michael H. Frese (1948, 2o)**, **John C. Garth (1934R, 2o)**, **Dennis B. Hayes (1945R, 2o)**, **Arnold J. Sierk (1947, 2o)**, **Daniel N. Payton (1940, 2o)**, **Douglas E. Fields (1963, 2o)**, all of whom had signed **OISM**, most by 2000. **Payton** had a long overlap at Eos with **LeLevier <U*>** and possibly knew **Depp** or **Oehler** at SAIC <e*>

Non-OISM-signers included **Jack G. Castle (1925R, 1)**, **Bruce L. Freeman (1948, 1)**, **Ian J. Fritz (1944R, 1)**, **John C. Ingraham (1937R, 1)**, **Willard L. Talbert (1932R, 1)**, **Damon Giovanielli (1943, 1)**, **Thomas F. Stratton (1930R, 1)**.

Miscellaneous California (3)

Ya-Hong Xie (1959, 2o) is a Bell Labs researcher who moved to UCLA EE department. He does semiconductor materials research, which certainly overlaps with some other signers.

James E. Enstrom(1943, 2o) is a UCLA public health epidemiologist, who shifted careers shortly after his 1970 PhD in physics. He would be well-known to **Singer** and **Nichols** via ACSH <O*>, with **Singer** the likely recruiter. He received funding from Philip Morris and the Center for Indoor Air Research (funded by tobacco companies), and wrote a paper showing that environmental tobacco smoke was not particularly harmful, as did **Singer** in his de Tocqueville piece. He later studied particulate matter, funded by **EPRI**, and found it had little effect on mortality. *This seems likely to be **Singer** asking any APS member.*

G. Roger Gathers (1936, 2o) worked at **LLNL** <l> for decades, now at M. H. Chew, **LLNL+Bechtel** spinoff.

California Aerospace <ad> and Astro-Sciences <q> Signers (8)

William T. Duffy, Jr (1931E, 2o) was at Santa Clara University; possible connections are astrophysics <q> or cryogenics.

Michael D. Lubin (1930R, 2o) got his PhD in 1967, and worked for the Air Force. His history was hard to find, although I think he currently lives in Northern CA.

H. Richard Johnson (R, 1925R, 2o) was at Hughes early in career, before cofounding Watkins-Johnson (Northern CA).

I used to visit Southern CA aerospace companies, and they sometimes cooperate on large projects, and people change employers, so many people know each other. Exact connections are unclear, especially for industrial employees who often work on classified projects and publish less often than academics. Again, **Jastrow** lived in Los Angeles for many years.

Joseph Maserjian (1929R, 2o) had a long career at JPL with at least a 15-year overlap with **Rapp <j*>**.

John M. Kennel (1945R, 2o), and **Gabriel G. Lombardi (1954, 2o)** overlapped at Northrop <g*>.

Norman D. Stockwell (1941R, 2o) overlapped at Aerospace Corp with **Mirels** and **Bevc <c*>**.

Harold Mirels (1924R, 2o) was at Aerospace Corporation, and later USC Astronautical Engineering with **Gruntman** and **Kunc <K#>**.

Miscellaneous CA and CO (3)

Ned S. Rasor (1927, 2o) is a Northern CA nuclear industry consultant .

Raymond Sarwinski (1936, 2o) is a San Diego nuclear power (General Atomics) and cryogenics person. He might have known **Agnew** <p*>.

Murray Dryer (1925R, 2o) was at NOAA in CO and has written at least 10 papers with **Akasofu** <D*>, and easily might know **Spencer** via UA Huntsville and satellite connections. He actually signed **OISM** by 2000, before **Akasofu** retired, so the direction of influence is unclear. It

Unclear (1)

David S. Hacker (1934R, 2o) worked as a chemical engineer at Amoco, previously at U of Illinois – Chicago Circle.

Summary of (E):

A focused effort by (B-D) signers in NM to gather more signatures there, and a similar effort for CA aerospace were successful in gaining recruits, but apparently not many remained for the next few rounds.

Summary of (F): (23) by 09/03/09, and (G) (13) by 10/15/09

Waves **(F-I)** were analyzed in much less detail. I checked *NewsMeat* and *Pipl* to locate them, but did not use Google Scholar much. A few brief comments are included. See Appendix 5 for the one-line lists.

These continue the patterns of aerospace, nuclear, and defense common to earlier Waves, plus some seeming recruiting at a few places around New York, more at or near U of Rochester, and a few more likely **Singer** contacts, like **Sluijter** in the Netherlands. Maybe someone has published climate science, but nobody looked obvious, given the affiliations and backgrounds seen. Most have plausible connections with people at the same entities as appeared earlier.

*Wave (I) seems like a big push in the last week before the Council meeting. Very few of these had even signed **OISM**, so it seems like previous signers were encouraged to ask everyone they could.*

This Wave included two graduate students at BYU in Mechanical Engineering, for example, and a High Energy Physicist and software engineer in Kentucky ... who turned out to have written his first paper with **Austin** decade ago.

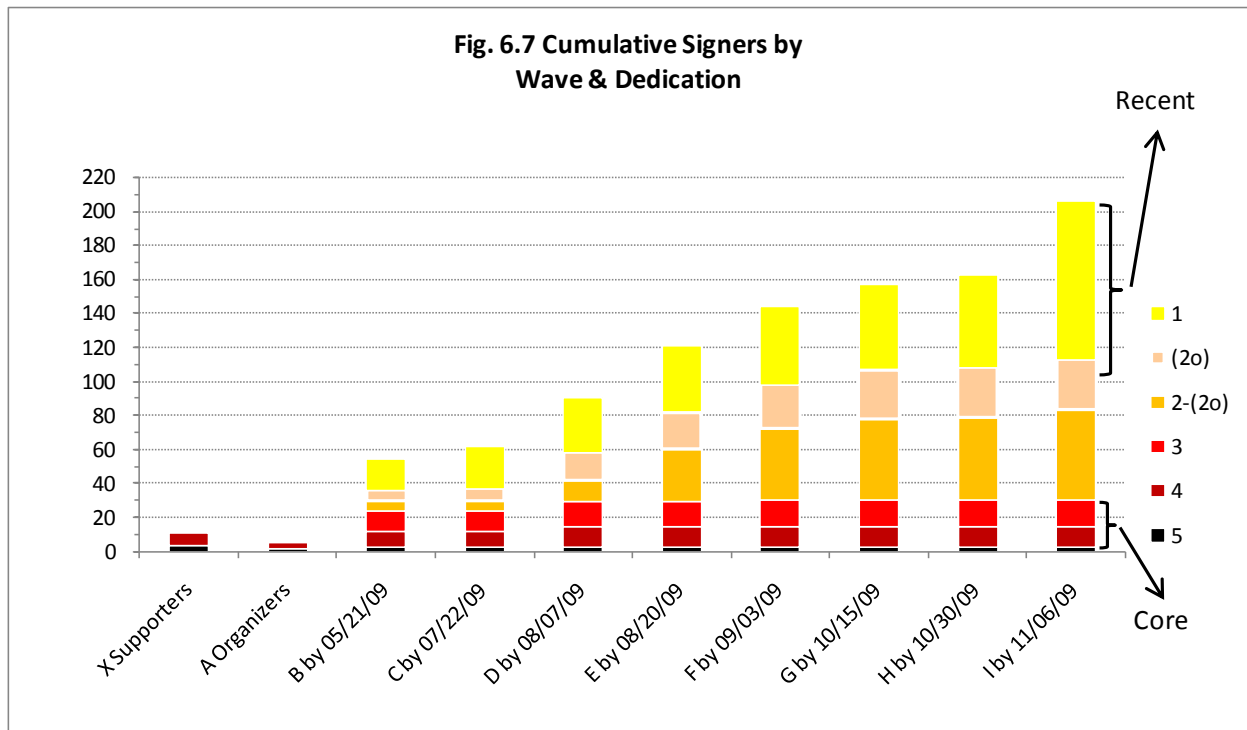
Summary of the Entire Process

Singer has long been involved in such petitions, as has **Happer's GMI**. **Happer, Cohen, and Gould** signed **CATO**, and all Organizers except **Austin** have signed **OISM**. The reader might revisit Fig. 5.2 and see the summaries by geographies with burstiness by area.

Wave/Dedicate	Counts by Wave						Total	Cumulative by Wave						Cum Total
	5	4	3	2 _o +2 _o (2o)	1			5	4	3	2 _o +2 _o (2o)	1		
X Supporters	3	8	0	0	0	0	11	3	8	0	0	0	0	11
A Organizers	1	4	1	0	0	0	6	1	4	1	0	0	0	6
B by 05/21/09	1	6	11	6	6	18	48	2	10	12	6	6	18	54
C by 07/22/09	0	0	0	0	1	7	8	2	10	12	6	7	25	62
D by 08/07/09	0	2	3	7	9	7	28	2	12	15	13	16	32	90
E by 08/20/09	0	0	0	18	6	7	31	2	12	15	31	22	39	121
F by 09/03/09	0	0	1	11	4	7	23	2	12	16	42	26	46	144
G by 10/15/09	0	0	0	6	3	4	13	2	12	16	48	29	50	157
H by 10/30/09	0	0	0	1	0	5	6	2	12	16	49	29	55	163
I by 11/06/09	0	0	0	4	1	38	43	2	12	16	53	30	93	206
Total	2	12	16	53	30	93	206	2	12	16	53	30	93	206

The Core Group (5, 4, 3) actively promote climate anti-science, and the 2_o+2_o (or "2-(2o)") group has been signing such petitions for years. The "1" group has not even signed **OISM**, so seems to be recently recruited in this campaign. The "2o" subset of "2" is ambiguous, as some may have signed before this campaign, and some as part of it. The Wayback Machine's archive dates do not happen to differentiate.

I think this shows a typical diffusion process, as the Core recruited everyone they knew, but new recruits rapidly became more difficult to locate. Again, this is not a grassroots effort, but an organized campaign on the part of a relatively small number of active people. . The cumulative totals correspond to the Waves in the Fig. 4.1 Timeline, which differs only in showing a linear scale by date, where the logistic curve is clear.



7. Why?

Why might well-educated physicists sign this *silly* petition? I do not know any personally, so I can only speculate. I have worked over the last year to create frameworks to help analyze issues of science and anti-science. The first below describes people's backgrounds and levels of knowledge about some specific natural science, in this case climate science. *Most signers earned PhDs in Physics, but at least some went off into other areas. Most would fit B2, since most of the physics subfields have little connection with climate science. A few might fit B3 (Natural Scientist in related field), and perhaps Douglass, Knox, Scafetta, and West might fit that, as they at least publish some peer-reviewed work, even if poorly-cited and often refuted. One (Hameed) fits B4 (Professional in field).*

The next page gives a detailed catalog of reasons for taking anti-science views, and the page following that, a map between organizations, people, and reasons.

BCK Map Knowledge/expertise in a natural science field + B & C Categories					John Mashey, July 2009; v0.9							
					Who Reads		Write ■ ● ● Decreasing order of credibility					
					Category C: Channels			Only peer-reviewed research, summaries count				
Category B: Background of person					Gen. Media	Blogs+Web	Lay Science	Field Text	Field	Academic equivalents * in field	N. America	Description
B1	B2	B3	B4	K								
Professional scientist in field, generates knowledge										Top*		Broad, deep, high-impact research
Natural scientist, related field; may contribute/shift into field										Full Prof*		Likely 20+ years, impactful research
										Assoc Prof*		Likely 10+ years research
										Asst Prof*		Own research well underway >PhD
Technical professional, science writer, teacher										Doing PhD*		More breadth; depth in dissertation
										Doing MS*		Add breadth; may help with research
Public, wide variation in science-following. High school students: may not yet have seen field, may know more than their parents.										Doing BS*		Coherent study; interact with faculty
										UnderGrad		Non-field; general courses, lectures
										Learn basics		General-audience books, field authors
										Low current		Critical analysis+some science
										background		Low current science knowledge
Low current background										Scientists mostly write peer-reviewed work for field & sometimes write textbooks for learners in field & some for laypersons, often with science writers but most rarely write for general media, blogs		
Knowledge decays if not maintained.										Science writers : ~ general media + lay science		
For some, high school or college may represent peak science knowledge.										Anyone: blog, write about science for general media		
Scale is (whimsically) roughly base 2 logarithmic, i.e. 1->1024, with me ~K4 (~16) on climate science. ☆ That understates the leap to K7-K10. Professionals know much more. Don't take exact #s too seriously.										~ Ranks en.wikipedia.org/wiki/Academic_rank		
					~N. America other		N. America		UK		Australia+NZ	
					Senior Scientist		Full Prof		Prof		Assoc Prof/Reader, Prof	
					Research Scientist		Assoc Prof		Reader		Senior Lecturer	
					Research Associate		Asst Prof		Lecturer		Lecturer	
					Rough guide at best; track records much more important than ranks							

R Attributes: Reasons for Anti-Science (Environmental)

John Mashey, July 2009, v0.6

IF anti-science THEN one or more following reasons likely to be found; not all combinations make sense.

Finance	FIN1	Huge: long-term, direct economic organizational self- interest	
	FIN2	Large: long-term, direct organizational interest, via funding from above	
	FIN3	Personal: direct economic interest, effectively paid for anti-science	
	FIN4	Plausible Fear: personal economic impacts, less direct , employee	
	FIN5	Vague fear: personal economic impacts; general public LB suggests "reference dependency" and "non-rational risk assessment"	
Ideology	IDE1	Professional (paid political advocacy; anti-regulation; extreme free-market)	
	IDE2	Public (political advocacy; anti-regulation; extreme free-market, beyond usual)	
Politics	POL1	Political wedge tactic: "X says it", more votes	
	POL2	Against: "Cannot stand X, so anything they say is wrong" Example: "greenie treehugger environmentalists", or "Al Gore"	
Psychology	PSY1	Conflates: confuses non-science with real science, dismisses latter as former	
	PSY2	Contrarian nature; even without attention	
	PSY3	Contrarian attention: gets much more attention/publicity; may help career	
	PSY4	Ego/pride: in skepticism in general and of scientists in particular	
	PSY5	Dunning-Kruger Effect: incompetent and does not know it	
	PSY6	High-bar, low-bar: real science takes work; contrarian, easy acceptance	
	PSY7	Ambiguity-intolerance: all-or-none thinking; "Authoritarian personality" ??	
	PSY8	Personal anchor: encounters anti-science early, accepts, sticks	
	PSY9	General psychology denial: problem just too big	
Tech including science	<i>In field</i>	TEC1	Long Anchor: early position from TEC0, held long , ~Type II error) Early doubts OK, but mainstream has long ago moved. TEC7, PSY2?
		TEC2	Field non-science: evidence stays weak, mild ~Type I error (solar?)
		TEC3	Field pseudo-science: wrong: strongly disproved, strong ~Type I error Scientist has an idea, but mainstream science gets in its way. (cosmic?)
		TEC4	Intra-field (or nearby) conflict: personal, factional; discipline rivalry Some meteorologists and TV weather people seem especially prone to distrusting climate scientists, especially modelers. Guess: the former have to predict noise, and get criticized when they miss. Some may not understand the physics and methods of climate modeling.
	<i>Either</i>	TEC5	"Going emeritus": (retired, or close) person starts opining beyond expertise These are truly sad cases. Sometimes response to perceived loss of influence. If inside field and has long done good work, then... might be TEC1, PSY3, PSY1
		TEC6	Ego: smarter than field scientists, prove them wrong
	<i>Not in field</i>	TEC7	Inter-field conflict: many in one field dislike (sometimes newer) field Unsurprising that some mining/petroleum engineers disbelieve AGW. (FIN4) Some a) physicists, b) engineers, c) economists, d) political scientists seem unusually likely to distrust climate science. (Speculative) reasons complex. DOE, nuclear, weapons folks sometimes dislike environmentalists...
		TEC8	Over-generalization: of methods from own area, models, proofs, etc

Following understandable, but at some point become real anti-science TEC1 or PSY1

<i>In field</i>	TEC0	<i>Normal scientific argument evidence, value, uncertainty ?=>TEC1</i>
<i>Anyone</i>	PSY0	<i>Irked: exaggeration, non-science, bad journalism, moral arguments ?=>PSY1</i>

OBR Map: Anti-Science Organizations & People vs Reasons

JohnMashey, July 2009, v

Organizational Advocacy Individual Advocacy <i>Ital: minimize visibility</i>	IF anti-science, then which set of reasons is plausible or clear?																								
	FIN					IDE		POL		PSY					In field				TEC						
	1	2	3	4	5	1	2	1	2	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7
O1 Corporation	X																								
O2 Foundation	X					x													X						
O3 PR Agency		X																	x						
O4 Lobby		X				x																			
O5 Front org		X				x																			
O6 Thinktank		X				x																			
O7 Political Org.		X	X			X		X																	
B1a Politician		x	X			X		X		x	x	x	x	x	x	x	x	x							
B1b Communicator			x	x		X			x	x	x	x	x	x	x	x	x	x							
B1c Other Public				x	x		x		x	x	x	x	x	x	x	x	x	x							
B2 Tech professional			x	X	x		x		x	x	x	x	x	x	x	x	x	x						x	x
B3 Scientist, other			x	x	x		x		x	x	x	x	x	x	x	x	x	x						x	x
B4 Scientist, Field			x				x		x	x	x	x	x	x	x	x	x	x	X						

Some of these are especially hard to know

- FIN1** Huge: long-term, direct economic organizational self- interest
- FIN2** Large: long-term, direct organizational interest, via funding from above
- FIN3** Personal: direct economic interest, effectively paid for anti-science
- FIN4** Plausible Fear: personal economic impacts, less direct , employee
- FIN5** Vague fear: personal economic impacts; general public
- IDE1** Professional (paid political advocacy; anti-regulation; creationism?)
- IDE2** Public (political advocacy; anti-regulation; creationism)
- POL1** Political wedge tactic: "X says it", more votes
- POL2** Against: "Cannot stand X, so anything they say is wrong"
- PSY1** Conflates: confuses non-science with real science, dismisses latter as former
- PSY2** Contrarian nature; even without attention
- PSY3** Contrarian attention: gets much more attention/publicity; may help career
- PSY4** Ego/pride: in skepticism in general and of scientists in particular
- PSY5** Dunning-Kruger Effect; incompetent and does not know it
- PSY6** High-bar, low-bar: real science takes work; contrarian, easy acceptance
- PSY7** Ambiguity-intolerant personality: all-or-none thinking
- PSY8** Personal anchor: encounters anti-science early, accepts, sticks
- PSY9** General psychology denial: problem just too big
- TEC1** Long Anchor: early position from TEC0, held long , ~Type II error)
- TEC2** Field non-science: evidence stays weak, mild ~Type I error
- TEC3** Field pseudo-science: wrong: strongly disproved, strong ~Type I error
- TEC4** Intra-field (or nearby) conflict: personal, factional; discipline rivalry
- TEC5** "Going emeritus": (retired, or close) person starts opining beyond expertise
- TEC6** Ego: smarter than field scientists, prove them wrong
- TEC7** Inter-field conflict: many in one field dislike (usually newer) field
- TEC8** Over-generalization: of methods from own area, models, proofs, etc

Following understandable, but at some point become anti-science TEC1 or PSY1

- TEC0** Normal scientific argument evidence, value, uncertainty ?=>TEC1
- PSY0** Irked: exaggeration, non-science, bad journalism, moral arguments ?=>PSY1

Some people might sign this Petition lacking science-learning skill, but that cannot apply to Physics PhDs. People who may know the signers might be able to apply these frameworks to specific people, but I cannot in general, although some specific quotes in this paper seem fairly clear. I have to speculate, since I only found explicit comments (or donation indications) for a fraction of the signers.

From Section 5's discussion of political views, some evidence hints that at least a third of the signers follow conservative politics, either by donation patterns or by quoted comments. For some (IDE2) might be the driving force. Again, there is no reason that conservatives must reject science, and many do not. Some of these clearly disbelieve anything just because Al Gore says it (POL2). When I saw An Inconvenient Truth, I saw slides quite similar to those in Burton Richter's talk that I had seen years before. Maybe if people heard the same science from a well-known physicist, it would change their minds, or maybe not. www-group.slac.stanford.edu/do/brichter/presentations/2004_10_05.htm

I would summarize some cases as "environmentalists stopped nuclear power, therefore climate change is a hoax", or words to that effect. That might be POL2, perhaps with TEC4, i.e., resentment of increasing attention to climate scientists. This is truly incomprehensible, given the stated positions of people like James Hansen, Burton Richter, and Stephen Chu, who are both concerned with climate change and think nuclear power is an important part of the solution, if done well. Possibly, one cohort of people, those at or near retirement age, trained long and hard to be nuclear physicists, and then the field did not turn out to expand as they expected. This may have created bitter long-lasting feelings that require anything environmentalists support to be wrong. Of course, some environmentalists have the reverse problem.

TEC5, "going emeritus" may be relevant to a few, given the large number of Retired/Emeritus signers. It happens, sad to say.

FIN3 may fit a few, but not many. No more than a few of the signers are likely to be paid for this.

A few people have worked for fossil fuel companies, FIN4.

Almost anyone might worry about near-term economic issues FIN5. Of course, fossil fuels are finite, Peak Oil is here or coming soon, and even without climate change issues, we will have to build sustainable energy systems, while we have the money and energy to do so. Stephen Chu gives compelling talks on this topic discussing both climate and energy issues, as does Richter. From reading online discussion groups, disbelief in AGW is often conjoined with disbelief in fossil energy limits.

TEC6 (ego) might fit some of those who have actually written papers or others who simply dismiss the work of climate scientists. [LAH2008] has relevant comments.

*PSY3 and PSY6 might fit a few, especially those who are quite active, do not have obviously strong research records, but now get quoted, invited to speak, in essence creating new careers with much lower bars than actually doing real science. For example, It is much easier to attack IPCC and Al Gore at **Heartland** conferences, or write articles for **Energy and Environment**, than to actually do real research published in credible journals, that has to withstand longer scrutiny. A few people do try to publish, even if their work often gets refuted fairly quickly, or mostly ignored as uninteresting.*

The general public is more easily confused about science than are professional physicists. It seems likely that intense extra-science reasons are needed to get Physics PhDs to reject science as the signers are doing, unlike the vast majority of APS members.

8. Conclusion

As a group, the signers have written very little findable peer-reviewed climate research. Some have written books, websites and other pieces, some of which show fervent passion to prove mainstream climate science wrong. *The demographics are very different from that of APS.*

Without being able to prove the exact connections, it is fairly easy to find strong past associations and plausible connections to recognize an act of a dedicated social network willing to support anti-science, not as a grassroots movement by physicists.

The data offers strong hints that politics and ideology may have more influence on signing than does normal science. Even those who write books and do lectures often cite outright pseudoscience of the poorest quality, which requires serious suspension of disbelief.

Finally, this Petition is a direct descendant of the PR approach outlined for the cigarette companies in 1954, and long practiced by **SEPP**, **GMI**, **Heartland**, and **CATO**, entities clearly, if not so obviously, involved in this Petition.

Acknowledgements

I thank the people who reviewed earlier iterations of this paper. You know who you are. Any errors here are mine, and I will happily fix substantive factual errors for a possible later Version.

About the Author

The credibility of this paper depends on the analysis and references, not on any authority of the author. Still, to save time, since some will start hunting, and to add a few relevant, but not so obvious details, see: en.wikipedia.org/wiki/John_Mashey scienceblogs.com/deltoid/2008/08/john_mashey_on_how_to_learn_ab.php, Part 2

I revised the knowledge scale that offhandedly put me at K2 on a scale of K10 on climate science. I now label myself a K4, not because I have learned so much more, but as people convinced me that left insufficient room below. Obviously, I am no climate scientist, but I have long worked with scientists of many disciplines including that one. I am proud that most scientists have used computer software or hardware that I helped create, i.e., features in every {UNIX, Linux, MacOS, Windows}, various workstations, servers, and supercomputers, and microprocessors widely embedded in Internet routers and many other products. While many climate models have run on systems I helped design, so have many analyses for petroleum companies. I've interacted with scientists of both.

I'm centrist Independent of the "government should be as small and local as possible, and as big and global as necessary" viewpoint common around Silicon Valley, which often combines environmental concerns with strong entrepreneurial capitalism. My favorite news magazine is *The Economist*, which I understand is considered by some to be a liberal left-wing rag. I have never been a member of any political party. *NewsMeat* will show any reader that I donated to Kerry '04 and Andrew Rice OK '08, *having come to believe that the Bush/Cheney administration was the most anti-science administration in my lifetime, and James Inhofe the most anti-science Senator.* I was raised to respect science, and physicists and mathematicians were childhood heroes of mine. I favor politicians who actually try to solve problems, regardless of their party affiliation. I prefer competitive elections whenever possible, and wish there were more. I am sad to have seen the party of Dwight Eisenhower, Colin Powell, Arnold Schwarzenegger, Olympia Snowe... increasingly reject science, as that cannot be good for most of us, even if it helps a few.

I am even sadder to see a few physicists helping that happen, rather than accepting the science, and working openly for policies that match their political preferences. I am saddest to see them allied with the forces of tobacco anti-science, using the same tactics developed 50+ years ago. Some obviously do not realize this. But some obviously know and simply do not care.

Bibliography

Most references are given in-line, usually via URLs, for on-line convenience, especially if only mentioned once. Following are a few relevant others, some extracted from a blog post a year ago, which also had many climate science references, not included here because this paper is about anti-science, not science. John R. Mashey, "How to Learn About Science", August 21, 2008 @ Deltoid: scienceblogs.com/deltoid/2008/08/john_mashey_on_how_to_learn_ab.php

Most of these books are *about* anti-science. *The *d items are examples of climate anti-science.*

*[ALE2009] Ralph B. **Alexander**, *Global Warming False Alarm – The bad science behind the United Nations' false assertion that man-made CO2 causes global warming*, 2009.

[BRA2007] Allan M. Brandt, *The Cigarette Century- The Rise, Fall, and Deadly Persistence of the Product that Defined America*, 2007.

It is very difficult to understand the history of anti-science organizations, people, and tactics in the USA without understanding the cigarette wars that trained people and **think tanks** in the methods.

[GOO2006] Jeff Goodell, *Big Coal*, 2006

Many blame Big Oil for funding all disinformation; look closer at Big Coal.

*[HAY2008] Howard C. **Hayden**, *A Primer on CO2 and Climate, Second Edition*, 2008.

[HOG2009] James Hoggan, with Richard Littlemore, *Climate Cover-Up – The crusade to deny global warming*, Sept 2009.

This is an extremely useful new book for anyone starting study of climate anti-science.

[JAC2008] Peter J. Jacques, Riley Dunlap, Mark Freeman, "The Organization of Denial: Conservative think tanks and environmental skepticism," *Environmental Politics*, 17, Issue 3 June 2008 , pages 349 – 385. www.informaworld.com/smpp/content~db=all~content=a793291693
ucf.academia.edu/documents/0008/3636/Organization_of_Denial_Jacques_Dunlap_Freeman_EP_June_2008.pdf

This shows the strong correlation between Conservative Think tanks (CTTs) and anti-environmental books.

*[JAS1990] Robert **Jastrow**, William **Nierenberg**, Frederick **Seitz**, *Scientific Perspectives on the GREENHOUSE PROBLEM*, 1990, Copyright George C. Marshall Institute.

[LAH2008] Myanna Lahsen, "Experiences of modernity in the greenhouse: A cultural analysis of a physicist "trio" supporting the backlash against global warming",

sciencepolicy.colorado.edu/admin/publication_files/resource-2590-2008.05.pdf

[McC2003] Aaron M/. McCright, Riley E. Dunlap, "Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy, *SOCIAL PROBLEMS*, Vol. 50, No. 3, pages 348–373. ISSN: 0037-7791; online ISSN: 1533-8533 © 2003.

stephenschneider.stanford.edu/Publications/PDF_Papers/McCrightDunlap2003.pdf

[MIC2008] David **Michaels**, *Doubt is Their Product – How Industry's Assault Threatens Your Health*, 2008.

*[MIC2008a] Patrick J. **Michaels**, *Ed Shattered Consensus - The true state of global warming*, 2008, Copyright, George C. Marshall Institute.

*[MIC2009] Patrick J. **Michaels**, *Climate of Extremes – Global warming science they don't want you to know*, 2009, **CATO** Institute.

[MOO2005] Chris Mooney, *The Republican War on Science*, 2005

Science finally got noticed by politics in WW II, and from then through the George H. W. Bush administration, science was mostly nonpartisan. Sadly, some very counterproductive politicization of science started during the 1980s and grew strongly, especially from 1994 onwards

[ORE2008] Naomi Oreskes, Erik Conway, "Challenging Knowledge: How Climate Science Became a Victim of the Cold War", Chapter 3 in **[PRO2008]**.

[PRO2008] Robert N. Proctor, Londa Schiebinger, Eds. *Agnotology – The Making and Unmaking of Ignorance*, 2008. See especially Chapter 3: Naomi Oreskes, Eric Conway.

[SCH2009] Stephen H. Schneider, *Science as a Contact Sport – Inside the Battle to Save Earth's Climate*, 2009. Dr. Schneider has worked to do climate science research, communicate to the public, and counter anti-science. He has spent years on the front lines. Relevant to this paper, see especially Chapters 5 and 7, in which will be mentioned some familiar names and tactics in climate anti-science. Some of this is about science, but more about communication and science policy.

***[SIN1999]** S. Fred **Singer**, *Hot Talk Cold Science – Global warming's unfinished debate*, Revised 2nd Ed, 1999. I originally read this in 2001, at which time the disparity between ground stations and (some) satellite results was still a legitimate scientific argument.

***[SIN2007]** S. Fred **Singer**, Dennis T. Avery, *Unstoppable Global Warming every 1,500 years*, 2007. It is a good exercise to read SIN1999 and SIN2007, and see evolution or lack thereof, especially in the light of major revisions to satellite and balloon results that happened between. In the earlier book, global warming was not happening, in the later one, it is inevitable, but entirely natural. Policy advice remains constant: no CO2 restrictions.

***[SPE2008]** Roy W. **Spencer**, *Climate Confusion – How GLOBAL WARMING hysteria leads to bad science, pandering politicians, and misguided policies that hurt the poor*, 2008.

[WAG2006] Wendy Wagner, Rena Steinzor, ed *Rescuing Science from Politics*, 2006.

Appendix 1 Acronyms - DOE , DoD, Miscellaneous

Abbreviations are used here for brevity and consistency with common usage.

I have visited (at least) **ANL**, **FermiLab**, **LLNL**, **ORNL**, and **SLAC**, and have met with researchers from **LANL**, **LBNL**, **PNNL**, **Sandia**, **ARL**, **NRL** (and some of the warfare centers). These labs employ many excellent scientists, of whom only a tiny fraction are signers. These are listed because many of the signers may well have met each other via these organizations, and the alphabet soup is thick.

DOE – Department of Energy

www.energy.gov/

DOE has many laboratories, usually managed by various combinations of universities or private companies under contract to DOE. Some labs grew from WW II + Cold War nuclear weapons, but emphasis has shifted progressively over the last 3-4 decades to other areas.

ANL – Argonne National Laboratory, Argonne, IL (near Chicago)

www.anl.gov/, Managed by U Chicago.

Nuclear work focused on reactors, not involved much with weapons.

FermiLab – FermiLab, Batavia, IL (near Chicago)

www.fnal.gov/

Managed by Fermi Research Alliance {U of Chicago ,University Research Association (URA)}. High energy, particle physics.

Hanford – Hanford Reservation, WA, DOE

www.fnal.gov/, Was (is?) managed by Westinghouse Hanford Corp.

Major nuclear production (& now cleanup) site, produced plutonium for most US weapons.

PNNL is located nearby, was split off decades ago.

JLab – Thomas Jefferson National Accelerator Facility (or Jefferson Lab), Newport News, VA

www.janl.gov/

Managed by JSA {Southeastern Universities Research Association, Computer Sciences Corp}. Studies nuclear physics, particle physics, Continuous Beam Electron Facility (CEBAF).

LANL – Los Alamos National Laboratory, Los Alamos, New Mexico

www.lanl.gov/

Managed by LANS {Bechtel, U of CA, Babcock and Wilcox, Washington Group International}. Historically, the primary nuclear weapons lab in USA, but does research in other areas, including plasmas, fusion, and lately, more people in environment, climate modeling and other areas.

LBNL – Lawrence Berkeley Laboratory, Berkeley, CA.

www.lbl.gov/, Managed by U of CA.

Research in physics, life sciences, and energy efficiency research, recently led by Steven Chu.

LLNL – Lawrence Livermore National Lab, Livermore, CA

<https://www.llnl.gov/>

Managed by LLNS {Bechtel, U of CA, Babcock and Wilcox, Washington Division of URS Corporation, and Battelle}..

Historically, was major (after LANL) nuclear weapons lab in USA, but does research in many other areas, especially fusion (the National Ignition Facility (NIF) and other areas.

ORNL – Oak Ridge National Laboratory, Oak Ridge, TN

www.ornl.gov/, Managed by U of TN and Battelle.

Part of Manhattan Project during WW II, then shifted more to reactors, other science areas.

PNNL – Pacific Northwest National Laboratory, Richland, WA

www.pnl.gov/ Note PNL in domain name, not PNNL. Managed by Battelle.

Historically, involved with the Hanford nuclear weapons site nearby.

Sandia – Sandia National Laboratories (SNL), Albuquerque, NM and Livermore, CA

www.sandia.gov/, Lately, Sandia is a Lockheed-Martin company

Major sites are in Livermore, CA, adjacent to **LLNL**, and at Kirtland AFB in Albuquerque, about 100 miles from LANL. Most Laboratories often use the abbreviations in websites and elsewhere, but “Sandia” seems more commonly called “Sandia”, not SNL. Here, “Sandia” implies New Mexico.

SLAC – SLAC Linear Accelerator Laboratory, Menlo Park, CA

www.slac.stanford.edu/, Managed by Stanford U.

DoD Organizations

AFWL – US Air Force Weapons Laboratory, now Air Force Research Laboratory, Dayton, OH

www.wpafb.af.mil/afrl/

This is located at Wright-Patterson Air Force Base (WPAFB), for which I have a special attachment. My father was stationed there just after WW II, and Dayton is my birthplace as a result.

Kirtland AFB – Albuquerque, NM

www.kirtland.af.mil/

This is home of the Air Force Nuclear Weapons Center, and Sandia is there.

ARL – US Army Research Laboratory – Adelphi, MD (and others, including NC)

www.arl.army.mil/www/default.htm

They still show pictures of SGI computers I helped design, and (like many of the other organizations mentioned here), we had interesting discussions about their computing needs over the years.

www.arl.army.mil/www/default.cfm?Action=20&Page=271

NRL – US Naval Research Laboratory – Washington, DC

www.nrl.navy.mil/

NRL does substantial basic research, with more of the warfare-oriented work in 4 other centers.

www.nrl.navy.mil/content.php?P=MISSION

Miscellaneous

EPRI – Electric Power Research Institute

Starr founded this nonprofit research organization for the electric power industry. (I live a few miles from its Palo Alto site, and have known people who worked there, and I think they do good work. I see them at Stanford GCEP symposia.) Historically, it may once have been focused primarily on nuclear power, and it appears to pursue “Clean coal”, a topic about which people have mixed feelings, but it does substantial research on renewable energy issues as well. Several signers happen to be connected via **EPRI**.

my.epri.com/portal/server.pt

en.wikipedia.org/wiki/Electric_Power_Research_Institute

www.sourcewatch.org/index.php?title=Electric_Power_Research_Institute

IPCC – Intergovernmental Panel on Climate Change

www.ipcc.ch/

IPCC TAR is Third Assessment Report (2001). **IPCC AR4** is the Fourth Assessment Report (2007), available online, although serious readers may find it help to buy paper as well, as they are huge reports. Scientists who contribute to IPCC reports are not employed by the UN, but generally have to get funding elsewhere for most of these activities. The IPCC reports are “political” only in the sense that after the scientific reports are created, the Summary for Policymakers (SPM) is hammered out line-by-line, having to be unanimously approved by all governments. *This frustrating process inherently tends to weaken conclusions, not exaggerate them, and IPCC authors have discussed this in some detail, somewhat amazed that anything gets out.* See [SCH2009], Chapter 5, which certainly matches descriptions in discussions I’ve had with other IPCC authors.

JASON

This group originally started around 1958 as a group of physicists that advised the US Government, manage via MITRE, as a part-time unit of the Institute for Defense Analysis (IDA). **JASON** is mentioned here only because members of the group would generally know each other well, might know people at MITRE or IDA (several other signers), as well as having a broad web of connections.. Signers **Happer**, **Lewis**, **LeLevier**, and **Katz** are/were **JASONS**, as was **Nierenberg**, and Freeman Dyson. Most **JASONS** are not signers, *but any APS member who might have signed surely would have been asked.*

www.bookrags.com/wiki/jason_Defense_Advisory_Group

www.isgp.eu/organisations/JASON_Group.htm

www.fas.org/irp/agency/dod/jason/

Appendix 2 Advocacy Organizations

This is a small subset of a group of inter-related entities, with many directors, advisors in common over the years, picking just those most relevant to this paper. Many more exist. Many are CTTS – Conservative Think Tanks who have long played strong roles in trying to avoid any environmental regulations. See [McC2003] and [JAC2008], and Philip Mirowski “The Rise of the Dedicated Natural Science Think Tank” www.ssrc.org/workspace/images/crm/new_publication_3/%7Beee91c8f-ac35-de11-afac-001cc477ec70%7D.pdf

Regardless of how they started, at least some think tanks act as combined Public Relations and lobbying companies, with the advantage of being tax-free. Although some emphasize free-market economics and individual freedom (fine things in principle!), their funding (often difficult to find) seems to come mostly from companies that privatize profits and socialize costs, or from wealthy family foundations heavily invested in such companies. Hence, think tanks are especially attractive to tobacco companies, which offer no societal benefit, but are certainly profitable. Fossil fuel companies produce important products, but perhaps do not always bear the resulting costs, so they appear as well. Many companies may provide modest support to such think tanks for the general (and not unreasonable) idea of minimizing regulation, but in some ways, that just provides cover for the larger funders, better than some of the older industry front groups. Compare TIRC and TASSC: the first tobacco-only, the second more general, but both initiated for tobacco companies. Independent think tanks are even better in that regard, as they can offer much broader appeal and the “safety of crowds.”

ACSH – American Council on Science and Health

www.acsh.org/
www.acsh.org/about/pageID.7/default.asp
www.acsh.org/about/pageID.89/default.asp
www.sourcewatch.org/index.php?title=ACSH
www.exxonsecrets.org/html/orgfactsheet.php?id=8

Enstrom and **Nichols** are Trustees, **Singer** is a Scientific Advisor.

Worrying about proper use of science, and avoiding over-interpretation of results seems generally good. People with more health expertise than I may assess the extent to which ACSH does that, as it actually has some reasonable-seeming advisors, and it has taken a clear position against tobacco. It is mainly mentioned here for the connections above, that explain why an epidemiologist might be signing a climate petition. It has received funding from ExxonMobil.

CATO Institute – Libertarian think tank (Code c for CATO 2009 advertisement, Appendix 3)

www.CATO.org/
www.sourcewatch.org/index.php?title=CATO
www.exxonsecrets.org/html/orgfactsheet.php?id=21

Singer is/was on Editorial Advisory Board, Steven Milloy is an Adjunct Scholar, **Christy** was a conference speaker.

CFACT - Committee for a Constructive Tomorrow – Libertarian think tank

www.CFACT.org/
www.sourcewatch.org/index.php?title=Committee_for_a_Constructive_Tomorrow
www.exxonsecrets.org/html/orgfactsheet.php?id=25

Hayden is on the Advisory Board with **Baliunas** and **Michaels**, (and Bruce Ames, also on **GMI** BoD and on **SEPP** Board of Scientific Advisors) and when living, **Seitz**.

CFACT-Europe is described by a Dutch blogger:

jules-klimaat.blogspot.com/2009/08/its-fact-CFACT.html

Energy and Environment (“journal”)

www.multi-science.co.uk/ee.htm

Geographer Sonja Boehmer-Christiansen edits this journal, not listed in the Web of Science.

I would be very careful in assessing anything published here.

GMI – George C Marshall Institute (Code G)

www.marshall.org/

[www.sourcewatch.org/index.php?title=George C. Marshall Institute](http://www.sourcewatch.org/index.php?title=George_C._Marshall_Institute)

GMI was founded by 3 world-class, well-known and influential scientists, **Robert Jastrow**, **William Nierenberg** and **Frederick Seitz**. In 1990, they published *Scientific Perspectives on the Greenhouse Problem* [JAS1990], including a paper by **Spencer** and **Christy**.

[LAH2008] and the following offer many useful insights, as **GMI** is in some sense the “founding core” of climate anti-science, due to the scientific prestige and influence of its founders.

[ORE2008] or Naomi Oreskes, “*American Denial of Global Warming*” video:

www.uctv.tv/search-details.aspx?showID=13459 , especially from 26:00 onward.

The following offers interesting early history (circa 1983) relevant to **GMI**:

Naomi Oreskes, Erik M. Conway, and Matthew Shindell, *From Chicken Little to Dr. Pangloss: William Nierenberg, Global Warming, and the Social Deconstruction of Scientific Knowledge*, 02/08:

www.lse.ac.uk/collections/CPNSS/projects/ContingencyDissentInScience/DP/DPOreskesetalChickenLittleOnlinev2.pdf

Happer is the current Chairman of the Board), Canavan and Spencer are Directors, as was Starr. Sproull was an associate of Seitz, and the Chairman in mid-1990s, and Nierenberg was on the Board of Starr’s EPRI. Baliunas and Soon have written papers for GMI, as have Spencer and Christy. Singer’s SEPP has long been connected with GMI (Seitz was SEPP’s Chairman, Starr was an Advisor). The current President of GMI is William O’Keefe, who was Exec. VP and COO of the American Petroleum Institute, and was on the Board of the Competitive Enterprise Institute.

GMI has long and strongly espoused free-market economics, for solutions to environmental and any other problems, i.e. as opposed to government regulation of anything. As far as I can tell, the 3 founders had strong conservative ideology, did not work for commercial companies, but for government, or in university research jobs, often supported by government grants. *As a long-time R&D person in profit-making industrial companies, especially in ultra-entrepreneurial Silicon Valley it seems odd for people whose careers were mostly built with government support to do what they did in the name of free enterprise, but many others here seem to fit this profile as well.*

Heartland – Heartland Institute, Chicago (Codes H, H, h, h)

www.heartland.org/ Enter APS in the search box, to see how the APS petition is presented.

www.globalwarmingHeartland.org/experts.html “Global Warming Experts”

[www.sourcewatch.org/index.php?title=Heartland Institute](http://www.sourcewatch.org/index.php?title=Heartland_Institute)

www.exxonsecrets.org/html/orgfactsheet.php?id=41

www.desmogblog.com/Heartland-institute-and-academy-tobacco-studies

[www.Heartland.org/article/25984/An Open Letter to the Council of the American Physical Society.html](http://www.Heartland.org/article/25984/An_Open_Letter_to_the_Council_of_the_American_Physical_Society.html)

Heartland was founded in 1984, and basically acts as a “non-profit” PR/lobbying entity. It currently seems the most active of such in climate anti-science, with strong organizational and PR skills, and long-established lists of state and local legislative contacts. Funding patterns are sometimes direct, sometimes indirect (through layers of wealthy family foundations and think tanks), and sometimes even murkier. For example, origins of the wealth behind major family foundations can sometimes be found, but current investment mixes are really difficult to discern.

It has a long history of tobacco funding, as can be found in the Tobacco Archives:

legacy.library.ucsf.edu/action/search/basic?fd=0&q=Heartland+institute,

This includes pitches to tobacco companies praising **Heartland’s** skills PR and lobbying, and reports by tobacco companies of **Heartland’s** efforts on their behalf.

The Tobacco Archives is a horridly-fascinating database of behind-the-scenes activity, unfortunately unavailable for most other anti-science campaigns. It is difficult to understand the methods and people involved in anti-science in the USA, without understanding its development with cigarettes [BRA2007].

To become truly addicted to nicotine, most people need to establish the habit while their brains are still developing quickly, most between age 12 and 18, the earlier the better. In addition, people tend to stick with early choices of cigarette brands. Tobacco companies have known this for decades:

legacy.library.ucsf.edu/tid/eyn18c00/pdf The Importance of Younger Adults

Long-term tobacco company revenues thus depend almost entirely on addicting children, *and most people might eschew association with an entity long closely-connected to the tobacco industry.* However, 7 of the signers (**Singer, Gould, Douglass, Battaglia, Scafetta, Hayden, and Giaever**) and 9 supporters (**Jastrow, Nierenberg, Seitz, Michaels, Christy, Spencer, Akasofu, Baliunas, Soon**) are/were involved with **Heartland**, as speakers, writers, or “Global Warming Experts.” From their own words, at least 2 more signers (**Berry** (2009), **Friedman** (2008)) have attended **Heartland** climate conferences, so there is a closer relationship than the reader (or many signers) might realize.

Several physicists (not physicians) (**Seitz, Singer**) have taken even more direct roles in fighting any restrictions on smoking, generally by trying to create doubt about medical science research.

Heartland has recently become very active in climate anti-science activities, sponsoring conferences like:

www.heartland.org/events/NewYork08/proceedings.html

www.heartland.org/events/NewYork09/index.html

www.heartland.org/events/WashingtonDC09/proceedings.html

These are substantial events, and their funding is indeed murky.

www.Heartland.org/books/PDFs/LegislatorsGuideGW.pdf is a *nicely*-produced “Legislator’s Guide to Global Warming Experts.” It says of Viscount Christopher Monckton:

“His 2008 article “Climate Sensitivity Reconsidered” appeared in the *APS Forum*, a peer-reviewed journal, and triggered international debate.”

Compared with maintaining tobacco sales via addiction of children, confusing people about climate is child’s play, and clearly of no ethical concern.

Heartland’s homepage shows rotating portraits of various people, including Benjamin Franklin and Thomas Jefferson, who I think rather fine scientists, among their other roles. *I wonder if they would approve.*

Hoover Institution – Conservative/Libertarian

www.hoover.org/

en.wikipedia.org/wiki/Hoover_Institution

www.sourcewatch.org/index.php?title=Hoover_Institution

This conservative/libertarian thinkank is located at Stanford. It generally does not seem to do much with climate change, but in at least one case, a signer was a Visiting Fellow. I would personally put it in a different intellectual league than many of these others.

SEPP – Science and Environmental Policy Project – S.Fred Singer

www.sepp.org/

www.sourcewatch.org/index.php?title=Science_and_Environmental_Policy_Project

SEPP, founded in 1990, has generally been composed of **Singer** and his wife Candace Crandall, with a little help from others. **Seitz** was Chairman, and **Starr** and **Nierenberg** were Science Advisors. Oddly, as of 10/21/09, although deceased, all 3 are still listed:

www.sepp.org.org/about%20SEPP/boarddir.html

See especially [**HOG2009**] Chapter eight, “Denial by the pound” regarding “petition science” as such petitions are hardly new. **Singer** has been involved in creating such petitions since 1992, and others here have often been involved. **Singer** has strong ties to similar organizations in Europe, especially in The Netherlands (where his **Sluijter** connection arises).

SPPI – Science and Public Policy Institute – Robert Ferguson

scienceandpublicpolicy.org/

This is a small recently-formed entity, akin to **SEPP**, really Robert Ferguson plus advisors. It does not seem involved in this campaign, except via the connection of Viscount Christopher Monckton’s article in APS FPS in 2008, and use of quotes from **Gould** to support that. **Soon** is Chief Science Advisor.

TIRC – Tobacco Industry Research Committee (1953-1964), reorganized as
CTR – Council for Tobacco Research (1964-1999)

www.sourcewatch.org/index.php?title=Tobacco_Industry_Research_Committee

www.sourcewatch.org/index.php?title=Council_for_Tobacco_Research

www.tlaonline.com/HKWIS/hksplash.htm

www.tlaonline.com/HKWIS/0302.pdf

These pioneered the existence of sophisticated PR/lobbying entities with attached scientific advisory boards to provide science-appearing support to create doubt.

See [BRA2007] and discussion above of May 1954 memo from Hill and Knowlton, “A Scientific Perspective on the Cigarette Controversy”, which quoted many people, in arguments from authority:

legacy.library.ucsf.edu/tid/wye21a00/pdf

The main arguments can be summarized (as from SourceWatch CTR article):

- The evidence is still inconclusive.
- Something other than smoking may be responsible.
- Statistical evidence can't be trusted.
- It's all a scare campaign.
- The issue is too complicated, even for scientists.
- Nit-picking at irrelevant details.
- More research is necessary.

This is basically a manual of style for most environmental anti-science campaigns since then, and this Petition is in many ways a genetic descendant.

*Some think tanks have long worked with tobacco companies, but seemed to take on a bigger percentage of campaign as **CTR** was disbanded. Think tanks offered more anonymity as well. A think tank could promote free enterprise, “sound science”, fight against every environmental restriction (whether a particular one was reasonable or not, as they have varied. Tobacco fights could easily “hide” amongst those, much easier than in tobacco-specific **TIRC/CTR**. An example of a front done that way was **TASSC**.*

TASSC – The Advancement of Sound Science Coalition (started 1993, now defunct)

en.wikipedia.org/wiki/Advancement_of_Sound_Science_Center

www.sourcewatch.org/index.php?title=The_Advancement_of_Sound_Science_Coalition

web.archive.org/web/19980112135753/www.tassc.org/html/about/board.html

Advisors included **Seitz, Michaels**, and Bruce Ames (biochemist who was also **SEPP** Advisor and on **GMI** BoD.) **Singer** certainly was heavily involved:

tobaccodocuments.org/landman/158433.html

legacy.library.ucsf.edu/action/search/basic?fd=0&q=tassc+fred+singer

web.archive.org/web/19980112135753/www.tassc.org/html/about/board.html

Founding member scientists included **Enstrom**.

It started as a front for Philip Morris, set up by PR firm APCO, and launched a career for Steve Milloy. The general approach was to label any inconvenient science as “junk science.” Either reference above lists **TASSC** funders, primarily tobacco and petroleum companies, with some chemical companies and a few others, including somewhat oddly, **LLNL**. **TASSC** was strongly connected to **CATO** via Milloy.

TASSC also released petitions asking to defer air quality standards and opposing Kyoto.

legacy.library.ucsf.edu/tid/any77d00/pdf

Appendix 3 Anti-Science by Petition, Conference, or Report

Introduction. Petitions, declarations, open letters, or whatever they are called are rarely intended to convince field scientists or organizations, but as PR to influence public and politicians. It is non-trivial to assess the actual scientific credibility of people on large lists like these, so organizers try to get people with PhDs or relevant-sounding titles, whether they actually have ever published any relevant research. Think tanks often have names with “Institute” in them, and often “Science,” so such are useful. Sometimes lists include people who totally disagree, are surprised to find they have been named, send angry letters to the organizers ... and often remain on the list. Some people signed, misunderstanding the petition, and would not sign today. Some of the same names show up again and again, but it is interesting to study how other people get on such lists, especially if they are actually highly-educated scientists.

People also organize conferences advertised as climate science conferences, but are totally unlike normal science conferences run by scientific societies. Most speakers have few if any peer-reviewed publications in the field. Everyone agrees that under no circumstances can CO2 be restricted. They disagree whether or not warming is occurring, but do agree that if it is occurring, it is almost entirely natural, although they often disagree on the specific cause of any warming, and sometimes support mutually-contradictory reasons. All agree that the IPCC is bad and that Al Gore is really bad, as though the latter was the basis of the science. Sometimes petitions are generated in conjunction with conferences. See especially **[HOG2009]** Chapter eight, “Denial by the pound.”

Jim Prall analyzes some petitions and signers in detail in his database:
www.eecg.utoronto.ca/~prall/climate/skeptic_authors_table_by_clim.html

ACS2009 Petition– Heartland

rabett.blogspot.com/2009/08/this-is-gonna-be-fun-notice-flows-into.html

“If you are planning to attend the meetings of the American Chemical Society in Washington DC Aug 16-19, be sure to visit the booth of the **Heartland** Institute and sign up to protest the ACS statement on climate change. If you cannot attend and are a current or former ACS member, contact Dr Peter Bonk at peterjbonk@gmail.com”. *Who would **Heartland** even have a booth at ACS.*

CATO2009 Advertisement - CATO Institute Full-page ad run in LA Times, Chicago Tribune, Washington Post, Washington Times, and New York Times March 30 2009 (Code c) –

www.cato.org/special/climatechange/alternate_version.html
www.eecg.utoronto.ca/~prall/climate/Cato09_authors_table.html

Names included **Akasofu, Anderson, Michaels, Spencer, Cohen, Gould, Happer, Douglass, Giaeffer, Hayden, Knox, Monce, Nichols, Sheahen**, i.e., 12 of the APS signers and 3 supporters.

For many of these petitions, anyone can sign up. *I would guess this one was by invitation, using some CATO mailing list.*

*Heartland2008#1 International Conference on Climate Change, March 2-4 New York

www.Heartland.org/events/NewYork08/proceedings.html

See also **Manhattan Declaration**, whose first group signed at this conference.

*Heartland2009#2 International Conference on Climate Change March 8-10 New York

“Global Warming – Was it Ever a Crisis?”

www.Heartland.org/events/NewYork09/index.html

Heartland2009#3 Third International Conference on Climate Change June 2, 2009 Washington, DC

www.Heartland.org/events/WashingtonDC09/proceedings.html

Heidelberg Appeal – 1992 – SEPP/Singer/TASSC

www.sepp.org/policy%20declarations/heidelberg_appeal.html

en.wikipedia.org/wiki/Heidelberg_Appeal

www.sourcewatch.org/index.php?title=Heidelberg_Appeal

[www.sourcewatch.org/index.php?title=S. Fred Singer](http://www.sourcewatch.org/index.php?title=S._Fred_Singer)

HAN – Heidelberg Appeal Netherlands (see **Sluijter**)

jules-klimaat.blogspot.com/2009/09/heidelberg-appeal.html

jules-klimaat.blogspot.com/2009/10/heidelberg-appeal-nederland.html

Leipzig Declarations – 1995, 1997, 2005 – SEPP/Singer

www.sepp.org/policy%20declarations/LDrevised.html

en.wikipedia.org/wiki/Leipzig_Declaration

Manhattan Declaration – 2008 (Codes M, m, 11 signers) – Heartland/ICSC

www.climate-science-international.org/

www.climate-science-international.org/index.php?option=com_content&task=view&id=37&Itemid=54

www.Heartland.org/policybot/results/22866/New_York_Global_Warming_Conference_Considers_Manhattan_Declaration.html

www.climate-science-international.org/index.php?option=com_content&task=view&id=66

ICSC (International Climate Science Coalition) and **Heartland** worked to consider this petition at the **Heartland** 2008 conference in NYC, and then has added signatures since. **Stilbs** is on the Science Advisory Board. Their list has 3 groups of endorsers, those who were at the conference, those who were not, but also claimed to have relevant expertise, and general public.

www.climate-science-international.org/index.php?option=com_content&task=view&id=48&Itemid=1

Friedman, Hayden, Singer, and Spencer were present and signed (M).

www.climate-science-international.org/index.php?option=com_content&task=view&id=62&Itemid=1

Akasofu, Berry, Campbell, Douglass, Dyson, Kunc, Monce, Silverman, Stilbs, Tipler signed later (m).

www.climate-science-international.org/index.php?option=com_content&task=view&id=66

Then, ICSC picked 197 endorsers as “climate science specialists or scientists in closely related fields”, headed “Climate Experts who signed **Manhattan Declaration**”: **Akasofu, Campbell, Douglass, Dyson, Friedman, Hayden, Monce, Sheahen, Singer, Spencer, Stilbs, Tipler**. *Some are truly curious choices to be called climate experts.*

NIPCC – Nongovernmental International Panel on Climate Change

This is basically **Singer** plus friends. Names keep changing, but people often reference two versions:

NIPCC2008 – Nature, Not Human Activity Rules the Climate: The Summary for Policies of the Report of NIPCC, April 2008. SEPP (Singer, Ed), published by Heartland.

www.heartland.org/books/NIPCC.html

This was reviewed at RealClimate, mostly enumerating long-debunked wrong memes and referring to past posts and papers:

www.realclimate.org/index.php/archives/2008/11/not-the-ipcc-NIPCC-report/

NIPCC2009 – Climate Change Reconsidered, June 2009, S. Fred Singer and Craig Idso

www.NIPCCreport.org/

www.NIPCCreport.org/aboutNIPCC.html

At this point, the website is separate, but the media contact is still at **Heartland**.

www.NIPCCreport.org/forMoreInformation.html

Gives “For more information” for print/broadcast journalists, government official or staffer, or philanthropist wishing to donate, all contacts are at **Heartland**. It heavily references the **OISM Petition**.

OISM Petition (1998-) – Oregon Institute of Science & Medicine (Codes O, o, o, o) – OISM, GMI.

Without this petition, few people would have heard of this barnlike structure in rural Oregon, in which work chemist Arthur Robinson and his sons Noah and Zachary. The petition is widely mentioned to prove lack of consensus, even though it is just an unchecked, often-unidentifiable list of names. In most scientific disciplines, science is rarely done by petition of random people, but it does impress some of the public. Jeff Goodell, [GOO2006], p.194-197, quotes OISM's head Arthur Robinson:

“One of these days, people will start to see global warming for what it is – a thinly disguised scam by corporations, the United Nations, and big environmental groups to reduce the world’s population. Speaking as a scientist, I can tell you that most people who tout global warming are liars, and the sooner we recognize that, the better.”

He says he believes evolution is “a hypothesis that is yet unproven.” He spoke at **Heartland** 2009 climate conference. The OISM “faculty” has Robinson, his 2 sons, and 3 others who live elsewhere.

www.oism.org/; www.oism.org/pproject/pproject.htm#341; www.petitionproject.org/
[www.sourcewatch.org/index.php?title=Oregon Institute of Science and Medicine](http://www.sourcewatch.org/index.php?title=Oregon_Institute_of_Science_and_Medicine)
[en.wikipedia.org/wiki/Oregon Institute of Science and Medicine](http://en.wikipedia.org/wiki/Oregon_Institute_of_Science_and_Medicine)
[en.wikipedia.org/wiki/Arthur B. Robinson](http://en.wikipedia.org/wiki/Arthur_B._Robinson)

One can usually verify whether or not specific known people have signed, and approximately when, via the Internet Archive’s Wayback Machine. For example, one can see the status as of August 23, 2000:

web.archive.org/web/20000823175239/www.oism.org/pproject/pproject.htm

The original 1998 paper was by Arthur Robinson, Zachary B. Robinson, **Baliunas**, and **Soon**, the latter two identified with **GMI** affiliations (not H-S CfA). It was formatted like a PNAS paper, and arrived with a cover letter from **Seitz**, past President of NAS, confusing some people into signing, think it was just a call for more research. NAS took the unusual action of publicly disavowing any connection with this.

The current website offers a 2007 paper (by Arthur Robinson, Noah Robinson, and **Soon**, with only OISM listed as an affiliation), which appeared in the *Journal of American Physicians and Surgeons* (JPandS).

www.oism.org/pproject/GWReview_OISM150.pdf

That might seem an odd place for a climate paper, but see:

en.wikipedia.org/wiki/Association_of_American_Physicians_and_Surgeons
www.sourcewatch.org/index.php?title=Association_of_American_Physicians_and_Surgeons

The Executive Director (of JPandS’ parent AAPS) is Jane Orient, one of the OISM “faculty”. Debunking anti-science is tedious, because it usually needs more words to explain why something is wrong, or cherry-picked, or incomplete, but fortunately, it has been well-done already:

www.realclimate.org/index.php/archives/2007/10/oregon-institute-of-science-and-malarkey/

www.realclimate.org/wiki/index.php?title=oism

www.climatewatch.org/file-uploads/Comment_on_Robinson_et_al-2007R.pdf (MacCracken)

rabett.blogspot.com/2009/10/critical-review-of-robinson-robinson.html (Mike Powell)

Supporters who signed OISM (7 of 11 total):

Q: 3: **Baliunas**, **Soon** co-authored original document. **Seitz** provided the cover letter.

o: 2: **Jastrow**, **Starr** (by August 2000)

o: 1: **Spencer** (by January 2008)

o: 1: **Akasofu** (after January 2008)

APS Signers Who Signed OISM (100 of 206 total, A-I):

o: 52 many had made up their minds by 2000, and have now reaffirmed that (despite **IPCC TAR**, **AR4**)

o: 9: not many signed between 2000 and 2008

o: 39: and many others are relatively recent

Summary: Signers find OISM a more credible institution than NAS, AAAS, APS, AGU, AMS. I can imagine how that happens in the general public. APS Petition signers almost all have Physics PhDs, and often credible publication records. *Preferring OISM hints at very strong extra-science motivations.*

Stockholm2006 – “Global Warming – Scientific Controversies in Climate Variability” – Sept 11-12, 2006, Stockholm, SE

gamma.physchem.kth.se/~climate

This was organized by **Stilbs**, a Professor of Physical Chemistry, whose research has generally focused on NMR. *The conference reached the expected conclusions: no warming since 1998, expect global cooling, cosmic rays might be important, any warming is most likely natural, CO2 is not really important, carbon taxes or cap-and-trade are bad.* Speakers included **Baliunas**, **Singer**, **Soon**.

gamma.physchem.kth.se/~climate/speakers.htm

Appendix 4 A Small Sample of Web References

These are examples of intended audiences for the Petition, followed by a few for the Letter to Senate. The interested reader might peruse a few to assess the caliber of scientific discussions therein. See especially the 08/19/09 **Singer** piece. For more:

Search: singer lewis happier american physical society

07/14/09 corner archive "Skeptics From Around the Globe-APS Letter"
jer-cornerarchive.blogspot.com/2009/07/open-letter-to-council-of-american.html

07/26/09 Greenie Watch, "Double Breakthrough...A major scientific society has agreed to reconsider its alarmist Statement on Climate Change, John Ray
antigreen.blogspot.com/2009/07/clouds-there-has-been-much-debate-over.html

07/27/09 The Reference Frame, "APS is reviewing its climate stance", Lubos Motl
motls.blogspot.com/2009/07/aps-is-reviewing-its-statements-on.html
 "Obnoxious bureaucrats in the American Physical Society think that people cannot show the logo of the APS, so I had to create this picture instead. And tell them: f*** you!" as of 10/12/09. (** mine)

07/??/098 junkscience, "APS is Reviewing its statements on climate science"
www.junkscience.com/july09.html search for Happer

07/28/09 Climate Realists, "APS is reviewing its climate stance", Lubos Motl
climaterealists.com/index.php?id=3777

07/28/09 Power and Control, "Correcting their Stance", M. Simon
powerandcontrol.blogspot.com/2009/07/correcting-their-stance.html

07/28/09 Classical Values, "Correcting Their Stance," Simon
www.classicalvalues.com/archives/2009/07/correcting_thei.html

07/28/09 Grasp The Nettle, "The Beginning of a Backlash", paulsc, a British "middle-aged programmer"
graspthemettle.blogspot.com/2009/07/beginning-of-backlash.html

07/30/09: Icecap, "We the undersigned...", Roger W. **Cohen**
icecap.us/index.php/go/they-said-it/P8/

07/30/09: Climate Realists, "Letter from Roger W. Cohen...", Roger W. **Cohen**
climaterealists.com/index.php?id=3795
 (If you are doing a petition for a scientific society, is this where you would post it?)

07/30/09: Climate Realists, "Climate Revolt ...", Marc Morano
climaterealists.com/index.php?id=3790&linkbox=true

08/12/09: Conservative Business Network, "An Open Letter to the Council of the APS",
conservativebusinessnetwork.com/cbnblog.php?s=an-open-letter-to-the-council-of-the-american-physical-society

08/16/09: Climate Physics "Open Letter to the Council of the APS", Edwin X. **Berry**
www.climatephysics.com/GlobalWarming/APS.htm

08/19/09: Minnesota Free Market Institute: Minnesota Climate Change Symposium:
www.mnfmi.org/climate/

Keynote by Fred **Singer**, entitled: "Climate Change: How Politicized Science Endangers Prosperity"
mnfreemarketinstitute.org/wp-content/uploads/2009/08/Fred-Singer.pdf

"Outline: Breakthru: APS to modify Climate Statement" p.2 (*Opinion: this was slightly premature*); p.30:

“Double Breakthrough: This is the first time a professional scientific society has agreed to reconsider an alarmist policy statement on climate change. *Nature* magazine published our Letter announcing this fact. On 1 May 2009, the APS Council decided to review its current statement via a high-level subcommittee of respected senior scientists. We applaud this decision. It is the first such reappraisal by a major scientific professional society that we are aware of, and we hope it will lead to meaningful change that reflects a more balanced view of climate change issues.”

The APS overwhelmingly rejected this at the November 8, 2009 Council meeting.

The reader might check this talk, including quotes by Thomas Jefferson, Richard Feynman, John Keynes, and SEEE (a **SEPP** initiative) – “Draws on signers of Oregon petition from VA an NJ” “To educate public...” *This is a typical of such petitions, not to change scientists’ minds, but to offer impressive-sounding lists that can be used to convince the general public that relevant scientists are still in major disagreement about the basics. How many attendees at the Minnesota event would take the time to actually follow up?*

08/20/09: Energy Tribune, “Anthropogenic Global Warming? Not So Fast...”, Gerald T. Westbrook
www.energytribune.com/articles.cfm?aid=2203

Cites “controversies” within ACS, AGU, APS, and among German scientists.
By definition, regardless of the views of professionals, controversy exists if even one person anywhere disagrees. This is right out of the Hill and Knowlton playbook for cigarettes.

On October 29, a subset of the organizers sent an “Open Letter” to the Senate, and it was up on their website no later than October 30. By 11/02/09, it was propagating among other websites, for example:

11/02/09: Climate Depot, “Team of Scientists’ Open Letter to U.S. Senators: ‘Claim of consensus is fake”, Marc Morano:
climatedepot.com/a/3606/Team-of-Scientists-Open-Letter-To-US-Senators-Claim-of-consensus-is-fake

11/02/09: The Chilling Effect, “A Gaggle is Not a Consensus,” “Frosty the Know Man”
thechillingeffect.org/2009/11/02/a-gaggle-is-not-a-consensus/ It points at the next as a source, rather oddly since Morano is one of the editors of The Chilling Effect:
thechillingeffect.org/about/

11/02/09 Watts Up With That, “Physicists send letter to Senate – Cite 160 Scientists protest against APS climate position”, Anthony Watts.

wattsupwiththat.com/2009/11/02/160-physicists-send-letter-to-senate-regarding-aps-climate-position/

This starts by saying “Since I’m not legally allowed to show the APS logo (they complained the last time) this will have to do:” then shows picture of Saddam Hussein’s spokesman saying “Yes, there is a consensus.”

11/02/09: ICECAP “Team of Scientists’ Open Letter to U.S. Senators: ‘Claim of consensus is fake”, Marc Morano (*he is busy*)

icecap.us/index.php/go/new-and-cool

11/02/09 Climate Change Fraud, ads a cartoon, copies Morano’s Climate Depot article, ??

www.climatechange-fraud.com/editorials/5516-team-of-scientists-open-letter-to-us-senators-claim-of-consensus-is-fake

www.climatechange-fraud.com/about-us/learn-about-ccf

11/03/09 (Australia time) JoNova, “The Consensus is Fake,” Joanne Nova,

joannenova.com.au/2009/11/the-consensus-is-fake

“Eminent Professors have taken the extraordinary step of writing another open letter to Congress to warn them again that there is no consensus and *they are being deceived.*”

Jo Nova is a “freelance science presenter and writer, and former TV host.” *She has a new career.*

Search engines often have some lag time indexing pages, but this story is propagating rapidly through the blogosphere. *I suspect the “Overwhelming rejection” will not propagate in the same places.*

Appendix 5 – Signer Summary Tables, by Wave, Plus Supporters

Retired	Birth	State	Country	Career	Climate	D	TT	Pets					Connects				Fields				Counts (A-E) or (A-H)				
						Dedication	GMI/SEPP	Heartland	OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	Other					
D	Deceased																								
E	Emeritus																					21			
R	Retired																					62			
A-H			US					US+ most relevant State														191			
			XX					Other countries															15		
A-H				A				Academic					Careers										57		
				AG				Academic, Government																5	
				GA				Government, Academic																14	
				AI				Academic, Industry																5	
				IA				Industry, Academic																8	
				G				Government																42	
				GI				Government, Industry																16	
				IG				Industry, Government																8	
G's	85			I				Industry																47	
Groups A-E (121)								No climate papers (0)																114	
					1			A few, often quickly refuted																2	
				IH very unlikely	2			More papers, mixed credibility																4	
					3			Decades of credible research																1	
					4			Outstanding climate research																0	
Groups A-I(163)								1 APS Petition only mention																93	
					2			Signed at least one more																83	
					3			Active; letters; speaking; etc																16	
					4			Very active																12	
					5			Seems full-time dedication																2	
Strong Group (A-I)							G	Strong GMI involvement																4	
Strong Group							H		Expert+(Speaker, writer)																
Strong Group							<u>H</u>		{Speaker, writer}, NOT "expert"																
Plausible Group							<u>h</u>		Heartland "climate expert"																7
Plausible Group							h		Attended Heartland Conference																2
Strong Group (A-I)							<u>Q</u>		OISM Organizer/writer																
Plausible Group							<u>q</u>		OISM, by Aug 23, 2000																
Plausible Group							<u>o</u>		OISM by Jan 16, 2008																OISM
Plausible Group							o		OISM petition, after Jan'08																100
Plausible Group								M	Manhattan:M@Conf, m later																11
Plausible Group								C	CATO 2009 ad																12
See last 2 pages of Appendix 4 for list of group and connection codes									A	Strong Group															
									a	Plausible Group															
									A*,A#	Strong Personal															
									a*	Plausible Personal															
A-E (121)										Astrophysics					A										19
										Nuclear					N										47
										Defense						D									33
										Aerospace							A								28
										At least one of above															83
A-E (121)										Biology						B									1
										Climate Scientist							C								1
										Epidemiology							E								1
										Petroleum Connection							P								8
										Not climate, but other physics							X								108

Signers in gray involved with **SEPP, GMI, Heartland, CATO**, as are all supporters.

Name	Retired	Birth	State	Country	Career	Climate	D TT		Pets				Connects				Fields				Affiliations
							Dedication	GMI/SEPP	Heartland	OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	
(X): "Supporters", not signers, but very relevant and strongly connected (11)																					
Akasofu, Syun-Ichi	E	1930	AK	US	A		4		H	o	m	c	q	D*			A				U of AK Fairbanks
Baliunas, Sallie L		1954	MA	US	A	2	4	G	H	Q			Q	G*	D#	E#	A				C Harvard HSCA
Christy, John R		1954	AL	US	A	2	4	G	H				q	F*	K*						C UAH
Jastrow, Robert	D	1925	NY	US	GA	1	4	G	H	q			q	v	E#;W#	A				A	many; GMI
Michaels, Patrick J.	E	1950	VA	US	A	2	5	G	H			c	z	g	N*	D#					C U VA, CATO
Nierenberg, William	D	1919	CA	US	GA	1	5	G	H				J	E	A*	d	A	N			many;GMI
Seitz, Frederick	D	1911	NY	US	GA	1	5	G	H	Q			A*	V*	s			N			RockefellerU; GMI
Soon, Willie		1966	MA	US	A	2	4	G	H	Q			Q	G*	T*	G#	A	N			Harvard HSCA
Spencer, Roy		1956	AL	US	A	2	4	G	H	q	M	c	q								C UAH
Sproull, Robert L	E	1920	NY	US	AG		4	G					R	k	d			N			U Rochester
Starr, Chauncey	D	1912	CA	US	GI		4	G		q			E	Z*	f*	b*		N	A		ORNL; Rockwell; EPRI
(A) Organizers, Nature letter (6)																					
Austin, Robert H.		1946	NJ	US	A		4						P							X	Princeton
Cohen, Roger W.	R	1927	NJ	US	I		4			o	c		F	L*	V#						P Exxon
Gould, Laurence I		1942	CT	US	A		4		H	o	c	T	t								X U Hartford
Happer, Will		1939	NJ	US	AG		4	G		q		c	J	P	B*			N	D		X Princeton
Lewis, Harold W ??	E	1923	CA	US	A		3			o			J	n	b	k		N	D		X UCSB
Singer, S. Fred	E	1924	VA	US	GA	2	5	G	H	q	M	l	q	N*	O*	C#	A	N			U VA; really SEPP

Name	Retired	Birth	State	Country	Career	Climate	Dedication	D TT		Pets				Connects				Fields				Affiliations	
								GMI/SEPP	Heartland	OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	Other		
(B) Signed by May (48)																							
Agnew, Harold M.	R	1921	NM	US	GI		1							A*	B*	n			N	D	A	X	LANL; UCSD
Alexanian, Moorad		1938	NC	US	gA		2			o				m	a*							X	LLNL; UNCW
Battaglia, Franco				IT	A		4		H					r								X	Modena
Berger, Stuart B	R	1935	NY	US	I		1							r	y							X	Xerox-Rochester
Berman, Barry L		1936	DC	US	Ga		1							l	n	H*	b*		N			X	LANL; LLNL; Jlab; etc
Berry, Edwin X		1935	MT	US	al	1	3		h	q	m			a	d							X	U NV; own companies
Bodek, Arie,		1947	NY	US	A		1							R	l	b*	y					X	U Rochester
Calvin, Timothy D	R	1947	OH	US	I		1															X	Inventor; rubber items
Canavan, Gregory H		1943	NM	US	G		4	G						n	d	D*	H#		N	D	A	X	LANL
Cuttler, Jerry M		1943	ON	CA	I		1							b	X*	d*			N			X	EFN
Douglass, David H		1943	NY	US	A	2	4		H	o	m	c		R	K*	M*	N*				A	X	U Rochester
Engelhardt, Albert G		1935	NM	US	GI		2			q				C#	n				N			X	LANL
Feder, Jens		1942		NO	A		1							f	P*							P	U Oslo
Friedman, Peter D		1962	MA	US	Ga		3		h	q	M			t	b	k*			N	D		X	US Navy
Giaever, Ivar	E	1929	NY	US	A		3		h	o	c			u	P*	y	s					X	Rensselaer
Gold, Albert	R	1935	MA	US	A		1							r	q	Q*	t					X	U Rochester; Harvard
Grant, Paul M	R	1935	CA	US	I		1							E	R*	s						X	IBM; EPRI
Greyber, Howard D		1924	MD	US	Ga		3							j	n	l	d	A	N	D		X	ORNL; LLNL; defense
Gruntman, Mike		1945	CA	US	A		2			q				A	K#						A	X	USC
Hayden, Howard C	E	1940	CT	US	A		5		H	q	M	c		T	k	F*	D#		N			X	U CT
Hollander, Jack M	E	1924	CA	US	GA		3							m	k							X	LBLNL
Holtkamp, David B		1955	NM	US	G		1							l	n							X	LANL; LLNL
Kaldor, Andrew	R	1944	NJ	US	I		1							b	F	S*	V#		N			P	Exxon
Kaplan, Alexander E		1938	MD	US	A		1															X	Johns Hopkins
Katz, Jonathan I		1951	MO	US	gA		1							J	q	l	N*	A		D		X	Washington U St L
Knox, Robert S	E	1931	NY	US	A	1	3			o	c			R	M*	Q*	y					X	U Rochester
Kunc, Joseph A		1943	CA	US	A		2			q	m			A	T*	K#					A	X	USC
Levine, Robert E	R	1943	AZ	US	GI		3							f	d					D		P	Halliburton; DoD
Lindl, John D		1946	CA	US	G		1							l	q	k		A	N		A	X	LLNL
Mange, Phillip W	R	1928	MD	US	G		2			o				k	q			A		D		X	Naval Research lab
Mitroy, Jim		1956	NT	AU	A		3															X	Charles Darwin U
Monce, Michael		1952	CT	US	A		2			o	m	c		T					N			X	Connecticut College
Nichols, Rodney W	R	1937	NY	US	iA		4	G		o	c					V*	O*			D		X	Rockefeller U
Paolini, Frank R	R	1934	CT	US	ia		2			q				T				A				X	U CT
Rapp, Donald	R	1934	CA	US	Ga		4			q				A	a	U#		A		D	A	X	JPL; USC
Rhoads, John E	R	1945	OK	US	A		2			q				f	q			A				P	MW State U
Ringermacher, Harry I		1947	NY	US	I		1							u	t	y					A	X	GE
Robertson, Stanley L	E	1944	OK	US	A		2			q				q				A				X	SW OK State U
Robinson, Berol L	R	1924	MA	US	G		1							b	X*				N			X	UNESCO
Scafetta, Nicola		1956	NC	US	A	2	4		H					W*	a*							X	Duke
Sheahen, Thomas P		1941	MD	US	G		3		q		c			l	R*	s			N			X	ANL; NREL
Silverman, Joseph	E	1922	MD	US	A		2			o	m			k								X	U of Md
Steph, Nick		1947	IN	US	A		1															X	Franklin College
Suckewer, Szymon		1943	NJ	US	A		2			o				P	h*							X	Princeton
Tipler, Frank J		1947	LA	US	A		3			o	m			q	W#			A				X	Tulane U
Torquato, Salvatore		1954	NJ	US	A		1							P								X	Princeton
Werner, Samuel A	E	1937	MO	US	iA		2			o				S*					N			X	U of MO Columbia
West, Bruce J		1943	NC	US	aG	2	3							r	d	W*			D			X	US Army Research

Name	Retired	Birth	State	Country	Career	Climate	Dedication	D TT		Pets				Connects				Fields				Affiliations			
								GMI/SEPP	Heartland	OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	Other				
(C) Signed by July 22 (8)																									
Brown, Lowell S	E	1937	NM	US	AG		1									n					N			X	LANL; U WA
Drallos, Paul J	R	1952	MI	US	GI		1									n	E*				N			X	Sandia; own company
Gamblin, Rodger L	R	1932	OH	US	I		1																	X	Inventor
Hameed, Sultan		1941	NY	US	A	3	1									y	z	J#						C	SUNY Stony Brook
Judd, O'Dean P	R	1946	NM	US	G		1									n	dC*	H#			N	D	A	X	LANL; US Govt
LeLevier, Robert E	R	1923	CA	US	GI		1									J	m	d	U*		N	D		X	LLNL; RAND; EOS
Oehler, Gordon C		1942	VA	US	GI		1									d	k	e*			N	D	A	X	CIA; SAIC
Sundelin, Ronald M	E	1939	VA	US	aG		2				o					j	H*				N			X	VA Tech; Jlab
(D) Signed by August 7 (28)																									
Aisenberg, Sol		1928	MA	US	la		2			q						C*	t	v	s			D	A	X	Raytheon; many
Alexander, Ralph B		1944	MI	US	AI		4									E*	k	s			N			X	Wayne State U
Allamandola, Louis J		1946	CA	US	aG		2			o						q								X	NASA-Ames
Andrei, Eva		1951	NJ	US	iA		2			o						w	p	s						X	Rutgers U
Benard, David J	R	1946	CA	US	GI		2			o						a	d					D	A	X	Air Force; Rockwell
Berger, Lev I		1929	CA	US	al		2			q														X	Own company
Berkowitz, Ami E	E	1926	CA	US	la		2			o						u								X	IBM; GE; UCSD
Bevc, Vladislav A	R	1938	CA	US	GI		3			q						a	l	c*				D		X	Aerospace Corp; LLNL
Bigham, Clifford Bruce	R	1928	ON	CA	G		1									b	d*				N			X	AECL
Bubb, Daniel M		1971	NJ	US	GA		1									w								X	Rutgers-Camden
Cranmer, Steven R		1968	MA	US	A		1									Q	t			A	t			X	Harvard HS CA
Depp, Joseph G	R	1943	CA	US	GI		2			o						a	d	e	e*		N			X	SRI; SAIC; EPRI?
DeSalvo, Riccardo		1957	CA	US	Ga		2			o						a	q			A				X	Caltech
Gerardi, Gary J		1941	NJ	US	gA		2			q						w						D		X	William Patterson U
Hacken, George		1942	NY	US	lg		2			q						v	k	y			N	D		X	Plessey; NY City/NJ
Jackson, Helen			OH	US	G		1									a	d					D		X	US Air Force
Johnson, James R	R	1925	MN	US	GI		2			q						j	k				N	A		X	ORNL; 3M
Keller, William E	R	1925	NM	US	G		2			o						n								X	LANL
MacRae, Alfred U		1932	NJ	US	I		2			o						w	v	x	s					X	Bell Labs
Nahle, Nasif		1951		MX	I		3																	B	Biocab
Oliver, William P		1942	MA	US	gA		2			o						m	t				N			X	LLNL; Tufts U
Phipps, Thomas E		1925	IL	US	G		3			o						k	d	y*		A	N	D		X	Navy
Statz, Herman	R	1928	MA	US	I		2			q						v	t	C*				D		X	Raytheon
Stilbs, Peter		1945		SE	A		4				m					G#	S#							X	KTH - Stockholm
Troy, Edward S		1952	PA	US	I		1									v						A		X	Aerospace Consulting
Wojtowicz, Peter J	R	1931	NJ	US	I		1									p	w	L*						X	RCA
Yoder, M. John		1945	MA	US	I		1									v	t					D	A	X	MITRE
Zombeck, Martin V	R	1936	MA	US	A		2			q						Q	t			A				X	Harvard HS CA

Name	Retired	Birth	State	Country	Career	Climate	Dedication	TT		Pets				Connects				Fields				Affiliations					
								GMI/SEPP	Heartland	OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	Other						
(E) Signed by August 20 (31)																											
Berting, Frances M	R	1927	NM	US	G		2			q				j	n	l					A	X	PNNL; LLNL; NM				
Castle, Jack G	R	1925	NM	US	iG		1							n									P	Sandia			
Cuderman, J.F	R	1940	NM	US	G		2			q				n										P	Sandia		
Dryer, Murray	R	1925	CO	US	G		2			q				q	D*						A					NOAA	
Duffy, William T, Jr	E	1931	CA	US	A		2			q				q							A					X	Santa Clara U
Edwards, David F	R	1931	NM	US	G		2			q				l	n							N				X	LLNL; LANL
Enstrom, James E		1943	CA	US	A		2			o				O*	n*											E	UCLA (epidemiology)
Fields, Douglas E		1963	NM	US	A		2			o				n								N				X	U NM
Freeman, Bruce L		1948	NM	US	Ga		1							n								N				X	LANL; Ktech
Frese, Michael H		1948	NM	US	Gi		2			q				n												X	NumerEx
Fritz, Ian. J	R	1944	NM	US	G		1							n												X	Sandia
Garth, John C	R	1934	NM	US	G		2			q				k	v	d						N	D	A	X		US Air Force
Gathers, G Roger		1936	CA	US	Gi		2			o				l								N	D		X		LLNL
Giovanielli, Damon		1943	NM	US	G		1							n	A#							N	D		X		LANL; Sumner Assoc
Hacker, David S	R	1934	IL	US	al		2			o				f												P	Amoco
Hayes, Dennis B	R	1945	NM	US	G		2			q				n	d								D			X	LANL; Sandia; LLNL
Ingraham, John C	R	1937	NM	US	G		1							n								N				X	LANL
Johnson, H. Richard	R	1926	CA	US	I		2			q				a									D			X	Watkins-Johnson
Kennel, John M	R	1945	CA	US	I		2			q				a	f*								D	A	X		Rockwell; Northrop
Lombardi, Gabriel G		1954	CA	US	gl		2			q				a								A	D	A	X		Northrop; TRW
Lubin, Michael D	R	1930	CA	US	G		2			q				d									D	A	X		US Air Force
Maserjian, Joseph	R	1929	CA	US	G		2			q				a	U#								A			X	Caltech JPL
Mirels, Harold	R	1924	CA	US	G		2			o				A	a	c*	K#						A	X		X	Aerospace Corp; USC
Payton, Daniel N		1940	NM	US	Gi		2			q				k	U*	e*						N	D	A	X		Air Force; EOS; SAIC
Rasor, Ned S		1927	CA	US	I		2			o				b								N	A	X			Atomics Intl
Sarwinski, Raymond		1936	CA	US	I		2			q				b								N	A	X			General Atomics
Sierk, Arnold J		1947	NM	US	G		2			q				n								N	A	X			LANL
Stockwell, Norman D	R	1941	CA	US	I		2			q				a	c	c*							A	X			Aerospace Corp
Stratton, Thomas F	R	1930	NM	US	G		1							n	A#							N			X		LANL; Sumner Assoc
Talbert, Willard L	R	1932	NM	US	G		1							n								N	A	X			LANL
Xie, Ya-Hong		1959	CA	US	IA		2			o				w	S#											X	Bell Labs; UCLA

Name	Retired	Birth	State	Country	Career	Climate	Dedication	D TT		Pets				Connects				Fields				Affiliations
								GM/SEPP	Heartland	OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	Other	
(F) Signed by Sept 3, not analyzed in detail , few birth years (23)																						
Allen, James L	R		TX	US	I	?	2												A		Boeing, ISS	
Boring, John W	E	1935	VA	US	A	?	2														U VA, Engr Physics	
Campbell, Mark L			MD	US	G	?	1				m	c									Prof Chem, USNA	
Crane, Barry D			VA	US	iG	?	1														Insitute Defense Analy	
Deye, James A			MD	US	G	?	2												N		Nuclear*Medical Phys	
Dirk, Eugene H.			NM	US	?	?	2														APS Divisions	
Fitelson, Michael M		1941	MD	US	I	?	1												A	D	Northrop-Grumman	
Gillies, George T			VA	US	A	?	2														X U of VA, VA Cmnwlt U	
Goldfarb, Ronald B			CO	US	G	?	2														NIST	
Gripshover, Ronald J	R		VA	US	G	?	1														US Nav Surf WeapCtr	
Karr, Thomas J			MD	US	I	?	1														LLNL, Northrop Grumm	
Kristiansen, Magne		1939	TX	US	A	?	2														X EE, Texas Tech	
Kuchnir, Moyses	R	1938	IL	US	G	?	2													N	FermiLab; now in MA	
Mansfield, John E			VA	US	G	?	2												N	D	Def Nuc Safety Board	
McAdoo, John H			VA	US	iG	?	2												A	D	Was Mission Resrch	
McClelland Thomas A			NY	US	I	?	1												A	D	X Frequency Electrnics	
Rohr, Robert C	R	1922	NY	US	GI	?	2													N	Knolls Atomic Power	
Roos, Kelly R			IL	US	A	?	2														Physics, Bradley U	
Sluijter, Frans W	E			NE	A	?	3														Netherlands - HAN	
Stratton, William R	R		NM	US	G	?	2														LANL	
Ting, Lu	E		NY	US		?	2														NYU	
Towell, Rusty S			TX	US		?	1														Abilene Christian U	
Walters, William B			MD	US		?	2														U MD, Chem/biochem	
(G) Signed by Oct 15, not analyzed in detail, few birth years (13)																						
Chiang, Joseph F		1936	NY	US	A	?	2														C SUNY Oneonta	
Degnan, James H.			NM	US	G	?	1														D Air Force Res Lab	
Forsen, Harold K	R	1936	CA	US	al	?	2													N	Bechtel	
Kingsbury, Paul I	R	1935	NY	US	I	?	2														Corning, Inc	
La Celle, Paul L			NY	US	A	?	2														U Rochester Biomed	
Pell, Erik M	R	1923	NY	US	I	?	2														Xerox Rochester	
Pryzybysz, John		1950	MD	US	I	?	1														A Northrop-Grumman	
Rauch, Richard T			MS	US	G	?	2														NASA - Stennis	
Rogers, Daniel J			MD	US	A	?	1														Johns Hopkins	
Sanchez, Isaac C			TX	US	A	?	2														UT Austin ChEng	
Semon, Mark D			ME	US	A	?	2														Bates College (ME)	
Smith, John R			CA	US	A	?	1														UC Davis	
Zeller, Claude		1941	CT	US	I		2														Pitney Bowes	
(H) Signed by Oct 30, not analyzed in detail, few birth years (6)																						
Anderson, Arthur G	R	1930	NY	US	I		2														X IBM R&D	
Bahr, David A.		1972	MN	US	A		1														X Bemidji State U	
Camp, William J	E		NM	US	G		1														X Sandia (computing)	
Llobet, Xavier				CH	A		1														X EPFL Lausanne	
Marinova, Krastanka				BG	A		1														X Sofia U, Bulgaria	
Szilagyi, Andrei			CA	US	I		1														X Aura, Radiant, etc	

Name	Retired	Birth	State	Country	Career	Climate	Dedication	GM/SEPP	Heartland	Pets					Connects				Fields				Affiliations	
										OISM	Manhattan	CATO2009	Conn1	Conn2	Conn3	Conn4	Astrophys	Nuclear	Defense	Aerospace	Other			
(I) Signed by Nov 6, not analyzed in detail, few birth years (43)																								
Abeles, Joseph H			NJ	US	I		1															X Sarnoff (Princeton)		
Baker, John M			NY	US	I		1		?													X IBM TJ Watson		
Bartlett, David F.	E	1939	CO	US	A		1											A	N			X U of CO Physics		
Benjamin, Richard W	R	1935	SC	US	G		1														N	X DOE Savannah River		
Bigelow, Matthew S			MN	US	A		1		?													X St. Cloud St U		
Brasher, James D			AL	US	IG		1														D	A	X JHU (but really aerospace)	
Briggs, Richard J.		1935	CA	US	IG		1															N	X SAIC; LLNL	
Burdett, William R			MD	US	IG		1																X FSIM Consulting	
Buttler, William T			NM	US	G		1															N	X LANL	
Cervero, Jose M				ES	A		1																X U of Salamanca	
Chadwick, C. Todd			NC	US	I		1																X Design consult	
Clover, Michael R		1953	CA	US	IG		2		o														X SAIC, San Diego	
Coffey, William T				IE	A		1																X U of Dublin Trinity Col	
Conger, Robert K		1947	CA	US	I		1															A	X Consulting; ASTM; QA	
Doskocil, Albert C	R	1930	MA	US	I		1															D	A	X Raytheon
Durakiewicz, Thomasz			NM	US	G		1															N	X LANL	
Fanchi, John R		1952	TX	US	la		1																P TCU Prof. petrol Engr	
Finn, Eward J	E	1930	MD	US	A		1																X Georgetown U	
Fisher, Robert A	R		CA	US	G		1																X LANL; LBNL	
Florian, Joseph R	R		CA	US	I		1															N	X Jaycor Networks; SAIC	
Grismore, Roger	R	1924	CA	US	A		1												A	N			X CalPoly S U	
Groce, David E	R		CA	US	I		1															N	X SAIC; General Atomics	
Hallin, Aksel				CA	A		1															A	X U of Alberta	
Harrison, Joseph G			AL	US	A		1																X U AL Birmingham	
Henley, John R			CO	US	I		1																X SAIC	
Hiller, Joseph F			VA	US	I		1																X Dow Chemical	
Joffe, Michael A			MA	US	I		1																X Luminus Devices	
Karras, Thomas W		1936	PA	US	I		2		o													A	X Lockheed Martin	
Kaup, David J		1938	FL	US	A		1																X Math dept, UCF	
Koslover, Robert A			TX	US	GI		1																X SARA, Tyler TX; NM	
Lester, James D	R	1943	PA	US	I		1																? Research physicist	
Lytle, Farrel W.		1934	NV	US	I		2		o													N	X EXAFS CO	
Marrus, Richard M	E	1932	CA	US	GA		1															N	X UCB Physics; LBNL	
Marx, David T			IL	US	A		1																X IL State U, Normal II	
Pearson, John T			UT	US	A		2		o														X BYU MechEng	
Petras, Michael F		1958	AZ	US	I		1																X FreescaleSemiconduct	
Post, Richard S			MA	US	I		1																X NEXX Systems	
Prince, Joseph F			UT	US	I		1																X MechEng PhD cand\	
Ryan, John J		1961	KY	US	I		1															N	X HEP Arts (Software)	
Simpson, James D	R		AZ	US	G		2		o														X Was @ ANL	
West, John B				UK	G		1																N	X Daresbury Lab
Wills, Edward L	E		AL	US	I		1															A	X U AL Birmingham	
Zaezjev, Michael		1962		CA	A		1																N	X INRS, Varennes, CA

Strong Group Connection		Likely/Plausible Group Connection	
Everyone would know all others marked same		Each likely knows someone else, but who?	
A	USC aerospace, ==>a also	a	Aerospace, California
B		b	Nuclear industry
C		c	CATO ad (~100 people, likely verified)
D	Defense: DoD: same location certain	d	Defense: DoD, military, CIA, etc
E	EPRI	e	
F	ExxonMobil	f	Fossil fuel company or connections
G	GMI	g	CATO 2009 advertisement
H	Heartland Speaker or Writer and "Global Warming Expert"	h	Heartland "Global Warming Expert"
H	Heartland Speaker, Writer, but not "Expert"	h	Have attended a Heartland Climate Conf.
J	JASON	j	DOE (Other, Jlab, PNNL, ORNL, ANL)
K		k	Nuclear research
L		l	LLNL, LBNL
M	Manhattan Declaration, @ 2008 Conference	m	Manhattan Declaration, added later
N		n	New Mexico - LANL, Sandia, etc
Q	OISM Petition, writing/cover letter	o	OISM after 01/16/08
		o	OISM, single, 08/23/00 - 01/16/08
		o	OISM, double, by 08/23/00
P	Princeton U (Physics or related Depts)	p	Princeton area or connection
Q	Harvard-Smithsonian Center for Astrophysics, ==> q	q	Astro-sciences (physics, chemistry)
R	U of Rochester Physics Department, ==> r also	r	Rochester area, or PhD in physics there
S		s	Semiconductor, superconductor, materials
T	Connecticut Universities, APS-NES? ==> t also	t	New England, APS-NES?
U		u	New York Upstate East
V		v	Aerospace, NorthEast (VA to MA, PA, NY)
W		w	Miscellaneous NJ
X		x	Satellites
Y		y	New York: APS-NYSS? (NJ plausible)
Z		z	Climate

	Strong Personal Connection		Plausible/Possible Personal Connection
	Everyone marked almost certainly knows all others		May or May Not Be Real
A*	Agnew, Nierenberg, Seitz: panels	a*	Alexanian, Scafetta: talk @ UNCW?
B*	Agnew, Happer: panel	b*	Berman, Bodek, Sundelin: via Jlab?
C*	Aisenberg, Statz: papers	c*	Bevc, Mirels, Stockwell: Aerospace Corp?
D*	Akasofu, Dryer: papers	d*	Bigham, Cuttler: Canadian nuclear
E*	Alexander, Dralios: papers; book review	e*	Depp, Oehler, Payton, Sheahen: SAIC?
F*	Alexander thanked Christy+Hayden book help	f*	Enstrom, Starr: work for EPRI?
G*	Baliunas, Soon: many papers	g*	Kennel, Lombardi: Northrop?
H*	Berman, Sundelin: via Jlab	h*	
K*	Christy, Douglass: papers	j*	
L*	Cohen, Wotjowicz: same group @ RCA, pictured	k*	
M*	Douglass, Knox: papers	m*	
N*	Douglass, Singer, Michaels: papers (or just D+S)	n*	Depp work for EPRI. Starr?
O*	Enstrom, Nichols, Singer: ACSH		
P*	Feder, Giaever: papers	p*	Agnew, Sarwinski: General Atomics?
Q*	Gold, Knox: same PhD advisor; execs @ UoFR	q*	
R*	Grant, Sheahen: papers	r*	
S*	Kaldor on committee chaired by Werner	s*	
T*	Kunc was Soon's PhD Advisor; several papers	t*	
U*	LeLevier, Payton: long overlap @ EOS	u*	
V*	Nichols, Seitz: paper, @ Rockefeller U together	v*	
W*	Scafetta, West: papers, knew from U of N Texas	w*	
X*	Cuttler, Robinson: EFN (Environ. For Nuclear)	x*	
Y*	Hayden book quotes Phipps ; Phipps reviews Hayden	y*	
Z*	Starr on SEPP (Singer) board	z*	
A#	Giovanelli, Stratton: at small consultancy, Sumner		
C#	Engelhard arranged for Singer to talk @ LANL		
D#	Baliunas, Hayden, Michaels, Seitz: CFACT Advisors		
E#	Jastrow (Baliunas): Director (Asst) Mount Wilson; papers		
F#	Seitz, Sproull worked to create Labs; GMI BoD		
G#	Baliunas, Singer, Soon spoke: Stilbs' Stockholm conf		
H#	Canavan, Judd: papers		
J#	Hameed convenes AGU Fall 2009, incl. Soon & Legates		
K#	Mirels @ USC aero with Gruntman, Kunc		
M#	Austin: Exec board of PRISM, with Suckewer & Torquato		
N#	Grant worked for Starr @ EPRI , papers		
O#	Singer, Michaels @ Uva , many others		
P#	Baliunas: school with Michaels' , Cont Ed of his blog		
Q#	Starr on GMI BoD; Nierenberg: EPRI BoD		
R#	Battaglia co-authored NIPCC report edited by Singer		
S#	Stilbs, Singer: paper		
T#	Christy, Spencer wrote chapter for 1990 GMI book		
U#	Rapp, Maserjian: long overlap @ JPL		
V#	Cohen, Kaldor @ same Exxon R&D site, long overlap		
W#	Jastrow, Tipler: cosmology, book reviews		
X#	Michaels: GMI visiting scientist, papers for GMI		
Y#	Baliunas, Soon connections with GMI		
Z#	Baliunas, Christy, Soon chapters for Michaels' GMI book		
A%	Singer, Sluijter Heidelberg Appeal Netherlands		

Appendix 6 Detailed Per-Person Notes, Alphabetical

This Appendix is an alphabetical list of supporters plus signers through October 15 (**G**), with rough working notes for each, to allow the reader to assess the reasonableness of the summaries and commentaries elsewhere. A few signers disappeared temporarily and then returned, and one was a clear fake. Later Waves (**F-G**) were researched only quickly, without trying to track detailed histories and connections. I did this independently, then later cross-checked via Jim Prall's extensive and useful website:

www.eecg.utoronto.ca/~prall/climate/skeptic_authors_table_by_clim.html

The reader can find some of the APS signers by searching for "APS09", and then looking under "CLIM" for Google Scholar references, although it is a good idea to actually click on CLIM and look, as some names are inherently difficult to disambiguate and yield many irrelevant hits, and GS also misattributes citations.

The actual petition entry is shown in Roman, *with my added commentary in Italics*. Each entry shows:

Name (A) birth year Retired/Emeritus DTTPets, Connection-codes, Employment, Climate

One or more lines copied directly from petition.

Fields: ?

Locations: ?

Employers: ?

Connections: ?

Notes: *relevant academic and job history, if findable; URLs; references; quotes.*

Contrib: *Political contributions, from NewsMeat, if found.*

An example of the first line is:

S. Fred Singer (A) 1924E 5GHoM, qN*O*C#G#R#S#A%, GA, 1 *Means:*

Organizer(A), born 1924 Emeritus, most dedicated(5), many connections, Government+Academe, a few peer-reviewed publications on climate(1).

(a) (A-H), Wave in which the name first appeared, or (X) for relevant nonsigners.

Birth year is sometimes findable in C.V.s or other authoritative sources. **Bold Roman** indicates precise year, either by authoritative source, or inferences from college dates confirmed by **Pipl Search**. Some are only inferred from college dates, usually assuming Bachelor's @ 22 and PhD @ 26, good enough to be close for most, shown as *Italic*. Underlined Italic shows a likely decade, if that's all that can be inferred.

Retired or Emeritus are shown if their entry mentions this status, or (in a few cases) where university department websites say this. Some Emeritus Professors remain actively engaged in research and university life. At the other extreme, some people may have departed long ago, do no relevant research, and are unconnected with the university. At many institutions, the title persists indefinitely.

DTTPets: Dedication intensity, key Think tank and petition involvement

D is Dedication field (1..5) from Appendix 5, showing activity in opposing the consensus on climate science. This is somewhat subjective, and it is easy to miss activity, so the ratings are generally minima. Signing impetus is usually assumed to flow from higher **D** to lower, and usually senior to junior.

Dedicated:

5: Very dedicated, seems to spend full-time doing this, over many years.

Active:

4: Very active, organizes, often writes letters, articles, books, speaks at **Heartland** conferences, etc.

3: Active, may write letters, post often on blogs, have own website in which climate issues are featured.

Passive:

2: Has signed at least one more petition (**OISM**, **Manhattan** or **CATO2009** ad), but I have no evidence of doing any more than signing petitions. It is easy to miss letters to local papers and such. People who have signed previous petitions would be natural choices to contact, even if outside any personal network.

1: Not on **OISM**, **Manhattan**, or **CATO**. They may be on other lists, but most people who have been active have at least signed the **OISM** petition. At this level, someone may just have signed as a favor to a friend.

TTPets summarizes the 5 Think tank /Petitions columns in Appendix 5:

G: GMI, George C. Marshall Institute or **SEPP** (strongly related)

H: Heartland Institute speaker on climate change, or writer of report for them, and “expert”

H: **Heartland** speaker/writer, but not on experts list.

h: **Heartland** global warming experts list, but not speaker/writer (i.e., on list, but nothing visible)

h: Have attended at least one of the 3 **Heartland** Climate Conferences, hence almost certainly would have met some of the speakers. Attendee lists would likely show more.

Q: Organizer/writer for material with **OISM** petition (**Seitz** and **Soon**)

o: Signed **OISM**, by August 2000.

o: Signed **OISM**, on or before January 16, 2008.

o: Signed **OISM** after January 16, 2008. A person marked only **2o** might well have been recruited as part of the APS campaign, whereas **2o** shows earlier involvement, and **2o** shows long-time involvement.

M: Signed **Manhattan Declaration**, March 2008, present at conference

m: Signed **Manhattan Declaration** later

c: Signed **CATO2009** advertisement, March 30, 2009.

Note: I checked OISM and Manhattan when I first encountered a name, and did not recheck, so a few more may have signed meanwhile. This might escalate someone from Dedication 1 to 2o.

Career

Summarizes 1-2 most important areas of career, upper case means more time.

A or a Academic

G or g Government

I or i Industry

*A few people should really be labeled T (Think tank): **Singer, Michaels.***

Climate Publication

0 (logically but omitted for clutter, since most fit this) *No peer-reviewed climate publications in credible journals (or major assessments like National Academies), findable via C.V., Google Scholar, government indices, personal websites. Of course, any PhD physicist should be able to study climate if they wish, so some might actually know the science, but only the publishing record is easily available.*

1 *A few such publications, either nothing for decades, or a few recent ones that have usually not stood up very well to further analysis. (**Berry, Knox**)*

2 *Some track record in last decade of published climate research, at least some cited positively by real climate scientists, not all quickly refuted. (**Douglass, Scafetta, Singer, West**). I purposefully gave these every benefit of the doubt, some will say too much. Cases differ, so are discussed in detail. Some papers may be reasonable, but not very noteworthy, others get strongly refuted within a few days.*

3 *A strong record of well-cited papers over decades, (**Hameed**). This is an opinion derived from using Google Scholar, experts might agree or not.*

4-Outstanding track record of climate research (None here)

*Websites, OpEds, Letters-to-Editor, articles in ill-regarded journals (like **Energy and Environment**), do not count. Of course, the impact of research in a field may only be obvious to those in the field. In most cases, non-existence of meaningful research is fairly obvious - few or no publications, publications primarily in low-credibility journals, or citations primarily by self or colleague. It takes much more expertise to know that serious errors were found later, or that hypotheses or predictions were quickly overrun by contradictory*

new data, or that a journal published something far out of its normal fields, or that peer review was done poorly.

*Several signers **Alexander, Hayden, Rapp, Singer**, have written books and I have copies of most and will discuss them.*

In practice, few people with a lifetime of research in one field suddenly start publishing credible peer-reviewed work in a radically-different field. Unlike many such petitions, this list actually contains real scientists who are generally findable. Many have quite credible-looking research records (2-4) in their own field(s), so they surely know the nature of peer-reviewed science.

“Absence of evidence is not evidence of absence” applies, but C.V.s are strong evidence of climate nonpublication. GoogleScholar and society biographical listings work well enough for most names.

This is an imperfect process, but if a few have been missed, the overall conclusions change.

Fields: *are general descriptions: Nuclear (catchall for nuclear, atomic, high-energy, plasmas), and these are sometimes fuzzy if someone has done work in several areas. I have not worried about fine distinctions among these topics, as they do not matter for this study. “Defense” includes nuclear weapons, anti-ballistic missiles, intelligence, DoD, etc. **The crucial distinction is among:***

- climate scientists, of which few (1) are found here
- physicists who have published a few papers on climate issues, and
- those who have published no papers, and whose fields lie very far away from climate.
- Just a few fields are highlighted as they helped guide social network analysis. Other fields (superconductivity, semiconductors, materials science, optics/lasers) appeared moderately often, and networks may be based on them, but these effects were not so strong as to be clear.

Locations: *geographic groupings that might (or might not) be hints at relationships. People in the same field who’ve worked in a geographic area for decades may know each other, or may not. Some people have moved around more than others, so this does not pretend completeness. When summarized into*

Employers: *range from large, where people might or might not know each other, to small, where they almost certainly do, depending on field, longevity, and location. For example, although LANL is large, it is likely that people who have worked there for decades know each other, especially given the geographic isolation, whereas this easily might not be so likely among people who have worked in New York.*

Connections: *with other people or groups, such as co-authoring papers, serving on task forces, PhD advisor, mentor, etc. Most specify other people on this list, but some connections clearly go through other well-known people, whose names are underlined (along with the 6 “organizers”). In practice, senior scientists in a specific subfield often know each other, so many actual connections have likely been missed. Sometimes affiliations provided in the original list fail to include the employers or groups most likely to have created involvement.*

Items marked “?” are plausible, but not verified connections. For example: APS-NES is the APS New England Section, and merely living in New England does not guarantee interaction with other APS-NES members, so is marked APS-NES?

The detailed unified list for **(A-E)** is 122 names (121 real, plus 1 fake, **Hughen Falconer**), plus the 85 names of Waves **(F-I)**, not analyzed in as much detail, yielding 206 total real signers, and 11 supporters.

Joseph H. Abeles (I) ???? 1, ,I

Distinguished Member of the Technical Staff
Director, Business Development
Sarnoff Corporation

Photonics, Princeton. Possible overlap with Wojtowicz or Cohen.

Harold M. Agnew (B) 1921R 1, A*B*np, GI*

President, General Atomics Corporation (1979 -1984)
White House Science Councilor (1982 -1989)
Director, Los Alamos National Laboratory (1970 -1979)
E.O. Lawrence Award 1966, Enrico Fermi Award 1978, Los Alamos Medal (with H.A. Bethe) 2001
Member National Academy of Sciences, National Academy of Engineering, Fellow APS, AAAS

Fields: Nuclear; defense

Locations: NM; CA-San Diego (Solana Beach)

Employers: LANL; US Government (Reagan); UCSD adjunct professor

Connections: **Seitz, Nierenberg** (1980 Task force: Greg Herker, Cardinal Choices (2000), p.199, 329).

Happer (National Academies, Panel on Nuclear and Radiological Issues, 2002; Happer Chair)

www.nap.edu/openbook.php?record_id=10415&page=390.

Canavan, 1992 panel together.

www.fas.org/sqp/othergov/doe/lanl/pubs/00285639.pdf

Sarwinski was at General Atomics, but a few years later.

Notes: U of Denver Physics BA; U of Chicago, Physics MS, PhD
Manhattan Project; U of Chicago PhD 1949 (Fermi)

LANL 1943-79; NATO; Arms Control; White House science counselor (1982-1989)

www.nuclearfiles.org/menu/library/biographies/bio_Agnew-harold.htm

Neutron bombs.

Following (2006) he uses global warming as a reason to encourage nuclear power (a plausible argument for nuclear power advocates, some of whose anti-AGW arguments seem puzzling).

aps.org/units/fps/newsletters/2006/july/commentary.html

Contrib: General Atomics PAC97-99: split widely, not counted.

www.newsmeat.com/fec/bystate_detail.php?st=CA&last=Agnew&first=harold

Sol Aisenberg (D) 1928 2g, C*tv, Ia

President, International Technology Group Former Staff Member, MIT; Lecturer, Harvard Medical School;
Former Visiting Research Professor, Boston University

Fields: Fields: Lasers; ion deposition; inventions; defense

Locations: MA

Employers: Raytheon

Connections: Multiple papers with **Statz**; APS-NES

Notes: MIT physical electronics PhD

Space Sciences, Inc; Whittaker Corp (aerospace); Gulf+Western.

inventing-solutions.com/sa-short.htm

prola.aps.org/abstract/PR/v116/i4/p811_1

A few papers (some well-cited); patents include water filters, sensors, etc.

First paper 1959 (Raytheon).

Syun-Ichi Akasofu (X) 1930E 4Homc, qD*, A

U of Alaska- Fairbanks

Fields: Aurora physics (quite eminent)

Locations: U of AK- Fairbanks

Connections: Papers with **Dryer**. **Heartland** "climate expert"; **Heartland** 2009 speaker.

Notes: Tohoku U, Japan BA 1953, MS 1957; U of AK Fairbanks PhD 1961.

Strong aurora researcher, then retired, became active anti-AGW.

en.wikipedia.org/wiki/Syun-Ichi_Akasofu

www.sourcewatch.org/index.php?title=Syun_Akasofu

www.iarc.uaf.edu/highlights/2007/akasofu_3_07/Why_has_global_warming.pdf

tamino.wordpress.com/2007/05/01/glaciers-al-gore-got-it-right/#comment-1754

Contrib: R95-08, www.newsmeat.com/fec/bystate_detail.php?st=AK&last=akasofu

Ralph B. Alexander (D) 1944 4, E*ks, Ai

Former Associate Professor of Physics Wayne State University

President, R.B. **Alexander** & Associates Technology and market analysis in environmentally friendly materials and coatings

Author, Global Warming False Alarm (Canterbury)

Fields: Nuclear, materials science consulting

Locations: MI

Employers: Wayne State U

Connections: 3 papers with **Drallos**, 1983-1986 @ Wayne State.

Vaguely possible connection to **Singer** via Sir William Mitchell (1925-2002), who was a **SEPP** Advisor, and head of the Clarendon Lab @ Oxford, but starting in 1978, so there was no overlap. Unlikely.

Drallos favorably reviewed his book on Amazon.

His book thanks **Hayden** and **Roy Spencer** for answering his questions.

(**Spencer** has at least done some serious climate science, whereas **Hayden** has never published any peer-reviewed climate work that I could find.)

Notes: Oxford physics PhD

Oxford + Atomic Energy Research, Harwell; by 1974, Physics @ Aarhus, DK; by 1982 @ Wayne State.

www.amazon.com/Global-Warming-False-Alarm-Assertion/dp/0984098909

prola.aps.org/abstract/PRB/v9/i7/p3022_1

"Ralph B. **Alexander** is currently a senior market analyst in environmentally friendly materials and industrial processes, at a small Midwest consulting firm. With a PhD in physics from Oxford University, Dr. **Alexander** has been a researcher at laboratories in Europe and Australia, a professor at Wayne State University in Detroit, and the co-founder of a small high-tech materials company.

www.rowantechology.com/Alexander-r.htm"

*His 2009 book, Global Warming False Alarm, says:

"Global warming may be real, but there's hardly a shred of good scientific evidence that it has very much to do with the amount of CO2 we're producing..." p.1.

Quotes: James, Richard Lindzen, Oregon "Petition Project", Peiser's refuted attack on Oreskes.

"As a scientist, what I personally find most troubling about the global warming debate is the gross misuse of science by those on the alarmist side. The worst public offender is the IPCC,..." p.6

(I may put a review on Amazon, but for now, I think this book has numerous errors, and **Alexander** simply does not accept the physics of greenhouse gasses. He cannot even get simple history right, like fact that Benny Peiser's attack on Oreskes was not only totally refuted by Tim Lambert, but Peiser even publicly admitted that every one of the abstracts he thought disagreed with AGW did not. In 2007, Viscount Monckton and endocrinologist Klaus-Martin Schulte tried again, with similarly poor results. A detailed chronology of the various attacks on Oreskes is:

www.desmogblog.com/sites/beta.desmogblog.com/files/monckton%20schulte%20oreskes%207%200%20%282%29.pdf.

This book positively cites a paper by Ernst-Georg Beck and uses its data in Fig 3.5. See discussion of that paper under **Hayden**, who also used it in his book. It is pseudoscience, and poor pseudoscience at that. Any experimental scientist is supposed to be able to recognize major problems with measurement errors.

This seems a slightly odd case, in that he has not signed **OISM**, seems not particularly connected, and not really very familiar with the various arguments. For people wanting climate anti-science, his book seems far less sophisticated than books by **Michaels** or **Singer**, but a book deserves Dedication 4.

Moorad Alexanian (B) 1938 2o, Ia*, gA

Professor of Physics and Physical Oceanography

University of North Carolina Wilmington

Member Mexican Academy of Sciences, American Scientific Affiliation

Fields: Theoretical

Locations: NM; NC

Employers: LLNL; UNCW

Connections: Scafetta spoke @ UNCW Feb 11, 2009; History Research Center;

Speculative: Creationism; Science+religion: **Tipler?** **Sheahen?** **Spencer?**

Notes: U of Rhode Island (1960 BS); Indiana U (Phd 1964)

LLNL 1964-1970; 1986- UNCW

origins.swau.edu/who/moorad/cmoorad98.html

origins.swau.edu/who/moorad/debate.pdf

Louis J. Allamandola (D) 1946 2o, q, aG

Director, Astrochemistry Laboratory NASA Ames Research Center

Fellow APS, AAAS Member ACS, American Astronomical Society, International Astronomical Union

Fields: Astrochemistry

Locations: CA-SF Bay

Employers: NASA-AMES

Connections: Indirect with **Jastrow?**

Notes: UC Berkeley (low temperature spectroscopy)

Leiden 1976-1983; NASA Ames 1984-

web99.arc.nasa.gov/~astrochm/loubio.html

James L. Allen (F) ????R 2o

Engineer/Scientist

International Space Station Program

The Boeing Company (retired)

Contrib: 2 James L Allen's in Houston

Arthur G. Anderson (H) 1930R, 2oc

Vice President and former Director of Research IBM (retired)

Member National Academy of Engineering, Fellow APS, Fellow IEEE

Fields: Computers

Locations: San Jose, New York

Employers: IBM

Connections: ?

Notes: BS Physics. U of San Francisco, 1951, PhD Physics NYU, 1958. Retired 1984.

www-03.ibm.com/ibm/history/exhibits/builders/builders_anderson.html

Eva Andrei (D) 1951 2o, wps, iA

Professor of Physics Rutgers University

Fellow APS

Fields: Condensed matter

Locations: NJ

Employers: Rutgers U

Groups: APS-DCMP Executive Committee (?current?)

Connections: Would likely know **Austin** from APS activities, but no explicit contact found yet.

Notes: BS/MS from Tel Aviv U; Rutgers physics PhD 1981

Bell Labs 1981-1983, Saclay (FR) 1983-1986; Rutgers 1986-

Listed on Oregon Petition.

www.physics.rutgers.edu/~eandrei/ (but need to click around, all pages under same URL)

Robert H. Austin (A) 1946 4, A, P

Professor of Physics

Princeton University

Fellow APS, AAAS; APS Council: 1991-1994, 2007-2010

Member National Academy of Sciences, American Association of Arts and Sciences

Fields: Biophysics; DNA; biomolecules; microlithography

Locations: NJ; Princeton

Employers: Princeton U

Connections: **Happer** (same department); Executive Committee for PRISM, in which **Torquato** and **Suckewer** are involved.

Notes: Hope College, MI BA 1968; U of Illinois Physics MS 1970 PhD 1975

Postdoc Uofl, then MaxPlanck Goettingen; Princeton 1979-

Austingroup.princeton.edu/

www.zoominfo.com/Search/ReferencesView.aspx?PersonID=447675&lastName=Austin&firstName=Robert&searchSource=page&page=5

www.princeton.edu/physics/people/faculty/robert-Austin/

www.zoominfo.com/people/Austin_Robert_447675.aspx

www.princeton.edu/pr/catalog/gsa/06/351.htm

epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=10FE77B0-802A-23AD-4DF1-FC38ED4F85E3

“Unfortunately, Climate Science has become Political Science...It is tragic that some perhaps well-meaning but politically motivated scientists who should know better have whipped up a global frenzy about a phenomena which is statistically questionable at best,” **Austin** told the minority staff on the Environment and Public Works Committee on March 2, 2009.”

Biophysics is rarely seen in the signer list, and I could not find much evidence of earlier activity, not even **OISM** (unless Robert L. **Austin** is a typo).

He is a General Councillor on the APS Council (helpful for presenting petitions, perhaps), and it seems plausible that **Happer** recruited him recently, but he is clearly an active recruit.

David A. Bahr (H) 1972 1, , A

Associate Professor and Chair Department of Physics Bemidji State University

Fields: Physics of frozen gases, laser Raman scattering

Locations: U VA Charlottesville, Bemidji, MN

Employers: Bemidji State U, MN

Connections: Very likely **Boring**, who was in U A Engineering Physics

Notes: BS Physics Bemidji State U, 1994, PhD Physics U VA 2001; Bemidji physics 2001-

www.bemidjistate.edu/academics/departments/physics/D_Bahr/d_bahr.htm

www.spsnational.org/governance/elections/zc.htm (Society of Physics Students)

PhD at UVA: “Laboratory for Atomic and Surface Physics studying energetic particle interactions with solid surfaces.” He also is very active in campus environmental sustainability issues and regional environmental sustainability initiatives.” (??)

John M. Baker (I) ????R 1, , I

Research Staff Member

IBM T.J. Watson Research Center (retired)

Life Member APS

Sallie Baliunas (X) 1954 4GHQ, QG*D#E#G#P#Y#, A, 2

Harvard-Smithsonian Center for Astrophysics

Fields: Astrophysics

Locations: MA

Employers: Harvard-Smithsonian Center for Astrophysics

Connections: Often writes with **Soon**. Writes for **GMI**, **Heartland**. Got Astrophysics MS and PhD same years as **Michaels**, and was Contributing Editor for his blog.

1990 Nature paper, 1997 paper in The Explorer’s Journal with **Jastrow**; was Deputy Director @ Mount Wilson Observatory, starting 1989, and ending no later than 2003, overlapped with **Jastrow**, who was Director 1992-2003. Was on **GMI** Board, at least 2002-2005, likely earlier. <Y#>

Overlaps @ H-S CA with **Cranmer**, **Zombeck**, probably **Lombardi**.

CFACT Advisory Board (with **Hayden**, **Michaels**, **Seitz**); Greening Earth 1998-2001; Scientific Alliance; Statistical Assessment Service.

Spoke at **Stilbs'** conference in Stockholm, with **Soon**, and **Singer**.

Notes: Harvard, Astrophysics, MA 1975, PhD 1980. (Identical years to **Michaels**)

en.wikipedia.org/wiki/Sallie_Baliunas

www.marshall.org/experts.php?id=38

[www.sourcewatch.org/index.php?title=Sallie L. Baliuna](http://www.sourcewatch.org/index.php?title=Sallie_L._Baliuna)

www.exxonsecrets.org/html/personfactsheet.php?id=3

www.reason.com/news/show/30760.html

www.highbeam.com/doc/1P1-53868734.html

[www.sourcewatch.org/index.php?title=Sallie L. Baliunas](http://www.sourcewatch.org/index.php?title=Sallie_L._Baliunas)

Has written many astrophysics papers, but sometimes climate ones, generally ascribing warming to solar, or anything but GHGs. Some papers have not stood up well. She has written many more non-peer-reviewed pieces.

Contrib: D96, R96-00,

www.newsmeat.com/fec/bystate_detail.php?city=TOPSFIELD&st=MA&last=baliunas

David F. Bartlett (I) 1939E 1, , A

Emeritus Professor of Physics

University of Colorado

Fellow and Life Member APS; Member American Geophysical Union, American Astronomical Society,

AAPT, AAAS

www.colorado.edu/physics/Web/directory/faculty/bartlett_d.html

Astrophysics, nuclear

Franco Battaglia, PhD (B) yyyy 4H, r, A

Professor of Chemical Physics and Environmental Chemistry

University of Modena, Italy

APS Life-member

Fields: Chemical physics

Locations: Italy

Employers: U of Modena

Connections: **Singer (NIPCC); Heartland Institute;** overlap with **Bodek, Douglass, Knox @ Rochester,** possible connection.

Notes: U of Rochester, chemical physics, 1985.

www.rochester.edu/pr/Review/V59N3/cn-grad.html

jer-skepticscorner.blogspot.com/2009/06/skeptics-from-around-globe_07.html#0

Co-authored **Heartland/SEPP NIPCC** Report, March 2008.

www.SEPP.org/publications/NIPCC_final.pdf

-author of a book critical of the modern environmental movement titled:

"Green Outside, Red Inside: Deception of Environmentalists". Message: Nuclear power; GM foods

With Dr. Renato Angelo Ricci, emeritus prof physics @ Padua U..

Search: franco **battaglia** renato ricci and get translations from Italian.

www.archivionucleare.com/index.php/2009/08/04/franco-battaglia-energia-nucleare-si-per-favore

(Translated via Google):

Franco **Battaglia** holds a degree in Chemistry in Italy and the United States the Ph.D.in Chemistry-Physics.

He has done research in this field abroad for 7 years: a year in Germany at the Max Planck Institute (Göttingen), and 6 years in USA, University of Rochester (Rochester, NY), the State University of New York at Buffalo (Buffalo, NY) and Columbia University (New York, NY.)

In Italy he conducted research at the universities of Rome (Tor Vergata and Roma Tre), Basilicata and Modena, where is currently Professor of Environmental Chemistry.

At Rochester and later, papers (1984-1985) with TF George (Chemistry, Physics&Astronomy); co-authored book together, 1998.

David J. Benard (D) 1946R 2o, ad, GI

Aerospace Scientist (retired) Co-Inventor of the Chemical Oxygen-Iodine Laser

Fields: Lasers; defense

Locations: UCSB; NM; CA -Los Angeles area

Employers: Air Force; AFWL; Rockwell

Connections: Possible overlap with **Harold Lewis @ UCSB**

Notes: UCSB BS engineering physics, 1968; PhD 1972?

1973 paper – Johns Hopkins Applied Physics

AFWL 1977-, at least; Rockwell 1990-1996 at least

UCSB Dept of Physics (1976 paper)

Air Force Weapons Laboratory, Kirtland AFB, NM (1978 paper) (Sandia)

Rockwell (1990-1996 papers, at least), Thousand Oaks, CA

scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=APPLAB000032000008000469000001&dtype=cvips&gifs=yes

Difficult to find, conflict with DJ Bernard mis-spelling (?)

Richard W. Benjamin (I) 1935R 1, , G

Senior Advisory Scientist

Savannah River Site (DOE) (retired)

Member ANS, AAAS

Nuclear

Lev I. Berger (D) 1929 2o, s, al

President California Institute of Electronics and Materials Science

Author, Semiconductor Materials; and Material and Device Characterization Measurements (CRC Press)

Fields: Semiconductors; materials science

Locations: CA-Los Angeles area (Hemet)

Employers: CIEM (own company)

Connections: ?

Notes: www.ciems.com (3-person testing/consulting company)

Difficult to disambiguate. Riverside gives birthdate;

“Dr. Lev Berger, lecturer in physics, San Diego State University -- awarded \$111,426 from the Navy for a project titled "Quaternary Narrow-Band Semiconductors ... for Far-Infrared Detectors.”

Stuart B. Berger (B) 1935R 1, ry, I

Research Fellow and Divisional Time-to-Market Manager

Xerox Corporation (Retired)

Fields: Printing technology

Locations: NY; Rochester

Employers: Xerox

Groups: CBGNY, Citizens for Better Government in New York

Connections: Rochester area for long time.

Notes: Alfred U (NY), Class of 1956; Xerox ?-2000

www.alfred.edu/classnotes/index.cfm?fuseaction=listNotes&decade=1950&issue=49

Xerox R&D; patents.

Ami E. Berkowitz (D) 1926E 2o, u, la

Emeritus Professor of Physics University of California at San Diego

Fellow APS

Fields: Magnetic materials

Locations: NY-Eastern Upstate (Schenectady); CA- San Diego

Employers: IBM; GE Research; UCSD

Connections: ?

Possible with Giaever, who was at GE Schenectady 1958-1964(no overlap at GE, but GE is about 15 miles from Rensselaer, and their research was related. Many papers by others cite both of them separately.

But possible with **Nierenberg**, who lived in LaJolla.

Notes: U of Pennsylvania, PhD 1953

Franklin Institute; IBM 1960-1968; GE Research (Schenectady, NY) 1968-1986; UCSD 1986-
physics.ucsd.edu/research/condensed_matter/cmfaculty/ab.html
web.mit.edu/bobohand/www/gerver/www/people/berkowitz/index.html

Barry L. Berman (B) 1936 1, InH*b, Ga

Columbian Professor and Chair
Physics Department
The George Washington University
Fellow APS

Fields: Nuclear

Locations: CA-North; NM; VA; DC

Employers: LLNL; LANL; JLab; GWU

Connections: Sundelin. Probably knows Bodek. (both via JLab).

Has worked many places, so connections widespread.

Notes: Harvard BA, MA 1957; U of Illinois MS 1959, PhD 1963

LLNL, 1963-1985; George Washington U 1985-

Visiting: Saclay (FR) 1980-1981

Visiting: LANL 1985, 1988, 1989, 1991, 1992; LBNL 1986;

CEBAF 1991-1992 & Jefferson Lab (JLab) 1999, 2000

www.gwu.edu/~ndl/berman.htm

Edwin X. Berry (B) 1935 3hqm, ?, ad

Atmospheric Physicist, Climate Physics, LLC
Certified Consulting Meteorologist #180
Member American Meteorological Society

Fields: Meteorology; defense?

Locations: NV; CA; DC; MT-Missoula

Employers: U of NV; US Navy; NSF; own company

Connections: Attended Heartland 2009 Conference, so must have met others there.

Notes: Caltech Engr BS 1957; Dartmouth Physics MA 1960; U of Nevada Atmospheric Physics PhD 1965.
UofN Desert Research Institute 1966-1969; Naval Weapons Center, China Lake (1969-?); NSF (weather
modification) 1973-1976; founded Atmospheric Research and Technology, Sacramento, CA 1976- (wind;
meteorological forecasting; drought; Artificial Intelligence 1996-2000.

"Since 2001, I have focused on the global warming problem." (but no publications found)

www.climatephysics.com

www.climatephysics.com/BioEXB.htm

"The war haters in the USA argued that it was unfair to use environmental means in warfare."

Letter to Spokane criticizes it for signing UN ICLEI Climate Protection, entitled:

"We are partying on the train to Auschwitz."

He cites Viscount Monckton's work, and attended Heartland 2009, although seemed not to have signed

As of 08/06/09, his website led with Obama's Kenyan Birth Certificate, since removed, but this remains:

www.climatephysics.com/PDFs/ObamaKenyanBirthCertificate.pdf

www.climatephysics.com/PDFs/ has other papers.

His LinkedIn entry says:

www.linkedin.com/pub/edwin-berry/13/61a/219

"Goal: Showing people the truth about Gore-Bull Warming"

As of 10/04/09, his homepage led with:

"In light of the many scientists who have firmly declared that global warming is a scam, hoax, pseudo
religion and that human CO2 cannot affect our climate, all politicians who continue to support the global
warming agenda are either irrational, insane or simply flaming liberal idiots."

He attended Heartland 2009 conference in NYC:

climaterealist.com/index.php?id=3078

*Claims 42 papers; found about 20 (clouds, windpower, may be more) from 1968-1980. I could find none
since then.

Frances M. Berting (E) 1927 2₀, jnl, G

Northern New Mexico Citizens Advisory Board and Committee (2000-present)

Los Alamos County Council (2001-2008)

Formerly Materials Scientist, Hanford (DOE), Pacific Northwest National Laboratory, Westinghouse, Lawrence Livermore National Laboratory

Fields: nuclear

Locations: WA; CA; NM

Employers: DOE-Hanford; PNNL; Westinghouse; LLNL

Connections: ?

Notes: U VA, Charlottesville 1970 paper

Westinghouse is likely Westinghouse Hanford.

Contrib: R02-08, www.newsmeat.com/fec/bystate_detail.php?st=NM&last=berting&first=frances

Vladislav A. Bevc (D) 1938 3₀, alc*, GI

Former Associate Professor, Naval Postgraduate School, Monterey (retired);

Technical Staff Member, The Aerospace Corporation;

Physicist, Lawrence Livermore National Laboratory;

Visiting Fellow, Hoover Institution (Stanford University)

Member IEEE

Fields: Defense; plasmas

Locations: CA-SF Bay Area

Employers: The Aerospace Corporation; LLNL

Connections: Mirels? Stockwell? (via The Aerospace Corp)

Notes: UC Berkeley PhD EE (1962?); post-doc NAS & Air Force Office of Scientific Research @ Oxford

UCB (1962 paper, but then @ Oxford

The Aerospace Corporation (1969 paper)

www.buzzle.com/articles/vladislav-bevc-a-smiling-slovenia-interview-12.html

www.aps.org/units/fps/newsletters/200904/bevc.cfm

"Unfortunately it cannot be established where the carbon dioxide in the atmosphere is coming from and this leaves the field wide open for speculations a la Hafemeister and Schwartz.

The question arises whether destroying the United States economy would have a significant effect on the global warming trend."

joannenova.com.au/2008/09/30/about-the-sceptics-handbook/ (Jo Nova's handbook)

"An excellent publication. I would like to have a dozen because once a month I have a table at the Farmers Market in Danville and hand out information on the "climate change" issue debunking the alarmist claims."

www.realclimate.org/wiki/index.php?title=Joanne_Nova for analysis of Skeptics' Handbook.

Contrib: D02, www.newsmeat.com/fec/bystate_detail.php?city=Danville&st=CA&last=bevc&first=vlado

Matthew S. Bigelow ???? 1, ,A

Assistant Professor

Department of Physics, Astronomy, and Engineering Science

St. Cloud State University

Member OSA

web.stcloudstate.edu/mbigelow/Bigelow_CV.htm

PhD: University of Rochester, Optics, 1999-2004.

Also works in same building as Alfred Pekarek, who signed CATO 2009 ad.

May have signed OISM, if Professor Bigelow is the same.

Clifford Bruce Bigham (D) 1928R 1, bd*, G

Atomic Energy of Canada, Ltd. (retired)

Senior Member APS, Sustaining Member CAP

Fields: Nuclear (reactors)

Locations: Canada-Ontario; (AECL HQ is Mississauga, ON)

Employers: AECL

Connections: *Would likely know **Cuttler**, with long history in nuclear, and located in Mississauga.*

Notes: *AECL Ion research; Papers 1953, 1957—1958, many onward*

Arie Bodek (B) 1947 1, Rib*y, A

George E. Pake Professor of Physics

University of Rochester

Wolfgang K. H. Panofsky Prize in Experimental Particle Physics (APS) 2004

Fellow APS

Fields: *Particle; high-energy*

Locations: *NY; Rochester*

Employers: *U of Rochester*

Connections: *Douglass; Knox' **Robert L. Sproull**? (Physics, President UofR 1970-1984)*

*Probably knows **Berman? Sundelin?** (via **JLab**)?*

Notes: *MIT (PhD 1972); Caltech 1974-1977; U of Rochester 1977-; DOE (1990-1991)*

www.pas.rochester.edu/urpas/faculty_page/bodek_arie

en.wikipedia.org/wiki/Arie_Bodek

JLab Jupiter Project

Contrib: *D07, www.newsmeat.com/fec/bystate_detail.php?st=NY&last=bodek&first=arie*

John W. Boring (F) 1935E 2o, , A

Professor Emeritus of Engineering Physics

University of Virginia

Fields: *Particles, ion beams*

Locations: *Charlottesville, VA*

Employers: *U of VA*

Connections: *Singer? Gillies? (U VA); likely recruited **Bahr**, who got PhD @ U VA in same Department, both have done work in low-temperature gasses.*

Notes: *Ion beam research; could be UVA (**Singer**, or **JLab**.)*

[www.ncbi.nlm.nih.gov/pubmed?term=%22Boring%20JW%22\[Author\]&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVAbstract](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Boring%20JW%22[Author]&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVAbstract)

prola.aps.org/search/field/author/Boring_J_W

First paper: 1961, U of KY, now at U VA. (Infer: 1961-26 = 1935)

James D. Brasher (I) 1, , IG

Project Manager

The Johns Hopkins University Applied Physics Laboratory

Air and Missile Defense Department

Life Member Sigma Xi

www.jhuapl.edu/aboutapl/fieldoffices/huntsville/default.asp

This is located in Huntsville AL, and does anti-ballistic-missile defense work.

Aerospace, defense, and UAH could be connections.

Publications at Teledyne.

Richard J. Briggs (I) 1935 1, , IG

Formerly Program Manager, Science Applications International Corporation

Deputy Director, Superconducting Supercollider Laboratory

Associate Director, Lawrence Livermore National Laboratory

Associate Professor, MIT

Fellow APS, AAAS

Was @ MIT 1964, LBNL 1967. SAIC.

Lowell S. Brown (C) 1937E 1, n, AG

Emeritus Professor of Physics

University of Washington

Scientific Staff Member, Los Alamos National Laboratory

Fellow APS, AAAS

Fields: Particle; solar fusion

Locations: WA; NM; CA (many); **NM**

Employers: U of WA; LANL; others

Connections: Would know many people; no clear connections yet.

Notes: U of Washington; LANL most common, but several others.

Papers: Imperial College, 1963; Yale, 1966; SLAC 1967; U WA, 1968; Fermilab, 1975; UCSB 2000; LANL 1988, 2005.

U WA & UCSB & LANL, 2005.

LANL 1979-80, now? Was working with LANL in 1988; other papers with LANL people.

Papers with Princeton-IAS (Bahcall, Gruzinov) and UCSB (Sawyer)

www.phys.washington.edu/research.php

prola.aps.org/abstract/PRD/v63/i8/e083503

www.slac.stanford.edu/spires/find/hep/www?a=Brown,+Lowell+S.+and+aff+Los+Alamos

Daniel M. Bubb (D) 1971 1, w, GA

Associate Professor and Chair Department of Physics Rutgers University -Camden

Notes: Ursinus College BS (1993); Florida I T (1995); NJIT Applied Physics (2000)

1/200-4/2000 "Research Scientist, ME, George Washington U, assigned to **NRL**)

2002- Naval Research Laboratory (**NRL**); 2001-2005 Seton Hall; 2005- Rutgers-Camden

Lasers;materials research (polymers). Politicians: John McCain.

crab.rutgers.edu/~dbubb/

crab.rutgers.edu/~dbubb/vita.htm

Fields: Lasers

Locations: NJ

Employers: **NRL**; Rutgers-Camden

Connections: ;spoke at **JLab** Jan 2001;

Spoke at **Princeton Mechanical&Aerospace Engr**, May 2006: perhaps **Suckewer**?

Would likely know **Andrei**.

William R. Burdett (I) ???? 1, , IG

Principal Consultant, FSIM Consulting

Formerly, E-Government Architect

U.S. Department of Justice (retired);

Geophysical Modeling and Simulation

General Research Corporation

William T. Buttler (I) ???? 1, , G

Experimental Physicist

Physics Division

Los Alamos National Laboratory

Editor, Shock Compression of Condensed Matter 2009 (APS)

Might be connection with Gathers.

Timothy D. Calvin (B) 1947R 1, ?, I

President, Bearfoot Corporation (retired)

Fabricated rubber products for the DOD, shoe and automobile industries

Member ACS

Fields: probably chemistry, given ACS; rubber

Locations: OH, FL

Employers: Bearfoot

Connections: ?

Notes: difficult to find. Pipl has Timothy D. Calvin in Painesville;

May be in Concord, Mentor, Wadsworth, OH & 62:

www.intelius.com/search-summary-out.php?ReportType=1&

Patent on spiked golf shoes, tire sidewalls.

Probably now located in Florida.

Contrib: R08?, www.newsmeat.com/fec/bystate_detail.php?st=FL&last=calvin&first=timothy

William J. Camp (H)

Emeritus Director: Computation, Information, and Mathematics Sandia National Laboratories Co-founder, IUPAP Commission C-20, The Commission on Computational Physics Nova Award for Invention of the Cray XT3 Computer Architecture (Lockheed Martin Corporation) Fellow APS, Member IEEE Computer Society

Mark L. Campbell (F) 1

Professor, Department of Chemistry
United States Naval Academy
Life Member APS

Gregory H. Canavan (B) 1943 4G, ndD*H#, G

Senior Fellow and Scientific Advisor,
Los Alamos National Laboratory
Fellow APS

Fields: Defense

Locations: NM

Employers: DOE; LANL

Connections: Director **GMI**, 2004-. Papers with **Judd**. Likely would have known **Happer**, **Jastrow**, **Nierenberg**, **Seitz** for years before that.

Notes: PhD UC Davis (1969)

DOE; Air Force LANL 1981-; missiles, defense against debris.

Director, George C. Marshall Institute

www.marshall.org/experts.php?id=62

www.eecg.utoronto.ca/~prall/climate/skeptic_authors_table_by_clim.html

Contrib: D91-02, www.newsmeat.com/fec/bystate_detail.php?st=NM&last=canavan&first=gregory

(All for Sen. Jeff Bingaman).

Jack G. Castle (E) 1925R 1, n, iG,

Senior Scientist Sandia National Laboratories (retired)
Fellow and Life Member APS

Fields: particles; petroleum (rock fracturing for gas)

Locations: PA; NM

Employers: Westinghouse; Sandia

Connections: ?

Notes: Yale papers 1949-1951; U of Buffalo 1953; Westinghouse paper 1958 (with Weeks of **ORNL** -1973 (at least); Sandia papers 1981-1986 (at least), mostly on rock-fracturing (for gas).

(aka John Granville Castle)

Jose´ M. Cervero (I) ????? 1, , A

Professor of Theoretical Physics
Departamento de Fisica Fundamental
Facultad de Ciencias
Universidad de Salamanca
Spain, earliest paper found = 1984.

C. Todd Chadwick (I) ????? 1, , I

Experimental Design Consultant
Member AES
North Carolina, but hard to find.

Joseph F. Chiang (G) 1936 2o

Professor and Former Chairman
Department of Chemistry and Biochemistry
State University of New York, Oneonta
Life Member APS

SUNY Oneonta is a 6,000-student branch of SUNY, about halfway between Binghamton and Schenectady.
employees.oneonta.edu/chiangjf/

John R. Christy (X) 1954 4GH, qF*K*, A, 2

U of Alabama – Huntsville Atmospheric Science

Fields: Climate science

Locations: AL

Employers: U of Alabama - Huntsville

Connections: Often writes with **Spencer**; including paper for **GMI** in 1990. Has written with **Singer**, **Douglass**.

Wrote paper for **GMI** in 1990.

Alexander thanked **Christy** for answering questions.

Notes: U of Illinois atmospheric sciences PhD

en.wikipedia.org/wiki/John_Christy

www.nsstc.uah.edu/atmos/christy.html

groups.google.com/group/alt.global-warming/msg/fffc35e6381bdc36

Opinion: Has done much serious work, but then was simply wrong about satellite temperature trends.

Contrib: R03, www.newsmeat.com/fec/bystate_detail.php?st=AL&last=christy&first=john

Michael R. Clover (I) 1953 2o, , IG

Science Applications International Corporation

www.osti.gov/energycitations/searchresults.jsp?Author=%22Clover,%20M.R.%22

University of Rochester 1975 – Nuclear Structures Lab ; LANL 1982. SAIC.

William T. Coffey (I) ???? 1, , A

Professor of Electrical Engineering

University of Dublin, Trinity College

Author, *The Langevin Equation* (World Scientific Publishing)

Member Editorial Board, *Advances in Chemical Physics*

Member Royal Irish Academy; Fellow APS, IET, Institute of Physics

Roger W. Cohen (A) 1927R 4oc, FLV#*, I

Manager, Strategic Planning and Programs

ExxonMobil Corporation (retired)

Otto Schade Prize (Society for Information Display) 2006

Fellow APS

Fields: Superconductivity; (petroleum, indirectly via Exxon)

Locations: NJ-Princeton; NJ-North; retired to Durango, CO ~2004.

Employers: RCA; ExxonMobil

Connections: **Wotjowicz**; Office of Naval Research (ONR)?

Notes: Academics unknown

RCA Labs; ExxonMobil research.

RCA: 1964-1975 (at least): papers @ RCA Labs; 1975 photo with Wotjowicz

25+ years at ExxonMobil.

www.webcommentary.com/climate/rwcohen.php: "The following letter is from an APS member, Roger W.

Cohen, and is in support of [Lord Monckton's paper](#) published in the July APS newsletter:

I have been involved in climate change for nearly 30 years. In 1980, a few of us in the research organization of a large multinational energy corporation realized that the climate issue was likely to affect our future business environment. We subsequently started the only industrial research activity in the basic science of climate change. The move was justified by the fact that the best way to really understand a complex

technical issue is to actually work in the area, interacting with other scientists. I have supervised climate scientists working in the area of climate change and have followed the area closely. Over the years our researchers have served as authors of key IPCC report chapters." I did find Haroon Kheshgi and Brian P. Flannery, who would have been in same organization, and sometimes mention Cohen. Kheshgi has been involved for several rounds of IPCC, Flannery helped create Stanford's GCEP. They seem to emphasize adaption and technology over mitigation, but seem serious scientists unlikely to support Monckton.

books.nap.edu/openbook.php?record_id=10153&page=44

www.iccwbo.org/uploadedFiles/ICC/policy/Environment/FlanneryKheshgi2004IPCC_ITDTwF.doc

www.aps.org/units/nes/newsletters/spring09.cfm

www.durangobill.com/RogerCohen.html has moved back to home state of CO

books.google.com/books?id=RBRrhjFtBNoC&pg=PA116&lpg=PA116&dq=peter+wojtowicz+sarnoff&source=bl&ots=wQZCD63rus&sig=OzmbEH1AF0uHXrJiYFhv5YnuIAQ&hl=en&ei=zaWLSuPALY-AswPE7vTGCQ&sa=X&oi=book_result&ct=result&resnum=1#v=onepage&q=&f=false

CATO 2009 advertisement; open letter in support of Monckton's APS FPS article; APS-NES request to get emails for the letter, Spring 2009, see **Gould**.

Contrib: R08,

www.newsmeat.com/fec/bystate_detail.php?city=DURANGO&st=CO&last=cohen&first=roger

Robert K. Conger (I) 1947 1, , I

President

Conger and Associates Consulting

rconger.com/Documents/Dr.%20Bob%27s%20Resume.pdf

Safety programs, Quality Assurance, and building Management Teams; spectroscopy for metals analysis. Garden Grove, CA.

Barry D. Crane (F) ???? 1

Project Director

Institute for Defense Analyses

Life Member APS

Virginia

Steven R. Cranmer (D) 1968 1, Qt, A

Astrophysicist, Harvard-Smithsonian Center for Astrophysics

Karen Harvey Prize (AAS) 2006

Associate Editor, Journal of Geophysical Research: Space Physics

Member: American Astronomical Society, American Geophysical Union

Fields: Solar

Locations: MA

Employers: Harvard-Smithsonian

Connections: Co-located with **Baliunas** and **Soon**; possible overlap with **Zombeck**.

Notes: Drexel BS physics 1990 (co-op @ Princeton Plasma Physics Lab); Ohio State U Astronomy MS 1991; PhD Physics & Astronomy U of Delaware 1996. (Legates?)

Harvard-Smithsonian 1996-

www.cfa.harvard.edu/~scranmer/

Of APS & AGU his website says:

"My membership in these societies does not imply that I endorse any of their occasionally **misguided** and **erroneous** position statements.

J. F. Cuderman (E) 1940R 2q, n, G

Distinguished Member of the Technical Staff Sandia National Laboratories (retired),

Life Member APS

Fields: ? particles; plasmas; Petroleum/gas (since 1983, mostly)

Locations: NM

Employers: Sandia

Connections: ?

Notes: Oregon State U PhD 1966; OSU paper 1968
Sandia 1971- Various areas, but including wellbore fracturing, rock mechanics, natural gas @ SPE
AKA Jerry Ferdinand Cuderman
Pipl says Albuquerque; 1935 birth. The JF Cuderman in TX seems different person.

Jerry M. Cuttler (B) 1943 1, bX*d*, I
President, Cuttler and Associates, Inc.
Engineering, consulting, and licensing services for the nuclear power industry
President, Canadian Nuclear Society (1995-1996)
Fellow Canadian Nuclear Society, Member American Nuclear Society
Fields: Nuclear
Locations: Canada, Ontario, Mississauga
Employers: ?
Groups: EFN
Connections: B. Robinson; probably knows Bigham.
Notes: EFN-Canada.
www.ecolo.org/board/boardca.htm

James H. Degnan (G) ???? 1
Principal Physicist
Directed Energy Directorate
Air Force Research Laboratory
Fellow APS
Contrib: R93-08, Bush '04, McCain '08
www.newsmeat.com/fec/bystate_detail.php?city=Albuquerque&st=NM&last=degnan&first=james

Joseph G. Depp (D) 1943R 2o, adee*, Gi
Founding President and CEO, Accuray Incorporated (retired) Stereotactic radiosurgery technology
Founding President and CEO, PsiStar Incorporated Life member APS
Fields: Nuclear; defense
Locations: CA-SF Bay Area
Employers: SRI; SAIC; own companies; US Army?
Connections: EPRI? (Chauncey Starr?)
Notes: Carnegie Mellon BS physics 1965; CMU PhD Theoretical Nuclear Physics 1970
US Army (incl Vietnam) 1969-1971; 1971-1986 SRI (Defense Nuclear Agency, built LIDAR for EPRI to measure sulfur dioxide in atmosphere)
1986-1988 SAIC; 1980s HF radio to detect nuclear blasts; B2 bomber.
Founded Accuray (Cyberknife) in 1990, Sunnyvale, CA
www.geocities.com/psistar@sbcglobal.net/bio.htm
www.zoominfo.com/people/Depp_Joseph_20926120.aspx

Riccardo DeSalvo (D) 1957 2o, aq, Ga
Senior Scientist Laser Interferometer Gravitational Wave Observatory (LIGO) California Institute of Technology
Fields: Astro; laser
Locations: CA -Los Angeles area
Employers: CERN; CalTech
Connections: JPL? Rapp? Princeton?
Notes: Universita di Pisa PhD 1979
CERN; CLEO @ Cornell; VIRGO @ INFN Pisa; LIGO @ CalTech.
www.ligo.caltech.edu/~desalvo/
www.princeton.edu/physics/about-us/outreach/gransasso/ga-program/
Spoke for Princeton Physics, July 27-28, 2009.
"Instrumentation specialist"

James A. Deye (F) ???? 2o

Nuclear and Medical physicist
Lifetime Member APS

Not an affiliation, seems to be at NIH, doing cancer research, in MD

Eugene H. Dirk (F) ???? 2o

APS Division of Astrophysics, and
Division of Computational Physics
Topical Groups on Gravity, and
Precision Measurement and Fundamental Constants

Not an affiliation, but PipI finds Eugene H. Dirk in Las Cruces/Messilla, NM (not part of the Los Alamos area); did PhD in 1972 @ NMSU.

Albert C. Duskocil (I) 1930R 1, , I

Program Manager
Raytheon Company (retired)
Life Member APS

Massachusetts; NE aerospace.

Contemporary of Aisenberg and Statz.

David H. Douglass (B) 1943 4Homc, RK*M*N*, A, 1

Professor of Physics
University of Rochester
Fellow APS

Fields: Condensed matter physics; superconductivity

Locations: NY-Rochester

Employers: U of Rochester

Connections: Bodek; Knox; Sproul (who was GMI Chairman, mid-1990s).

Papers with Christy, Singer, Michaels; Heartland "expert"; Heartland Conference Speaker 2008, 2009

Notes: MIT PhD; U of Chicago

U of Rochester 1969-

www.pas.rochester.edu/~douglass/

CATO 2009 LETTER; Heartland "Expert"; Heartland 2009 speaker

**Climate pubs: starting ~2001, has published a handful of papers, often with Christy, Knox, Michaels or Singer, sometimes refuted fairly quickly; certainly referenced by Scafetta and West.*

From his C.V. list:

www.pas.rochester.edu/~douglass/recent-publications.html; see especially:

2001 Douglass, Magri www.agu.org/cgi-bin/wais?s=PP21B new ice age is imminent

2002 Douglass, Clader

2003 Douglass, Clader, Christy, Michaels, Belsley

2004 Douglass, Pearson, Singer

2004 Douglass, Pearson, Singer, Knappenberger, Michaels

Most of the above depended on Christy/Spencer UAH satellite temperature records, strongly revised in when errors were found in code.

2005 Douglass, Knox

Comments: climate.envsci.rutgers.edu/pdf/DouglassKnoxComment2005GL023287.pdf

2005 Douglass, Patel, Knox

2007 Douglass, Christy, Pearson, Singer

Comments: www.realclimate.org/index.php/archives/2007/12/tropical-troposphere-trends/

[www.realclimate.org/wiki/index.php?title=David H. Douglass%2C John R. Christy%2C Benjamin D. Pearson%2C S. Fred Singer](http://www.realclimate.org/wiki/index.php?title=David_H._Douglass%2C_John_R._Christy%2C_Benjamin_D._Pearson%2C_S._Fred_Singer)

www.realclimate.org/index.php/archives/2008/10/tropical-troposphere-iii/

2009 Douglass, Christy (but in Energy and Environment, not a well-regarded journal)

Pearson is shown as a graduate student, Experimental Condensed Matter Physics.

Conjecture: after a long career doing superconductivity, Douglass switched to climate science, with papers trying (unsuccessfully) to disprove the existing models, predicting an imminent ice age, etc. Papers of any interest are often refuted quickly, although it takes a while for refereed publications to appear. See for example:

[www.realclimate.org/wiki/index.php?title=David H. Douglass%2C John R. Christy%2C Benjamin D. Pearson%2C S. Fred Singer](http://www.realclimate.org/wiki/index.php?title=David_H._Douglass%2C_John_R._Christy%2C_Benjamin_D._Pearson%2C_S._Fred_Singer)

Douglass, Michaels, Christy, Singer, are all on **Heartland** "climate experts" list.

Knappenberger works with **Michaels**:

[www.sourcewatch.org/index.php?title=Chip Knappenberger](http://www.sourcewatch.org/index.php?title=Chip_Knappenberger)

CATO 2009 LETTER; **Heartland** "Expert"; **Heartland** 2009 speaker.

[www.Heartland.org/policybot/results/15727/Global Warming Computer Models Seriously Flawed Studies Show.html](http://www.Heartland.org/policybot/results/15727/Global_Warming_Computer_Models_Seriously_Flawed_Studies_Show.html), 10/01/04:

"As bad as things have gone for the IPCC and its ideologues, it gets worse--much, much worse."

"So, to all who worry about global warming, to all who think people threatening to blow up millions to get their political way is no big deal by comparison, chill out. The science is settled. The "skeptics," the strange name applied to those whose work shows the planet isn't coming to an end, have won."

*This paper, by **Michaels, Douglass, and Singer**, relied on satellite analyses (soon to be proved in serious error), and also idea that countries with larger GDPs warm more (rather contradicted by highest warming in Arctic, which has ~zero GDP).*

He and Knox were thanked by Viscount Christopher Monckton:

www.aps.org/units/fps/newsletters/200807/monckton.cfm

"I am particularly grateful to Professors David Douglass and Robert Knox for having patiently answered many questions over several weeks, and for having allowed me to present a seminar on some of these ideas to a challenging audience in the Physics Faculty at Rochester University."

www.eecg.utoronto.ca/~prall/climate/skeptic_authors_table_by_clim.html

If one checks references in Prall's table, most of the citations to **Douglass'** papers are from **Douglass & coauthors, Scafetta and West, N. Shaviv, etc**, but not too many from mainstream climate scientists.

Caveat: Google Scholar is not perfect, but this is a hint.

Paul J. Drallos (C) 1952 1, nE*, GI* (missing from list (D), back later)

President and CEO, Plasma Dynamics Corporation (retired)

Kinetic & fluid dynamic computer simulation services

Fields: Theoretical atomic

Locations: MI; NM; OH; **MI** (counted as MI, but connection likely via Sandia)

Employers: Sandia; U of Toledo; own companies

Connections: 3 papers with **RB Alexander**, 1983-1986 @ Wayne State. Amazon review of his book.

Notes: Wayne State U (PhD 1989)

Atomic physics; plasmas

Sandia, NM in 1995; later U of Toledo; Mytechnology in Berkley, MI

www.osti.gov/bridge/servlets/purl/83882-y7VPYS/webviewable/83882.pdf

www.linkedin.com/pub/paul-drallos/8/210/b42

home.comcast.net/~pdrallos131681/CO2/co2.pdf

(Birth: via PipI; usual would guess 1962?)

Contrib: R97-03*, RNC, www.newsmeat.com/fec/bystate_detail.php?st=MI&last=drallos&first=paul

Murray Dryer (E) 1925R 2q, qD*, G

Emeritus Scientist Space Weather Prediction Center (retired),

NWS National Oceanic and Atmospheric Administration

Member American Astronomical Society, American Geophysical Union, AIAA

Fields: Astrophysics

Locations: CO; AK; CO

Employers: NOAA

Connections: At least 10 publications with **Akasofu.**, 1985-2005. **Roy Spencer?**

Notes: www.gi.alaska.edu/pipermail/gse-ff/2006-January/000362.html 80th birthday in 2005

www.osti.gov/energycitations/searchresults.jsp?Author=%22Dryer,%20M.%22

www.agu.org/pubs/crossref/2001/2000JA000220.shtml

NOAA Space Environment Laboratory paper (sun & magnetosphere) 1993

www.agu.org/pubs/crossref/2003/2002JA009474.shtml

2003 paper listed his affiliations as:

Exploration Physics International, Inc., Huntsville, Alabama, USA (EXPI)

Space Environment Center, National Oceanic and Atmospheric Administration (NOAA), Boulder, Colorado

Geophysical Institute, University of Alaska Fairbanks, Fairbanks, Alaska, USA [**Akasofu**]

www.expi.com/expicom/home.html

Many NOAA (and other Boulder) publications; then switch to EXPI, then U of AK.

Other possible connections, but **Akasofu** strong.

However, Dryer was already on **OISM** in 2000, well before **Akasofu** started speaking on this, so influence might go either way, and being in satellite work, he may have known **Singer**, **Christy**, **Spencer**.

William T. Duffy Jr. (E) 1931E 2q, q, A

Professor Emeritus of Physics Santa Clara University

Fields: Measurement

www.sciencestorm.com/award/9511613.html

Locations: CA

Employers: Santa Clara University

Connections: ?

Notes: SCU BSEE 1953, MS 1954; PhD Stanford, 1959.

Cryogenic gravity detectors.

Tomasz Durakiewicz (I) ???? 1, , G

Scientific Staff Member

Los Alamos National Laboratory

David F. Edwards (E) 1936R 2q, In, G

Physicist, Lawrence Livermore National Laboratory (retired)

Formerly Los Alamos National Laboratory;

Professor of Physics and Electrical Engineering, Colorado State University; Lincoln Laboratory, MIT

Fields: Optics; plasmas; various

Locations: NM; CA

Employers: Colorado State U; LANL; LLNL

Connections: ?

Notes: MIT papers 1962; Colorado State papers 1968-1972; LANL papers 1977-1987; LLNL papers 1986-

prola.aps.org/search/field/author/Edwards_D_F

Could be placed in either NM or CA (LANL or LLNL).

Albert G. Engelhardt (B) 1935 2q, C#n, Gi

President and CEO, Enfitek, Inc.

Environmental control and security systems

Senior Life Member IEEE

Fields: Nuclear; defense?

Locations: NM-Los Alamos

Employers: LANL; own business

Connections: **Singer**

Notes: LANL 1976-1989, 1998, at least from reports

www.lanl.gov/news/index.php/fuseaction/home.story/story_id/1829

Was contact for debate between Charles Keller and **Singer**, October 21, 1998.

James E. Enstrom (E) 1943 2q, O*f*, A

Research Professor Jonsson Comprehensive Cancer Center University of California at Los Angeles

Life Member APS

Fields: Epidemiology

Locations: CA

Employers: UCLA

Groups: ACSH

Connections: Singer, Nichols via ACSH; **Starr?** work for EPRI, showing particulates have little effect.

Notes: Harvey Mudd College BS 1965, Stanford Physics PhD 1970, (Meson decay, was at Lawrence Radiation Lab (i.e., LBNL), UCLA MPH (Master Public Health), then epidemiology.

Epidemiologist, accepted funding from Philip Morris, and found that secondhand smoke was not so bad.

[www.sourcewatch.org/index.php?title=James E. Enstrom](http://www.sourcewatch.org/index.php?title=James_E._Enstrom)

He was (2004)/ is(?) Trustee of ACSH, American Council on Science and Health

[www.sourcewatch.org/index.php?title=American Council on Science and Health](http://www.sourcewatch.org/index.php?title=American_Council_on_Science_and_Health)

But he has rebuttals, and entire website is interesting:

www.scientificintegrityinstitute.org/

Contrib: R98-09**, RNC, Bush, McCain,

many, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=enstrom&first=james

Hughen Falconer (D) — (removed by August 20 (E)) (Just here for history)

Emeritus Professor of Geology University of Aberdeen Member American Geophysical Union

? This was a fake, got by verification somehow.

Hugh Falconer was a Victorian era paleontologist, died 1865.

John R. Fanchi (I) 1952 1, , Ia

Professor, Department of Electrical Engineering and Energy Institute

Texas Christian University

Author, *Energy in the 21st Century* (World Scientific Publishing),

Energy: Technology and Directions for the Future (Elsevier)

Member SEG, SPE

(SEG = Society of Exploration Geologists; SPE = Society of Petroleum Engineers)

scholar.google.com/scholar?hl=en&q=jr+fanchi&btnG=Search

I could not find EE department at TCU (?) In any case:

www.newsevents.tcu.edu/print/1668.htm

Sept 2009: "Dr. John R. Fanchi as the first holder of the Ross B. Matthews Professorship in Petroleum Engineering... He was a professor at Colorado School of Mines, an advance senior engineer with Marathon Oil Company and, most recently, Chevron Energy."

Jens G. Feder (B) 1942 1, fP*, A

Professor of Physics of Geological Processes

University of Oslo

Fellow APS

Fields: Petroleum

Locations: Oslo, Norway

Employers: U of Oslo

Connections: From 1980-1999, wrote ~6 papers with Giaever.

Notes: folk.uio.no/feder/

scholar.google.com/scholar?hl=en&q=feder+giaever

Douglas E. Fields (E) 1963 2o, n, A

Associate Professor Department of Physics and Astronomy University of New Mexico

Fields: Heavy-ion colliders

Locations: NM

Employers: LANL; U of NM

Connections: ?

Notes: Tennessee Technological U, Physics BS 1984; Indiana U Physics MS 1988, PhD 1991.

LANL Postdoc 1992-1995; UNM 1966-

panda.unm.edu/Fields/DouglasFields.html

panda.unm.edu/Fields/Douglas%20Edward%20Fields%20CV.htm C.V

Edward J. Finn (I) 1930E 1, , A

Emeritus Professor of Physics, Georgetown University
 Chair, Department of Physics (1990-1993)
 President University faculty Senate (1980-1982)
 NSF Program Manager (1981-1983)
Coauthor, Fundamental University Physics (Addison Wesley)

Robert A. Fisher (I) ?????R 1, , G

Consultant, Los Alamos National Laboratory,
 Research Scientist (retired)
 Department of Chemistry and Lawrence Berkeley National Laboratory
 University of California at Berkeley

Michael M. Fitelson (F) 1941 1, , I

Chief Scientist, Micro-Systems Enablers
 Northrop Grumman Electronic Systems

Joseph R. Florian (I) ?????R 1, , I

Co-Founder of Jaycor Networks Incorporated
 Senior Scientist, Jaycor, SAIC
 Member IEEE

The "Retired" is from NewsMeat. Might connect with Grismore (JAYCOR), with numerous SAIC people, or even Nierenberg via La Jolla location.

Contrib: R08,

www.newsmeat.com/fec/bystate_detail.php?city=Valley+Center&st=CA&last=florian&first=joseph

Harold K. Forsen (G) 1936R 2o

Senior Vice President, Bechtel Corporation (retired)
 Governing Board, National Research Council (1994-2003)
 Foreign Secretary, National Academy of Engineering (1995-2003)
 Arthur Holly Compton Award (ANS) 1972
 Member National Academy of Engineering; Fellow APS, ANS, American Academy of Arts and Sciences
<https://www.engr.wisc.edu/eday/eday1984.html>

Split between WA and CA. Would naturally be connected with LLNL <m>

Contrib: R93-08

www.newsmeat.com/fec/bystate_detail.php?city=DANVILLE&st=CA&last=forsen&first=harold

www.newsmeat.com/fec/bystate_detail.php?city=Kirkland&st=WA&last=forsen&first=harold

Bruce L. Freeman (E) 1948 1, n, Gi

Senior Experimental Physicist, Ktech Corporation
 Formerly Professor of Nuclear Engineering, Texas A&M
 Coauthor Explosively Driven Pulsed Power (Springer); Explosive Pulsed Power (Imperial College)
 Member IEEE Plasma Sciences, Directed Energy Professional Society

Fields: Nuclear (DNP); plasmas (DPP)

Locations: NM; TX; NM-Albuquerque

Employers: LANL (~20 years); TAMU

Connections: ?; possible with Kristiansen,

Notes: PhD 1974

LANL papers 1977-1995 (at least); around 2001 was at Texas A&M

www.osti.gov/energycitations/searchresults.jsp?Author=%22Freeman,%20B.L.%22

focusfusion.org/index.php/site/article/49/

Ktech is a services company in Albuquerque, NM

www.ktech.com/

Michael H. Frese (E) 1948 2_q, n, Gi

Designer/Developer of Multiphysics Simulation Codes and Applications
 Founder and Managing Member of NumerEx, LLC
 Member SIAM, IEEE

Fields: Computational physics (DCOM)

Locations: NM

Employers: NumerEx; consults for LANL, Air Force Research Laboratory, Kirtland

Connections: ?

Notes: Was at Mission Research Corp, 1991

NumerEx is a small software business in Albuquerque, NM, consults for LANL, etc.

www.numerex-llc.com/

www.iop.org/EJ/abstract/0029-5515/42/2/313

Contrib: R02-08**, Club for Growth, McCain, many other states,

www.newsmeat.com/fec/bystate_detail.php?st=NM&last=frese&first=michael

Peter D. Friedman (B) 1962 3_{ho}M, tb, Ga

Associate Professor of Mechanical Engineering
 University of Massachusetts Dartmouth
 Member American Geophysical Union, ASME, American Nuclear Society

Fields: Defense; nuclear

Locations: MD; MA

Employers: US Navy; US Naval Academy; U of MA-Dartmouth

Connections: Heartland, APS-NES?

Notes: Georgia Tech; Johns Hopkins (PhD 2002); U of M 2002-

Fluid mechanics; submarines; US Naval Academy

www.umassd.edu/engineering/mne/people/faculty/Friedman.cfm

www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20080311/OPINION/803110318/-1/NEWS01

March 11, 2008 "Conservative Corner" long piece: Dennis Avery right; McIntyre right, Mann wrong, IPCC wrong. Judge Cronin impugned Fred **Singer**.

"I am not surprised. Less than a month ago, I wrote that the American Dream, which is based on opportunity, is drowning under the weight of an intrusive and oversized government...

In the spin world of the so-called "environmental movement," personal attacks have become the norm...

At the International Conference on Climate Change, Dr. Dennis Avery (who co-authored Dr. **Singer's** recent book on the subject) told me that he was expanding his growing list of over 500 supportive references to add another 400.

Several respected climate scientists have told me that there would be even more vocal skeptics if they were not afraid of losing funding, much of which is controlled by politically correct organizations."

Thus, attended **Heartland** 2008 Mar 2-4, NYC.

Contrib: R04, www.newsmeat.com/fec/bystate_detail.php?st=MA&last=Friedman&first=peter

Ian J. Fritz (E) 1944R 1, n, G

Research Physicist, Sandia National Laboratories (retired)
 R&D 100 Award 1991 Basic Energy Sciences Sustained Outstanding Achievement Award (DOE) 1993
 Lockheed Martin NOVA Award 2001

Fields: other physics

Locations: NM

Employers: Sandia

Connections: ?

Notes: NYU paper 1968; Johns Hopkins paper 1972, present address Sandia; Sandia papers 1973-

prola.aps.org/search/field/author/Fritz_I_J

Rodger L. Gamblin (C) 1932 1, ?, I

Inventor
 Holder of 44 issued U.S. patents
 BY -09/03/10:

Managing Director
Corona Color, LLC

Fields:

Locations: various

Employers: ?

Groups: Fair Tax Nation

Connections: ?

Notes: Princeton; then printer-related patents for IBM, Mead

www.fairtaxnation.com/profile/RodgerL.GamblinKathleenJBurch

Contrib: R08, Huckabee, www.newsmeat.com/fec/bystate_detail.php?st=OH&last=gamblin&first=rodger

John C. Garth (E) 1934R 2q, kvd, G

Research Physicist Air Force Research Laboratory (retired)
Member ANS, ASTM, American Association of Physicists in Medicine,
Computational Medical Physics Working Group

Fields: Nuclear (DNP); defense

Locations: MA; NM-Albuquerque currently Pipl, since 2006, at least

Employers: Air Force

Connections:

Notes: U of Illinois PhD 1965

U of I paper 1965 (present address Worcester, MA); Air Force Cambridge Lab paper 1975; Rome Air Center, 1980; USAF Phillips Lab, Hanscom AFB, MA.

State difficult to determine, and AFRL covers NM, OH, NY, and TX locations, and Hanscom was under Philips Lab, HQ'd in NM, but he may have just retired there, not worked there.

en.wikipedia.org/wiki/Air_Force_Research_Laboratory

Contrib: R06, www.newsmeat.com/fec/bystate_detail.php?st=NM&last=garth&first=john

G. Roger Gathers (E) 1936 2o, I, Gi

Senior Scientist, M. H. Chew and Associates

Physicist, Lawrence Livermore National Laboratory (1967-1993)

Author, Selected Topics in Shock Wave Physics and Equation of State Modeling (World Scientific Publishing)

Fields: Nuclear plausible; defense (weapons)

Locations: CA-SF Bay Area

Employers: LLNL; M. H. Chew

Connections: ?

Notes: USC Physics BS 1960; UC Berkeley Physics PhD 1967

M.H. Chew is consulting company, spinoff from LLNL and Bechtel, founded 1988

www.mhchew.com

Gary J. Gerardi (D) 1941 2q, w, gA

Professor, Department of Chemistry and Physics William Paterson University

Fields: Semiconductors; defense

Locations: NJ

Employers: Rutgers; ARL; William Paterson U

Connections: ?

Notes: Manhattan College Chemistry BS 1963; St. John's University, Chemical Physics PhD 1969.

Rutgers research associate 1976-1980; US Army Research Lab (ARL) 1981-1985; William Paterson U, Professor, PChem, general physics, electronics, 1977-

www.wpunj.edu/cos/chem-physics/research10.html

Ivar Giaever (B) 1929E 3hoc, uP*ys, A

Institute Professor, School of Engineering and School of Science

Rensselaer Polytechnic Institute

Nobel Prize in Physics 1973

Fellow APS, Member National Academy of Science, National Academy of Engineering

Fields: Superconducting; biophysics.

Locations: NY-Eastern Upstate (Troy)

Employers: GE-Schenectady; Rensselaer

Connections: From 1980-1999, wrote ~6 papers with **Feder**; **Oehler** got PhD in 1970 from RPI? Possible with **Berkowitz**, who was at GE Schenectady 1968-1986 (no overlap at GE, but GE is about 15 miles from Rensselaer, and their research was related. Many papers by others cite both of them separately.) Giaever has given talks @ GE Research after he left.

Possible with **Austin** (biophysics). Possible with **Ringermacher** (general location), **Nichols** (NYAS).

Notes: Norwegian Inst. Of Tech; Rensselaer (PhD 1964)

GE Research (Schenectady) 1958-1964.

Now actually listed as Emeritus.

Professor-at-large @ University of Oslo (where **Feder** located).

www.rpi.edu/~giaevi/

uhaweb.hartford.edu/LGOULD/GIAEVER_NOBEL%20Laureates%20and%20Climate%20Change_HowToAccess%20copy.pdf Quotes him:

““I’m a skeptic.” Critiques the bogus “acid rain” and the “ozone hole” scares. “Now we are gotten into Global Warming. It’s become a new religion.” Giaever is widely quoted on this.

George T. Gillies (F) ???? 2o

Research Professor, School of Engineering and Applied Science; and

Research Professor, Department of Physics

University of Virginia

Clinical Professor, Department of Neurosurgery, Virginia Commonwealth University

Fellow APS

Fields: Biomedical; tumor growth; simulations

Locations: VA

Employers: U VA

Connections: **Torquato** (2008 paper, listing all authors @ Princeton); **Boring?** (U VA)

Notes:

www.ncbi.nlm.nih.gov/pubmed/18824788?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum&ordinalpos=3

Damon Giovanielli (E) 1943 1, nA#, G

President, Sumner Associates scientific consultants

Former Division Leader, Physics Division Los Alamos National Laboratory LANL staff member, program and line manager (1972-1993)

Fellow AAAS

Fields: Nuclear; defense

Locations: NM

Employers: LANL; now **Sumner Associates**

Connections: **Thomas F. Stratton** very likely via Sumner Associates

Notes: Sumner Associates is a small consulting firm in Santa Fe, NM; VP Thacker does oil&gas.

www.sumnerassociates.com/sumnerofficers.html

Contrib: R95-08, Heather Wilson,

www.newsmeat.com/fec/bystate_detail.php?st=NM&last=giovanielli&first=damon

Albert Gold (B) 1935R 1, rqQ*, A

Associate Dean of Engineering and Applied Sciences

Harvard University (retired)

Fields: Optics

Locations: NY; MA

Employers: U of Rochester; Harvard

Connections: **Knox**; likely with **Robert L. Sproul**, UofR Provost 1968-

Notes: U of Rochester PhD

Was at U of Rochester in 1950s-1969, at least; was student of David Dexter, along with **Knox**.

www.optics.rochester.edu/~stroud/BookHTML/ChapIII_pdf/III_21.pdf

Later was Assoc. Dean of Engineering, while **Knox** was Chairman of Physics.
Has written several papers and at least one book with **Knox**, during 1950s/1960s.

Ronald B. Goldfarb (F) ???? 2o

National Institute of Standards and Technology
Life Member APS
Boulder, CO NIST

Laurence I. Gould (A) 1942 4Hoc, Tt, A

Professor of Physics
University of Hartford
Member Executive Board of the New England Section of the APS
Chairman (2004), New England Section APS

Fields: *Mathematical Physics and Nonlocal Field Theory; Philosophy of Science and Quantum Mechanics*

Locations: CT

Connections: **Heartland**; APS-NES (active member); surely knows **Hayden**, who has been active longer.
Christy, Lindzen (2004 APS-NES).

Notes: Carnegie Mellon U Physics BS 1964; Temple U Physics MA 1975, PhD 1982
U of Hartford 1985-

He has become a vocal opponent of AGW, in **APS-NES** (APS-New England Section, where he was Vice-Chair 2003, Chair 2004. He is Co-editor of Newsletter, with Paul H. Carr) and a strong supporter of Viscount Christopher Monckton's climate views, arranged for him to speak at Hartford, March 5, 2008, and has supported Monckton's SPPI with quotes:

uhaweb.hartford.edu/LGOULD/

scienceandpublicpolicy.org/press/proved_no_climate_crisis.html

Monckton thanks **Gould, Douglass, Knox, Lindzen, Soon, Spencer:**

www.aps.org/units/fps/newsletters/200807/monckton.cfm

Following is chronology of **Gould** and the APS-NES:

The 2004 APS-NES meeting in East Hartford (about 7 miles from U of Hartford) included presentations by **Christy** and **Lindzen**:

www.physics.ccsu.edu/aps-nes/fall_2004_highlights.htm

Gould's opinion was clear by 2005, and he had become Co-Editor by then: p.7:

www.aps.org/units/nes/newsletters/upload/spring05.pdf

By Fall 2007, he was writing actively, in a long Editorial, p.4-9:

www.aps.org/units/nes/newsletters/upload/fall07.pdf

In Spring 2008, Co-Editor Carr said the Editorial was **Gould's**, not his, in reply to a concerned letter from Alan Chodos (Associative Executive Officer of APS). **Gould** reinforced his position (p.5-9), then added another letter called "Anthropogenic Global Warming Alarmism: A Corruption of Science", p 10-21.

www.aps.org/units/nes/newsletters/upload/spring08.pdf

He wrote, July 28, 2008:

www.rightsidenews.com/200807271541/energy-and-environment/anthropogenic-global-warming-alarmism.html

In Fall 2008, Frank Levin wrote to criticize **Gould's** comments (p.7-9), **Gould** replied (p.9-11), and then printed letter from Viscount Christopher Monckton (p.11-13), followed by another **Gould** Editorial, p.14.

www.aps.org/units/nes/newsletters/fall08.cfm, created 08/28/09.

Heartland "Expert"; speaker at **Heartland** 200, March 8-10, NYC..

www.Heartland.org/bin/media/newyork09/PowerPoint/Larry_Gould.ppt

www.Heartland.org/events/NewYork09/proceedings.html has audio and video

www.sourcewatch.org/index.php?title=Laurence_Gould

In Spring 2009, back-and-forth continued, p.6-7, then Paul Carr reviewed a New Hampshire talk by James Hansen (p.8-9). **Gould** replied (p.10-11) to that review, saying he asked **Fred Singer** about Hansen's claims, and that **Singer** said:

"The basic problem with Hansen's claims is that there is no evidence at all that anthropogenic CO2 is actually causing the climate to warm."

www.aps.org/units/nes/newsletters/spring09.cfm, PDF created 04/27/09.

Gould then quoted **Singer's** biography, and continued, advertising **Heartland** 2009 conference, ending: "Accordingly an effort is underway to gather signatures for an Open Letter to the APS Council asking the Council to reconsider the statement and replace it with a more moderate one which reflects the actual state of the science. Those interested in learning more about this initiative may contact Roger W. Cohen (Fellow, APS) at [<email>](mailto:roger.cohen@aps.org) or Laurence I. **Gould** (Past Chair, 2004, of the NES APS) at [<email>](mailto:laurence.gould@aps.org)." www.aps.org/units/nes/newsletters/upload/spring09.pdf

In Fall 2009, p.6-8 offers a letter by Pat Frank (from Palo Alto, CA, an X-Ray spectroscopy researcher at SLAC), followed by **Gould** Editorial expressing pleasure that the APS Council was willing to reconsider its position, linking to the Petition website, and advertising the **Heartland** 2009 Conference website again: www.aps.org/units/nes/newsletters/upload/fall09.pdf

Gould's publication record seems rather less strong (fewer papers, few citations) than many academic signers, but I am certainly no expert in his areas. Maybe others can assess the impact of his work:

uhaweb.hartford.edu/IGould/ACADESUMforWebsite22Aug2007.htm
scholar.google.com/scholar?q=li+Gould+hartford&hl=en&btnG=Search

Gould, in **Heartland** 2009 talk, speaks of worrying about science losing students when they discover how they have been misled, so: I found ratings by students, as always, to be read with caution:

www.ratemyprofessors.com/ShowRatings.jsp?tid=124769

Paul M. Grant (B) 1935R 1, ER*, I

EPRI Science Fellow (retired)

IBM Research Staff Member Emeritus

Senior Life Fellow APS

Fields: Superconductors

Locations: CA-SF Bay Area

Employers: IBM; EPRI

Connections: Wrote many papers with **Sheahen**; some with **Chauncey Starr**

Notes: Harvard (PhD 1965)

Superconductors; 40-years at IBM; EPRI 1993-2004.

www.w2agz.com/About_PMG.htm

Contrib: R01, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=grant&first=paul

Howard D. Greyber (B) 1924R 3, jnld, Ga

University of Pennsylvania (retired)

Formerly Princeton University, LLNL Theory Group, Northeastern University

Member American Astronomical Society, Fellow Royal Astronomical Society

Fields: Theoretical astrophysics; nuclear; defense; space ;intelligence

Locations: PA; CA; TN; MD; CA

Employers: Navy; LLNL; GE; Princeton

Connections: ? (many possible) **James Johnson (via ORNL)?**

Notes: Cooper Union BS ME; U of PA MS, PhD

Astrophysics; Air Force; GE missiles; LLNL; Imperial College; Northeastern; Princeton; Deputy Director ONI (Office of Naval Intelligence); "Retired from Defense Intelligence Agency"

LLNL (Lawrence Radiation Lab), 1956; GE Missile and Ordnance, Philadelphia, 1958; Imperial College, 1966; Martin Marietta, Denver 1970; Naval Intelligence Support Center, DC, 1984; Potomac, MD 1988-2003 (at least); San Jose, CA 2004

www.zoominfo.com/people/Greyber_Howard_180800127.aspx

www.princeton.edu/pr/news/98/c/0918-clips.htm

"Occupation: Retired from National Military Intelligence Center, Defense Intelligence Agency.

Elected Offices/Civic Activities: 1962, Republican candidate for Congress, 8th Congressional District, Massachusetts; 1980, assisted Reagan economics task force; program manager, National Science Foundation; deputy director, engineering sciences, Naval Intelligence Support Center; staff physicist, Lawrence Livermore National Laboratory in California and Princeton University."

www.princeton.edu/pr/news/00/c/0301.htm

"Engineer, Manhattan Project, Oak Ridge, Tenn.; wartime volunteer; U.S. naval officer, Pacific theater; thermonuclear weapon design, Princeton University and Livermore National Laboratory; Republican candidate for U.S. House, 8th Congressional District, Massachusetts; physics professor, Northeastern University. ...

www.nytimes.com/2007/09/30/opinion/30iht-edletters.html?_r=3

"I respond as a physicist that he cannot comprehend that it is still not proven that carbon dioxide emissions actually are causing global warming.... Reputable scientists oppose this unwarranted alarmist hysteria. If fanatic leftists who hate America's progressive capitalistic system had not opposed the building of nuclear power plants by wild allegations and interminable lawsuits, the United States could have built dozens of safe, modern reactors."

Ronald J. Gripshover (F) ????R 1

Senior Research Physicist
Naval Surface Weapons Center (retired)

Contrib: R96

www.newsmeat.com/fec/bystate_detail.php?city=KING+GEORGE&st=VA&last=gripshover

Roger Grismore (I) 1924R 1, , A

Research Professor
Physics Department
California Polytechnic State University, San Luis Obispo
Member American Geophysical Union, N. Y. Academy of Sciences

drrogergrismore.net/

*ANL; Scripps (1967-1971, 1975-1978); JAYCOR, La Jolla (1979-1984),
So could connect via **Nierenberg**, or **Florian** (JAYCOR).*

David E. Groce (I) ????R 1, , I

Science Applications International Corporation (retired)
Formerly, General Atomics Corporation

Member AAAS, Lyncean Group

*SAIC, General Atomics could be connections; also LaJolla? (**Nierenberg**)*

Contrib: R08, McCain

www.newsmeat.com/fec/bystate_detail.php?city=LA+JOLLA&st=CA&last=groce&first=david

Mike Gruntman (B) 1945 20, A, A

Professor of Astronautics
University of Southern California
Author, Blazing the Trail. The Early History of Spacecraft and Rocketry (AIAA)
Luigi G. Napolitano Book Award (International Academy of Astronautics) 2006
Member American Geophysical Union, Associate Fellow AIAA

Fields: Space

Locations: CA-Los Angeles

Employers: USC

Connections: One paper with **Kunc**. With **Kunc**, **Rapp** in seeking funding for climate research. (!)

Notes: Astronautics, aerospace engineering.

astronauticsnow.com/MikeGruntman/index.html

astronautics.usc.edu/research/climatechange.htm

"Traditional oceanographic or atmospheric programs are not necessarily well-equipped for such a challenge. USC is, however, well positioned to take a lead in this evolving science... The framework of the

Institute will revolve around national and California climate change research programs, which are the expected sources of funding for the institute's various endeavors"

George Hacken (D) 1942 2g, vk, lg

Senior Director, Safety-Critical Systems New York City Transit Authority
Formerly Senior Member of the Technical Staff, GEC-Marconi Aerospace
Chair, New York Chapter, IEEE Computer Society
Member AMS, SIAM, ANS, AIAA, New York Academy of Sciences

Fields: Nuclear; aerospace

Locations: NY

Employers: /Plessey/Marconi Aerospace

Connections: NYAS?

Notes: Columbia U Physics PhD; Post-doc in Nuclear physics

15 years as software developer – **Singer/Plessey/Marconi Aerospace**

www.sstc-online.org/Proceedings/2002/spkr930.cfm

Was at Columbia 1971-1975 (at least), then physics pubs disappear (very tough physics jobs market then)

David S. Hacker (E) 1934R, 2o, f, al

Senior Staff Research Engineer Amoco Corporation (retired)
Associate Professor of Chemical Engineering, University of Illinois, Chicago Circle (1965-1981)
Fellow AIChE

Fields: Chemical engineering; petroleum

Locations: IL

Employers: UofI; Amoco

Connections: ?

Notes: Armour Research Corp, 1961 paper; UofI; Amoco papers 1985-1992 (at least)

Aksel Hallin (I) ????? 1, , A

Canada Research Chair in Astroparticle Physics
Department of Physics
University of Alberta
Fellow APS

Opinion: economics of AB make it the least likely province in Canada to recognize AGW.

Sultan Hameed (C) 1941 1, yzJ#, 3

Professor of Atmospheric Science
School of Marine and Atmospheric Sciences
Stony Brook University, New York

Fields: Climate; solar

Locations: NY-LI

Employers: Stony Brook

Connections: ?

Notes: U of Manchester, UK PhD 1968

Belfer Graduate School of Science, Yeshiva U, NY 1968-1971 (at least);

Stony Brook, 1980- (at least)

Climate change: analysis, impacts, and predictability.

Climate publications: many, well-cited

atmos.msrc.sunysb.edu/npages/Faculty_Prof/Hameed.html

adsabs.harvard.edu/abs/1983JGR...88.3691P 1983 paper with Hansen & others

www.agu.org/pubs/crossref/1991/90JD02228.shtml 1989 paper with LLNL

www.eecg.utoronto.ca/~prall/climate/skeptic_authors_table_by_clim.html

*QUESTION: why? Hameed seems real outlier in this group, with many reasonable-looking publications, no obvious **Think tank**/petition activity. Speculate: solar?*

Contrib: R94, www.newsmeat.com/fec/bystate_detail.php?st=NY&last=hameed&first=sultan

William Happer (A) 1939 4Ggc, JPB*, GA

Cyrus Fogg Brackett Professor of Physics
Princeton University
Fellow APS, AAAS

Member National Academy of Sciences

Fields: nuclear; defense, NMR

Locations: NJ; DC; NJ-Princeton

Employers: DOE; Princeton

Groups: JASON; George C. Marshall Institute

Connections: (Singer; Canavan; Nichols) via GMI; (Katz, LeLevier, Lewis, Dyson) via JASON.

Sproull via GMI, both were on Board (at least)

Agnew (National Academies, Panel on Nuclear and Radiological Issues, 2002; **Agnew** on committee)

www.nap.edu/openbook.php?record_id=10415&page=390

Notes: Atomic physics; JASON 1976-90 (chair steering 1987-1990); Trustee MITRE; DOE Energy 1991-1993. (MITRE manages JASON.)

On BoD of GMI, at least from 2002 (likely earlier), but Chairman since 2006.

www.princeton.edu/physics/people/faculty/william-happer/

www.dailyprincetonian.com/2009/01/12/22506/

““Physics professor William Happer GS '64 has some tough words for scientists who believe that carbon dioxide is causing global warming. “This is George Orwell. This is the ‘Germans are the master race. The Jews are the scum of the earth.’ It’s that kind of propaganda,” Happer, the Cyrus Fogg Brackett Professor of Physics, said in an interview. “Carbon dioxide is not a pollutant. Every time you exhale, you exhale air that has 4 percent carbon dioxide. To say that that’s a pollutant just boggles my mind. What used to be science has turned into a cult.””

www.huffingtonpost.com/bill-chameides/non-climate-scientist-clip_173422.html

This is part of article by Duke’s Bill Chameides, which includes 7-minute video of Happer.

tedhsu.blogspot.com/2009/03/on-will-happer-and-lorne-gunter.html

“1) Dr. Happer was a proponent of the Reagan administration’s heavily criticized and eventually abandoned “Star Wars” (Strategic Defense Initiative) project.

2) He was appointed by George H.W. Bush as Director of Energy Research in the U.S. Department of Energy

3) **Soon** after the Clinton administration took over in 1993, Happer was fired by Al Gore for not having any urgency in dealing with ozone depletion and climate change.”

An article in Reason says this also, albeit from a different viewpoint, and others have pointed out that political appointees change when administrations change.

www.SEPP.org/Archive/controv/controversies/happer.html

www.mitre.org/about/bot/happer.html JASON Chair of Steering Committee 1987-1990

www.fas.org/spp/starwars/congress/1999_h/990713-happer_071399.htm

www.marshall.org/experts.php?id=57

Following is article by Duke’s Bill Chameides, with 7 minutes of Happer video.

Contrib: R99-04, D04: www.newsmeat.com/fec/bystate_detail.php?city=Princeton&st=NJ&last=happer

Joseph G. Harrison (I) ???? 1, , A

Associate Professor

Department of Physics

University of Alabama at Birmingham

Member ACS, MRS

Connection: Wills (also at UofAL-Birmingham), and possible other UAH (Huntsville) people.

Howard C. Hayden (B) 1940E 5Hqmc, TkF*Y*D#, A

Emeritus Professor of Physics

University of Connecticut

Editor, The Energy Advocate

Author, A Primer on CO2 and Climate (Vales Lake)

Fields: Nuclear; energy

Locations: CT; now back in CO

Employers: U of CT

Connections: APS-NES: **Gould**. Answered questions for **Alexander**.

CFACT Board of Advisors with **Baliunas**, **Michaels**, **Seitz** (still listed as of 9/22/09)).

See notes under **Phipps** for multiple interactions.

Heartland Institute; **CFACT** (was on 2003 list); APS-NES 2008 "Supplementary List".

Notes: U of Denver paper, 1968, current address U of CT.

U of CT papers 1968-1991, then tails off. Seemingly low citation count.

Had some connection with APS-NES (supplementary list, as of 2008), contemporaneous with **Gould**.

www.physics.ccsu.edu/aps-nes/exec.htm

www.sourcewatch.org/index.php?title=Howard_Hayden

www.energyadvocate.com/

www.worldnpa.org/php2/index.php?tab0=Scientists&tab1=Display&id=125:

"On receiving his Ph.D., he went to the University of Connecticut where he spent 32 years clashing icons and corrupting young minds. He did accelerator-based atomic physics, including measurements of cross-sections for various processes, measurements of energy loss in atomic collisions and of lifetimes of excited states, beam-foil spectroscopy, and ion implantation."

CATO 2009; **Heartland** "climate expert"; **Heartland** speaker 2008, 2009.

www.CFACT.org/about/1551/CFAC-Board-of-Advisors, since Nov 2003 or before.

www.sourcewatch.org/index.php?title=Committee_for_a_Constructive_Tomorrow

Has written (self-published, Vales Lake) books:

A Primer on CO₂ and Climate, Second Edition, 2008. And

The Solar Fraud: Why Solar Energy Won't Run the World

Now lives back in home state, CO, after long time in CT.

"From the long-haired hippie carrying No Nukes placards to the tweedy philosophy professor writing learned antinuclear articles for the Sunday supplements; from the 'concerned homemaker' worried about her children's health to the Harvard economist expounding about the real and putative hidden costs of nuclear power -- nuclear power is maligned by all but the cognoscenti,"

- Howard Hayden, "The global warming trap: A contrarian view," Nuclear News, August 2000.

Mini-Review of His Primer: Anti-science, even Pseudoscience:

His Primer seems of unusually low quality, even by anti-science standards. For example, he accepts the data (shown in his Figure 7) from a pseudoscience article by Ernst-George Beck, published in **Energy and Environment**. Beck tried to show that the wild variations of measured CO₂ concentrations over the last 180 years were not measurement problems, but real (contrary to impossibility of the large carbon fluxes required, and in total contradiction to multiple ice-core records and much other data), and by weird coincidence just happened to stabilize exactly when better-controlled measurements began to be used mid-20th century. He claims that modern researchers cherry-picked past data to avoid seeing these wild, but real variations. Beck's errors are well-explained, but this paper remains popular in some circles.

www.biomind.de/nogreenhouse/daten/EE%2018-2_Beck.pdf is the paper, see Fig. 11.

www.realclimate.org/wiki/index.php?title=E._G._Beck

It is hard to believe that anyone with a PhD in Physics could take Beck seriously for more than a few minutes, without some powerful motivation to suspend disbelief. He also references the next pair:

Gerhard Gerlich and Ralf D. Tseuschner tried to disprove the existence of any Greenhouse Effect:

www.realclimate.org/wiki/index.php?title=G._Gerlich_and_R._D._Tscheuschner

His book (p.52) says of Science magazine:

"The reviewer, Rush Holt, a U.S. Representative from New Jersey's 12th district, goes on to say, "I believe Gore's science is solid." This remarkably naïve line is to be expected from run-of-the-mill scientific ignoramuses in Congress. But it is utterly shameful when coming from one of Congress's only two physicists.

The alarming fact is simply that Science would publish such a review. Alarming, but not surprising. Science has long since given up its objectivity."

www.skepticalscience.com/argument.php

The useful website Skeptical Science has a well-organized list of commonly-used wrong arguments about climate, with explanations, and pointers to peer-reviewed research as backup. Each argument is given a number, which really helps, as debunking repeated wrong memes is tiresome and space consuming. Many of these can be found this book. I am just out of time to do a serious review here.

Dennis B. Hayes (E) 1945R 2Q, nd, G

Research Physicist Los Alamos, Sandia, and Lawrence Livermore National Laboratories
President, Lockheed Martin Nevada Technologies, Inc. (retired)
Fellow APS

Fields: Various physics; defense

Locations: CA; NM

Employers: LANL; Sandia; LLNL (note Sandia is part of Lockheed-Martin)

Connections: ?

Notes: Difficult to disambiguate.

Via Scitation: Sandia papers 1974-

Contrib: R04-08, www.newsmeat.com/fec/bystate_detail.php?st=NM&last=hayes&first=dennis

John R. Henley (I) ???? 1, , I

Science Applications International Corporation
Life Member APS
SAIC connections?

Joseph F. Hiller (I) ???? 1, , I

Analytical Sciences
Dow Chemical Company
Member ACS
Great Falls, Virginia (Singer?)

Jack M. Hollander (B) 1924E 3, Ik, GA

Professor Emeritus of Energy and Resources, University of California, Berkeley
Vice-President Emeritus, The Ohio State University
First Head, Energy and Environment Division, Lawrence Berkeley Laboratory
Fellow APS, AAAS

Fields: Nuclear; energy in general

Locations: CA-SF Bay

Employers: LBNL

Connections: ?

Climate publications: probably not

Notes: LBNL (or predecessors) at least 1950-1971

prola.aps.org/search/field/author/Hollander_J_M papers 1950-1971

Nuclear; energy in general

Book: "The Real Environmental Crisis" thinks poverty is the real crisis.

Book covers many topics, thinks AGW is real, but not too important)

David B. Holtkamp (B) 1955 1, In, G

Scientific Staff Member, Physics Division
Los Alamos National Laboratory

Fields: Nuclear; LIDAR; spectroscopy

Locations: NM

Employers: LANL

Connections: ?

Notes: U Texas Austin 1973-1979

LANL from 1983-, at least

www.linkedin.com/pub/david-holtkamp/4/83b/516

Climate pubs: perhaps one or two old papers might fit.

Contrib: R08, www.newsmeat.com/fec/bystate_detail.php?st=NM&last=holtkamp&first=david

John C. Ingraham (E) 1937R 1, n, G

Scientific Staff Member, retired Los Alamos National Laboratory

Member American Geophysical Union

Fields: plasmas

Locations: NM

Employers: LANL

Connections: ?

Notes: MIT paper 1964; LANL papers 1971-

Contrib: R04-08*, RNC, others,

www.newsmeat.com/fec/bystate_detail.php?st=NM&last=ingraham&first=john

Helen Jackson (D) ???? 1, ad, G

Research Physicist, U.S. Air Force Wright Patterson Air Force Base

Member Materials Research Society, IEEE

Fields: Materials

Locations: OH

Employers: Air Force

Connections: ?

Notes: Possibly Helen Cassandra Jackson, grad student in Engineering @ Wright State U.

Very hard to find publications.

Robert Jastrow (X) 1925-2008 5GHo, qvE#W#, GA, 1

Fields: Astrophysics; astronomy, defense

Locations: NY; NH; CA

Employers: NASA; Dartmouth

Connections: **Nierenberg, Seitz, Singer.** Papers 1990-1997 (at least) with **Baliunas**, who was Deputy Director at Mount Wilson Observatory from starting in 1989. He was Director 1992-2003.

Notes: Columbia theoretical physics AB, AM, PhD 1948.

NASA 1958-1981, founded NASA Goddard Institute; Dartmouth 1981-1992; Chairman BoD of Mount Wilson 1992-2003.

Co-founder of **GMI**, advocate of Reagan SDI. 1985 book: "How to make nuclear weapons obsolete."

articles.latimes.com/2008/feb/17/local/me-jastrow17

adsabs.harvard.edu/abs/1997ASSL..210...10J

en.wikipedia.org/wiki/Robert_Jastrow

www.sourcewatch.org/index.php?title=Robert_Jastrow

www.giss.nasa.gov/research/news/20080303/

www.nytimes.com/2008/02/12/science/space/12jastrow.html

Wrote article for **Heartland**, 2001:

www.Heartland.org/policybot/results/812/Do_people_cause_global_warming.html

He lived in Los Angeles, at least during 1992-2001, records showing Zipcode 90024, Wilshire Blvd, just East of UCLA, about 15 miles from USC, 20 miles from Caltech/JPL, and 50 miles from Mt Wilson Observatory. It would be astonishing if he had not had repeated contacts with CA aerospace and astro-sciences people over that decade.

Contrib: D97, R92-01*, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=jastrow&first=robert

H. Richard Johnson (E) 1926R 2o, a, I

Co-Founder and Vice Chairman The Watkins-Johnson Company (retired)

Life Fellow IEEE, Member National Academy of Engineering

Fields: Electronics; defense

Locations: CA-SF Bay Area; CA-Los Angeles area

Employers: Hughes Aircraft; Watkins-Johnson

Connections: ?

Notes: Watkins-Johnson (now WJ) founded in 1957:

www.fundinguniverse.com/company-histories/WatkinsJohnson-Company-Company-History.html

Johnson had been head of microWave lab @ Hughes Aircraft

AKA Horace Richard Johnson

Contrib: R79-99*

www.newsmeat.com/fec/bystate_detail.php?city=PALO+ALTO&st=CA&last=Johnson&first=h

Michael A. Joffe (I) ???? 1, , I

Test Engineer Manager

Luminus Devices, Inc.

Member OSA

prola.aps.org/search/field/author/Joffe_M_A

Massachusetts

James R. Johnson (D) 1925R 2o, jk, GI

3M Company (retired) Member Carlton Society (3M Hall of Fame)

Member National Academy of Engineering

Fields: Nuclear

Locations: TN; MN

Employers: ORNL; 3M

Connections: ?.

Notes: ORNL, then 3M; otherwise difficult to disambiguate.

www.osti.gov/energycitations/servlets/purl/4200084-jaETsi/4200084.pdf

“Although work on the Daniels' Pile was discontinued in 1947, the development of cermet and ceramic-based dispersion fuels continued at **ORNL** under the direction of J. R. Johnson, later with the 3M Company, and J. M. Warde during the period, 1951—56 in support of the Aircraft Nuclear Propulsion (ANP) Program.”

Carlton Society (3M internal award) -1970 for nuclear products, ceramics, refractory metals

O'Dean P. Judd (C) 1946 1, ndH*, G

LANL Fellow

Los Alamos National Laboratory (retired)

Technical Advisor and Consultant

Fellow APS, IEEE, AAAS

Fields: Lasers; atomic; space; defense; missiles; SDI (brilliant pebbles)

Locations: NM; DC

Employers: LANL; US govt

Groups: many

Connections: Several papers with **Canavan**; very likely: **Happer**, **Jastrow**, **Nierenberg**, **Seitz**.

Notes: LANL at least from 1974- (Chief Scientist for SDIO 1987-1990), back to LANL

www.mda.mil/mdalink/html/judd.html

www.lacacis.org/lectures.html

www.lcni5.com/cgi-bin/storyviewarchive.cgi?075+2008329.News.2008328-2930-075-075007.archive+News

“O’Dean Judd, a former chief scientist of the Strategic Defense Initiative Missile Defense Program in Washington, D.C., pretty much took the “dis” out of “disarmament” in a talk on arms control Wednesday night.”

scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=JAPIAU000047000012005297000001&idtype=cvips&gifs=yes 1976 LANL paper

Andrew Kaldor (B) 1944R 1, bFS*V#, I

Distinguished Scientific Advisor

Manager of Breakthrough Research

ExxonMobil Corporation (retired)

Fellow AAAS, Member ACS

Fields: Laser chemistry; nanoscience; petroleum connection

Locations: MD; LA; NJ (Berkeley Hts!)

Employers: NBS Gaithersburg; ExxonMobil

Groups: many

Connections: on committee chaired by **Werner**; overlapped many years with **Cohen @ Florham Park**

Notes: UC Berkeley Chemistry BS; Cornell Physical Chemistry PhD

NBS Gaithersburg; ExxonMobil (Baton Rouge, LA; NJ) 1974-

www.sfbassociates.com/htm/about_us.htm (click at bottom)

www.sandia.gov/NINE/bios.html Meeting at Sandia, bio.

books.nap.edu/openbook.php?record_id=9192&page=113

Alexander E. Kaplan (B) 1938 1, ?, A

Professor, Department of Electrical and Computer Engineering

The Johns Hopkins University

Max Born Award (Optical Society of America) 2005

Alexander von Humboldt Award (von Humboldt Foundation) 1996

Fellow OSA

Fields: Optics

Locations: MD

Employers: Johns Hopkins U

Connections: Possible: **Gruntman** is on (long) list above. Russian émigrés & Cold War?

Notes: Russia; Moscow Inst of Physics & Tech, Physics MS 1961; Moscow/Gorkii Physics&Math 1967

1961-1979 Russia research; 1979-1982 M.I.T.; Purdue U 1982-1986; U of MD 1987; Johns Hopkins 1989-

psi.ece.jhu.edu/~kaplan/

psi.ece.jhu.edu/~kaplan/fztlist.html

Ran INFO-RUSS mailing list for Russian émigrés; soviet dissidents. "Cold war"

Thomas J. Karr (F) ???? 1

Director in the Advanced Concepts & Technology Division

Northrop Grumman Electronic Systems

Lawrence Livermore National Laboratory (1984-1996)

Editor, Applied Optics (1991-1994)

Member OSA, AAAS; Senior Member IEEE

Same area as Fitelson

Contrib: D92

www.newsmeat.com/fec/bystate_detail.php?city=BETHESDA&st=MD&last=karr&first=thomas

Thomas W. Karras (I) 1936 2o, , I

Senior Fellow

Lockheed Martin Commercial Space Systems

Life Member APS, Member OSA, AIAA, SPIE

Newton, PA; aerospace

Contrib: R04-R08; Bush, McCain

www.newsmeat.com/fec/bystate_detail.php?city=Berwyn&st=PA&last=karras&first=thomas

David J. Kaup (I) 1938 1, , I

Provost's Distinguished Professor

Department of Mathematics

University of Central Florida

UoMD 1968; then at Clarkson, Potsdam, NY through at least 2001; by 2005 was at UCF

www.ist.ucf.edu/people/kaupd/kaup.htm

gauss.math.ucf.edu/~kaup/

Connection guess: 30+ years in Upstate NY, although Potsdam is about 4 hours' drive from either Rochester, or Troy/Schenectady, so many possible connections.

Contrib: R98

www.newsmeat.com/fec/bystate_detail.php?city=POTSDAM&st=NY&last=kaup&first=david

Jonathan Katz (B) 1951 1, JqI, gA

Professor of Physics

Washington University St Louis (WUSTL)

Fields: astrophysics; space; defense**Locations:** CA-SF Bay Area; NJ-Princeton; CA-Los Angeles; MO**Employers:** LLNL; IAS (Princeton); UCLA; WUSTL <gA>**Connections:** Would know **Happer**, **Dyson**, other **JASONS**.**Notes:** Cornell Physics AB 1970, Astronomy and Space Sciences AM 1971, PhD 1973

LLNL 1969-1973; Institute for Advanced Study 1973-1976; UCLA 1976-1981; Washington U 1981-;

JASON(Mitre) 1983- ; (not obvious how Cornell/LLNL timing works, but C.V. says this)wuphys.wustl.edu/~katz/lifeboat.com/ex/bios.jonathan.i.katz

Consulting for SLAC, Uofl, LANL (1977-1986, 1999-) LLNL

www.pehi.eu/organisations/JASON_Group_members_list.htmConjecture: recruited by **Happer**.**William E. Keller (D) 1925R 2o, n, G**

Leader Low Temperature Physics Group 1971-1985 (retired) Los Alamos National Laboratory

Fellow APS

Fields: Low-temperature**Locations:** NM**Employers:** LANL**Connections:** ?**Notes:** Harvard Class of 1946;

1948 paper @ Harvard; 1950 paper @ Ohio State U; LANL 1953-1986, at least.

classes.harvard.edu/olc/pub/HAA/college/officers.jsp?chapter=47**Contrib:** R06-09*, RNC, many in other states,www.newsmeat.com/fec/bystate_detail.php?city=SANTA+FE&st=NM&last=keller&first=william**John M. Kennel (E) 1945 R I, 2q, af***

Autonetics Division, Boeing North American (retired)

Formerly Electronics Division, Northrop Grumman Corporation

Member AAAS, AIAA

Fields: Aerospace; electronics**Locations:** CA-Los Angeles**Employers:** Rockwell; Northrop; Boeing**Connections:** **Lombardi?** (may have overlapped at Northrop)**Notes:** Rockwell patent 1976; Northrop patent 1989**Contrib:** R97-07, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=kennel&first=john**Paul I. Kingsbury 1935R 2q**

Manager, Physical Properties Research Department

Corning Inc.(retired)

Elmira, NY

Robert S. Knox (B) 1931E 3oc, RM*Q*y, A, 1

Professor of Physics Emeritus

University of Rochester

Member APS Council 1985-1988

Fellow APS

Fields: Optics; lasers**Locations:** NY-Rochester**Employers:** U of Rochester**Connections:** **Douglass; Gold; Bodek; Robert L Sproul;** APS activity?**Notes:** U of Rochester PhD 1958

www.rochester.edu/college/rtc/Knox.html

Student of David Dexter, along with **Gold**. (paper with Gold, 1959)
Later was Chairman of Physics, while **Gold** was Assoc. Dean of Engineering.
Signed **CATO** Advertisement, March 2009.

*In last few years, has coauthored a few papers with **Douglass** and others.

1999 Knox

2004 Knox

2004 Douglass Blackman Knox

2005 Douglass Knox

2006 Douglass Knox Pearson Clark

2009 Douglass

Conjecture: Douglass seems to be the driving force at this point, but Knox helps occasionally.

Viscount Christopher Monckton claims:

[scienceandpublicpolicy.org/images/stories/papers/rEPRInt/Letter to McCain.pdf](http://scienceandpublicpolicy.org/images/stories/papers/rEPRInt/Letter_to_McCain.pdf)

“His Nobel prize pin, made of gold recovered from a physics experiment, was presented to him by the Emeritus Professor of Physics at the University of Rochester, New York, USA.” If not completely invented by Monckton, that seems likely to be **Knox**, but might have been **Sproull**.

Contrib: D92-01, www.newsmeat.com/fec/bystate_detail.php?st=NY&last=knox&first=robert&zip=14610

Robert A. Koslover (I) ???? 1, , GI

Senior Scientist

Scientific Applications and Research Associates (SARA), Inc

PhD UC Irvine; then was at Philips Research Lab, i.e., Kirtland AFB (hence strong NM connection); now at SARA

M. Kristiansen (F) (Magne) 1939 2o

C.B.Thornton/P.W.Horn Professor

Department of Electrical and Computer Engineering

Texas Tech University

Fellow APS, IEEE

www.depts.ttu.edu/ece/faculty/kristiansen/

Russian emigre? Pulsed-power, **Freeman** likely?

Contrib: R97-08

www.newsmeat.com/fec/bystate_detail.php?city=LUBBOCK&st=TX&last=kristiansen&first=magne

Moyses Kuchnir (F) 1938R 2o

Applied Scientist

Fermi National Accelerator Laboratory (retired)

Life Member APS, Member IEEE, AAAS

Pip: Now in Southborough, MA

Contrib: R93 (IL), D08 (MA)

www.newsmeat.com/fec/bystate_detail.php?city=ELMHURST&st=IL&last=kuchnir&first=moyses

www.newsmeat.com/fec/bystate_detail.php?city=Southborough&st=MA&last=kuchnir&first=moyses

Joseph A. Kunc (B) 1943 2om, AT*K#, A

Professor, Physics and Astronomy

University of Southern California

Fellow APS

Fields: Molecular physics, plasmas; space

Locations: CA-Los Angeles

Employers: USC

Connections: **Soon; Gruntman; Rapp**

Notes: First paper 1972, Russian.

Prof. Astronautics, Aerospace Engineering, Physics, Astronomy

astronautics.usc.edu/faculty-staff/kunc.htm

www.cfa.harvard.edu/~wsoon/1000yrclimatehistory-d/Soon-replytoJefford.pdf

One paper with **Gruntman**. Thesis advisor for **W. H. (Willie) Soon** (1991 PhD in aerospace engineering); coauthored at least 7 papers (1989-1992).

Paul L. La Celle (G) ???? 20??A

Professor, Department of Biomedical Engineering
Former Chair, Department of Biophysics
University of Rochester

Alexander von Humboldt Senior Fellow, Max Planck Institute for Biophysics, Frankfurt
www.urmc.rochester.edu/bme/people/ does not list him (?)

Robert E. LeLevier (C) 1923 1, JldU*, GI

Lawrence Livermore National Laboratory (1951-1957)
Physics Department, RAND Corp (1957-1971)
R&D Associates (1971-1983)
Eos Technologies, Inc. (1983-1993)

Fields: Nuclear; defense

Locations: CA-SF Bay Area; CA-Los Angeles

Employers: LLNL; RAND

Connections: Happer, Dyson, other JASONS; Payton (long overlap @ Eos)

Notes: Nuclear; testing; JASON (1970s-).

Conjecture: recruited by Happer.

James D. Lester (I) 1943R 1, , ?

Research Physicist (retired)
Life Member IEEE
Stroudsburg, PA

Robert E. Levine (B) 1943R 3, fd, Gi

Industrial and Defense Physics and Engineering (retired)
Member ACM, IEEE

Fields: Petroleum; defense (Army + (?))

Locations: NJ-Princeton; CT; AZ

Employers: Schlumberger; Halliburton; DoD

Connections: ?

Notes: Phd 1970; retired 2007

Princeton Applied Research (instrumentation)

Petroleum services (1973-1986, Schlumberger, Halliburton); defense (US Army, DoD 1986-2007)

www.aps.org/units/fps/newsletters/200901/levine.cfm (letter, reason for 3).

“Advocacy Threatens Scientific Integrity.” He quotes only 3 sources: Richard Lindzen (in Energy and Environment, a journal of low repute, not inWeb of Science), Douglass and **Christy**, another paper accepted for E&E, and **Spencer** testimony for James Inhofe.

“Dr. Robert E. “Bob” Levine was awarded a PhD in physics in 1970, worked in physics and engineering, and retired in 2007. He began his professional career developing scientific instrumentation at Princeton Applied Research Corp. In 1973 he moved to the petroleum services industry, working in science and technology at the Schlumberger-Doll Research Center and then in engineering, initially at the Welex division of Halliburton Corp. and later at Dresser-Atlas. In 1986, he shifted to national defense work at Ft. Huachuca, AZ, first as a contract employee, subsequently as a civilian employee of the US Army, and later at an agency of the US Department of Defense.”

Contrib: R06, www.newsmeat.com/fec/bystate_detail.php?st=AZ&last=levine&first=robert&zip=85650

Harold W. Lewis (A) 1923E 3o??, Jnbk, A (missing (C-F), back in (G))

Professor of Physics Emeritus
University of California at Santa Barbara

Chairman, Defense Science Board Panel on Nuclear Winter
Fellow APS, AAAS; Chairman, APS Reactor Safety Study

Fields: Nuclear; defense

Locations: CA-Santa Barbara

Employers: UCSB

Connections: Nierenberg, Dyson, other **JASONS**. It is hard to believe he would not have known Starr, and of course, many people in nuclear power would know at least one of them.

Notes: Nuclear; **JASON** (1960s-1970s)

UC Berkeley: paper 1947 (with Oppenheimer, but present = IAS (Princeton))

UC Berkeley: paper 1950

LANL: 1958

Princeton: 1961 (but labeled as U Wisc permanent)

UCB: 1966 paper (with Goldberger @ Princeton, Watson @ LBNL)

Lewis Report, 1977 on Reactor Safety

www.catalog.ucsb.edu/current/depts/phys.htm#Emeriti

Wrote Technological Risk, 1990:

www.amazon.com/gp/product/0393308294

His 1990 book, *Technological Risk* included fairly straightforward science-based positions on tobacco, acid rain, and global warming that would have conflicted with Heartland and GMI. His name disappeared from the list after (**B**), but returned in (**G**). This may have been mis-editing, or something else. Some past petitions have often been sold to signers in misleading ways, so anything is possible.

(Not the Harold W. Lewis, nuclear physicist @ Duke, died 2000, or the HW Lewis @ Bell Labs)

www.boston.com/bostonglobe/editorial_opinion/oped/articles/2009/07/01/no_climate_debate_yes_there_is/

Contrib: R04,

www.newsmeat.com/fec/bystate_detail.php?city=Santa+Barbara&st=CA&last=lewis&first=harold

John D. Lindl (B) 1946 1, Iqk, G

James Clerk Maxwell Prize for Plasma Physics (APS) 2007

Fellow APS, AAAS

Fields: plasma

Locations: CA-SF Bay Area

Employers: LLNL

Connections: ?

Notes: Cornell Engineering Physics MS 1968; Princeton Astrophysics PhD 1972

Fusion; NIF; LLNL 1972-

https://lasers.LLNL.gov/people/management/john_lindl.php

Contrib: Libertarian79, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=lindl&first=john

Xavier Llobet (H)

Research Associate Ecole Polytechnique Federale de Lausanne

Fields: fusion

Locations: Lausanne, Switzerland

Employers: EPFL

Connections: ?

Notes:

space.rice.edu/alumni/pdfs/ballot.pdf PhD in 1980s @ Rice U

Gabriel G. Lombardi (E) 1954 2o, a, gl

Senior Scientist, Phase Coherence, Inc

National Research Council Associate (NIST, 1980-82)

Life Member APS, Member OSA

Fields: Astrophysics (DAP); Optics (DAMOP); defense; lasers (DLS)

Locations: MA; MD; CA-South

Employers: Harvard-Smithsonian Center for Astrophysics; Northrop; TRW

Connections: *Kennel?* (at Northrop about same time); **Zombeck & Baliunas** (overlap at Harvard-Smithsonian)

Notes: Center for Radiation Research NBS, Gaithersburg, MD papers 1983-1986
Harvard-Smithsonian Center for Astrophysics paper 1987

adsabs.harvard.edu/full/1987ApJ...322..573S

TRW Patent 1986

Northrop Patent 1991

Phase Coherence founded 2001 in **Austin**, TX, but located in Torrance, CA

www.phasecoherence.com/about.html

Michael D. Lubin (E) 1930R 2_o, d, G

Colonel, United States Air Force (retired)

Fields: Defense

Locations: CA?

Employers: USAF

Connections: ?

Notes: MIT BS 1952, PhD 1967 (assuming that is the right person)

Otherwise, difficult to find and disambiguate; likely MDL in San Leandro, CA, via PipI.

Farrel W. Lytle (I) 1934 2_o, , I

CEO, The EXAFS Company

First Recipient of the Farrel W. Lytle Award (SSRL) 1998

Fellow APS, AAAS; Member ACS, Society for American Archaeology

www.exafsc.com/techpapers/index.html

www-conf.slac.stanford.edu/ssrl-lcls/2009/FarrelWLytleAward.asp

Company seems to be his house in Pioche, NV

Alfred U. MacRae (D) 1932R 2_o, wvx, I

President, MacRae Technologies Fellow APS, IEEE, Member National Academy of Engineering

Fields: Semiconductors, Space (communications)

Locations: NJ

Employers: Bell Labs

Connections: ?

Notes: Syracuse BS physics 1954; Syracuse PhD physics 1960

Bell Laboratories semiconductors, director of AT&T Skynet; then consultant.

Berkeley Heights, NJ; 1961- papers @ Bell Labs (Murray Hill)

www.wtec.org/loyola/satcom2/a_01.htm

portal.acm.org/citation.cfm?id=1501006

NAE For "ion implantation, application to fabrication of electronic devices"

Phillip W. Mange (B) 1928R 2_o, kqd, G

Associate Superintendent, Space Science Division

Scientific Consultant to the Director of Research,

Naval Research Laboratory (retired)

Fields: Space; defense; some topics could be climate, but no trace of that in his publications.

Locations: MD (DC); MI

Employers: NRL

Connections: ?

Notes: Kalamazoo College; Penn State U PhD 1954

Ionosphere, aurora, cosmic rays; Naval Research Lab (**NRL**) 1959-1983; military satellites.

Survey of auto emissions, 1971. Publications likely classified. Seems to be back in Kalamazoo.

John E. Mansfield (F) ????? 2_o

Vice Chairman

Defense Nuclear Facilities Safety Board

Pipl: VA, near DC

Contrib: R95-08

www.newsmeat.com/fec/bystate_detail.php?city=VIENNA&st=VA&last=mansfield&first=john

Kristanka Marinova (H) (sic: really Krastanka Marinova)

Department of Chemical Engineering Faculty of Chemistry Sofia University

Fields: Surfactants, foams, materials.

Locations: Greece, France, Bulgaria

Employers: U of Patra Greece 1993, Rhoda Silicones Europe, Lyon, France 1998, Sofia U 2003-

Connections: ?????

Notes: M.SC Physics 1991, PhD Physical Chemistry 2002

www.lcpe.uni-sofia.bg/sources/staff/html/index_km.html

Richard Marrus (I) 1932E 1, , GA

Emeritus Professor of Physics

University of California at Berkeley

Fellow APS

prola.aps.org/search/field/author/Marrus_R

Nuclear

David T. Marx (I) ????? 1, , A

Associate Professor of Physics

Illinois State University

www.phy.ilstu.edu/~marx/

Experimental solid state physicist, but does energy, solar cars. (Odd)

Joseph Maserjian (E) 1929R 2o, aU#, G

Senior Research Scientist, California Institute of Technology Jet Propulsion Laboratory (retired)

Fields: Space microelectronics

Locations: CA-Los Angeles

Employers: JPL

Connections: Rapp (almost certain, overlapped many years)

Notes: CalTech PhD 1966

Many papers: Hughes Aircraft papers 1957-1959; JPL papers 1969-1994 (at least)

John H. McAdoo (F) ????? 2o

Aerospace Physicist

Member IEEE, AAAS

Not an affiliation. Hits found for Mission Research (Government contractor In VA)

Thomas A. McClelland (F) ????? 1

Vice President, Commercial Products

Frequency Electronics, Inc.

Electronics & aerospace contractor

Patrick J Michaels (X) 1950 5GHc, zgN*D#O#P#X#Z#, A, 1

CATO; was at U of Virginia

Fields: Ecological Climatology

Locations: VA

Employers: UVa, Virginia State, CATO, New Hope (own company)

Connections: CATO, GMI, Heartland, CFACT.

On CFACT Advisory Board with Baliunas, Hayden, Seitz. Overlap with Singer @ U of VA.

Wrote book with chapters by Christy, Baliunas, and Soon.

Notes: Harvard, A.B. and S.M degrees in biological sciences and plant ecology, U of Chicago, PhD ecological climatology U of Wisconsin 1979, under Reid Bryson.

www.cato.org/people/patrick-michaels

www.sej.org/initiatives/climate-change/patrick-michaels-cv-plain-text-file-climate-change-guideskeptics-and-cont

[en.wikipedia.org/wiki/Patrick Michaels](http://en.wikipedia.org/wiki/Patrick_Michaels)

[www.sourcewatch.org/index.php?title=Patrick Michaels](http://www.sourcewatch.org/index.php?title=Patrick_Michaels)

www.desmogblog.com/files/IREA-memo.pdf IREA supporting Pat **Michaels**

www.desmogblog.com/CATO-institute-and-patrick-michaels-its-small-world-after-all **CATO** funding

He has long published World Climate Report, for which **Baliunas** was a Contributing Editor.

www.worldclimatereport.com/

He has written papers for **GMI**:

search.atomz.com/search/?sp-q=michaels&sp-a=sp100240f4&sp-f=ISO-8859-1&submit=Search

“New Hope Environmental Services is an advocacy science consulting firm”

In the 1980s and 1990s, he wrote some peer-reviewed climate papers, but in 1990s and 2000s, much more of his output has been books, web papers, etc. Two of his recent books are:

Patrick **Michaels**, Ed, “Shattered Consensus – The True State of Global Warming”, copyright by **GMI**. It includes 3 articles by **Christy, Baliunas, and Posmentier+Soon**. The other articles are by Ross McKittrick, Robert Balling, Jr, Randall S. Cerveny, David R. Legates, Oliver W. Frauenfeld, Robert E. Davis, most of which are recognizable and a few of whom might have been included as supporters. The Foreword is by William O’Keefe and Jeffrey Kueter of **GMI**. William O’Keefe is the current President of **GMI**, and was Exec. VP and CEO of the American Petroleum Institute, was on Board of the Competitive Enterprise Institute.

Patrick J. **Michaels**, Robert Balling, Jr “Climate of Extremes – The Science They Don’t Want You to Know”, 2009, **CATO** Institute.

Contrib: R99-00, www.newsmeat.com/fec/bystate_detail.php?st=VA&last=michaels&first=patrick

Harold Mirels (E) 1924R 2o, Aac*K#, G

Principal Scientist, The Aerospace Corporation (retired)

Fellow APS, AIAA

Member National Academy of Engineering

Fields: Gas dynamics; lasers (DLS)

Locations: CA-Los Angeles

Employers: Aerospace Corporation; USC

Connections: **Gruntman; Kunc;** (via Aerospace Corp): **Bevc? Stockwell?**

Notes: Aerospace Corporation (El Segundo) papers: 1953-

Joined USC Astronautical Engineering, with **Kunc** and **Gruntman**

astronautics.usc.edu/about/history.htm

Jim Mitroy (B) 1956 3, ?, A

Lecturer in Physics, School of Engineering and Information Technology

Charles Darwin University, Australia

Fields: Atomic

Locations: Australia

Employers: CDU

Connections: ?

Notes: Melbourne PhD

See Website and blog search for posts.

www.cs.cdu.edu.au/homepages/jmitroy/j_mitroy.html

Michael N. Monce (B) 1952 A, 2omc, T, A

Professor of Physics, Astronomy, and Geophysics

Connecticut College

Member AAPT, and American Geophysical Union

Fields: Atomic; ion collisions

Locations: CT

Employers: Connecticut College

Connections: APS-NES? CT schools? **Gould? Hayden? Paolini?**

Notes: U of CA BA; CO State U MS; U of GA PhD ~1971

Connecticut College, New London 1981-; (via GS) not heavily cited.
 Papers @ U of GA, 1980-1981
www.conncoll.edu/Academics/web_profiles/monce.html

Nasif Nahle (D) 1951 3, ?, I

Scientific Research Director Biology Cabinet, Mexico
 Member AAAS, New York Academy of Sciences

Fields: Biology?

Locations: TX; Mexico

Employers: Biocab

Connections: NYAS?

Notes: Biologist (?) (see below)

biocab.org/About_Us.html

biocab.org/

biocab.org/Academic_Curriculum.html

“Profession: Biologist (with emphasis in Scientific Research, Earth Sciences, Biophysics, Virology and Radiobiology) (1972-1977).”

www.eoht.info/page/Nasif+Nahle

“In [life thermodynamics](#), **Nasif Nahle Sabag** (1951-) is a Mexican-born American biologist noted for his publications, beginning in 1999, on the topic of a [Gibbsian](#)-based thermodynamic quantification of [life](#) and [death](#). [1] In 1975, Nahle co-founded the Biology Cabinet, in New Braunfels, Texas, an institute of scientific research and education in biology. [2]

Nahle completed his BS in biology in 1977 from the Autonomous University of Nuevo Leon, in San Nicolas de los Garza, Mexico, where he focused on topics such as [thermodynamics](#), heat transfer, [physical chemistry](#), biophysics, and radiobiology. In 1994, Nahle became certified in antibiotic therapy, from the same university. In 2001, Nahle completed an MS level of work at Harvard School of Medicine on complementary, alternative, and integrative medical research.”

Often posts on climate blogs as “biocab”, and an example of his writing is:

biocab.org/Pseudoscience2.html

Rodney W. Nichols (B) 1937 4Goc, V*O*, iA

President and CEO, New York Academy of Sciences (1992-2001)

Vice President and Executive Vice President, The Rockefeller University (1970-1990)

Secretary of Defense Medal for Distinguished Meritorious Civilian Service (1970)

Fellow AAAS, New York Academy of Sciences

Fields: defense

Locations: NY

Employers: Melpar; Rockefeller U

Connections: Worked with and wrote at least one report with [Seitz](#) (Google Books), and had to know [Jastrow](#), [Nierenberg](#).

(via ACSH): [Enstrom](#), [Singer](#).

GMI; NYAS; ACSH; many conservative **think tanks**

Notes: Harvard Applied Physics AB (?)

1959-1966 manager @ Melpar (govt contractor; missile nosecones)?;

George C. Marshall Institute Board; advisor to Richard Lounsbery Foundation (one of previous? **GMI** Funders); Manhattan Institute Trustee; consultant to Gerson-Lehman; American Council on Science and Health Trustee.

tobaccodocuments.org/pm/2025028083-8086.html Bio from Tobacco Archives

www.acsh.org/about/pageID.101/default.asp ACSH Bio

www.marshall.org/experts.php?id=157

www.crdf.org/profiles/profiles_show.htm?doc_id=604594

www.cfr.org/project/222/study_group_on_global_warming_technology_policy_for_the_united_states.html

www.manhattan-institute.org/html/trustees.htm

www.acsh.org/about/pageID.7/default.asp

Contrib: D95-97, R07, www.newsmeat.com/fec/bystate_detail.php?st=NY&last=nichols&first=rodney

William Nierenberg (X) 1919-2000 5GH, JEA*dk, GA, 1

Fields: Nuclear; oceanography

Locations: NY; CA-San Diego; many

Employers: DoD (Manhattan Project); UC Berkeley; Scripps; NATO;

Connections: GMI; Agnew; Advisory board of EPRI (**Starr**). **Berkowitz?** (by geographic proximity)

Notes: Like other 2 GMI founders, scientist with strong reputation and influence.

en.wikipedia.org/wiki/William_Nierenberg

www.sourcewatch.org/index.php?title=William_A._Nierenberg

caliber.ucpress.net/doi/abs/10.1525/hsns.2008.38.1.109?journalCode=hsns

www.nndb.com/people/326/000137912/

Chaired JASON report ~1983, a controversial report:

www.timesonline.co.uk/tol/news/environment/article4690900.ece

Contrib: R96, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=nierenberg&first=william

Gordon C. Oehler (C) 1942 1, dke, Gi*

Senior Fellow, Potomac Institute for Policy Studies

Working Group Chairman, Congressional Commission on the Strategic Posture of the United States.

Corporate Vice President for Corporate Development, SAIC (1998-2004)

National Intelligence Officer for Science, Technology and Proliferation (1989-1992)

Fields: nuclear; defence; policy

Locations: NY-Eastern Upstate (Troy); DC

Employers: CIA; SAIC

Connections: Giaeever? (Did PhD @ RPI 1970)

Depp, Payton, Sheahen? SAIC. At least Sheahen was also in Washington, DC area.

Notes: Rensselaer BS EE, Physics PhD 1970

CIA 1972-1997; nonproliferation center; SAIC.

www.potomacinstitute.org/aboutus/staff/oehler.htm

Top Proliferation Aide, Facing Budget Cuts, Quits (1997, i.e., Clinton Administration)

www.encyclopedia.com/doc/1P2-745279.html

Contrib: SAIC PAC 98-04, R00-08, RNC, Bush,

www.newsmeat.com/fec/bystate_detail.php?st=VA&last=oehler&first=gordon

William P. Oliver (D) 1942 2o, It, gA

Professor of Physics Tufts University

Life Member APS

Fields: Nuclear; high energy; neutrino

Locations: CA-SF Bay Area; MA

Employers: LBNL; Tufts U

Connections: : APS-NES?

Notes: UC Berkeley PhD, 1969.

LBNL, guess 1969-1976 (at least); Tufts 1981-; work with FermiLab

www.tufts.edu/alumni/magazine/fall2000/explorations/explorations1.html

prola.aps.org/search/field/author/Oliver_W_P

Frank R. Paolini (B) 1934R 2o, T, ia

Adjunct Professor of Physics, University of Connecticut at Stamford (retired)

Senior Member APS, Member IEEE

Fields: Astrophysics; galactic X-rays

Locations: MA; CT (now in VT? PipI)

Employers: ASE; U of CT

Connections: APS-NES? Connecticut schools? **Gould? Monce? Hayden?**

Notes: M.I.T. 1958 paper, PhD Physics 1960

American Science and Engineering, Inc, Cambridge, MA. 1962-1969 at least, from papers; then publications seem to disappear;

U of CT (sometime; could not find any references, except PipI noting Stamford)

AKA Francis Rudolph Paolini

Daniel N. Payton III (E) 1940 2q, kU*e*, GI

Senior Scientist, SAIC (1992-present)

Eos Technologies (1984-1992)

Technical Director of Nuclear Technology Air Force Weapons Laboratory (1976-1984)

Fields: Particles (DPF)**Locations:** NM**Employers:** LANL; USAF; EOS; SAIC**Connections:** LeLevier (long overlap @ Eos)**Notes:** LANL paper 1967 (present address: USAF Kirtland)

USAF Kirtland paper 1971-1977

Contrib: D94:www.newsmeat.com/fec/bystate_detail.php?city=ALBUQUERQUE&st=NM&last=payton&first=daniel**John T. Pearson ???? 2q, A**

Research Assistant

Microfluidics Group

Brigham Young University

Member AIAA

OISM list has a John Pearson, might not be him.me.byu.edu/faculty/danielmaynes/index.php?sec=gradsAccording to this, **Pearson** is an M.S. student under Prof. Daniel Maynes, in Mechanical Engineering. See also **Prince**.**Erik M. Pell (G) 1923R 2q**

Xerox Corporation (retired)

Author: From Dreams to Riches – The Story of Xerography (Carlson)

Edward Goodrich Acheson Medal (Electrochemical Society) 1986

President, Electrochemical Society (1980-1981)

Fellow APS, Honorary Member ECS, Senior Member IEEE

Rochester, NY area <r>

Michael F. Petras 1958 1,, I

Senior Member of the Technical Staff

Freescale Semiconductor, Inc

Thomas E. Phipps, Jr (D) 1925R 3o, kdY*, G

Physicist (retired) Operations Evaluation Group, MIT US Naval Ordnance Laboratory

Senior Member APS

Fields: Nuclear; defense; operations; particles; quantum; relativity; (very eclectic).**Locations:** many; retired to IL**Employers:** Navy**Connections:** Hayden.**Notes:** Harvard physics AB (1945), MS (1948), Nuclear physics PhD (1951).

Navy Operations Research (1945-1956); Naval Warfare Analysis Group (1956-1960); 1960-1964 US Naval Test Station (China Lake); Naval Ordnance Laboratory (1966-1980).

www.slac.stanford.edu/cgi-wrap/getdoc/slac-pub-6809.pdf, by Pierre Noyes of SLAC;Phipps chose authors, including **Hayden**.www.infinite-energy.com/iemagazine/issue44/index.htmlReviewed **Hayden's** "The Solar Fraud: Why Solar Energy Won't Run the World".www.worldnpa.org/php2/index.php?tab0=Scientists&tab1=Scientists&tab2=Display&id=170Hayden's book "A Primer on CO2 and Climate, 2nd Ed", p.64, quotes Phipps' letter to local newspaper:

"A group of state attorneys general, including the one from Illinois, is currently suing the Cotton Mathers of the Environmental Protection Agency (EPA) for inadequate fanaticism in enforcing last year's politically correct ruling by the Supreme Court that "carbon dioxide and other greenhouse gases are air pollutants."

www.news-gazette.com/sports/prep/story/2008/04/13/childish_opinion_creating_problems

Richard S. Post ???? 1, , I

Chairman of the Board

NEXX Systems, Inc.

Fellow APS

PhD Columbia; MIT

Plasmas

www.nexxsystems.com/company/index.asp

Semiconductor manufacturing equipment electrodeposition, sputtering

Applied Science & Technology Wilmington, MA)

Contrib: R00,

www.newsmeat.com/fec/bystate_detail.php?city=LEXINGTON&st=MA&last=post&first=richard

Joseph F. Prince ???? 1, , A

Candidate for the Ph.D.

Department of Mechanical Engineering

Brigham Young University

me.byu.edu/faculty/danielmaynes/index.php?sec=grads

He is a student of Professor Dennis Maynes, as is **Pearson**.

John X. Przybysz (G) ???? 1, , I (*disappeared in (H), back*)

Northrop Grumman Electronic Systems

Connections: **Fitelson? Karr?**

www.ieee.org/portal/pages/society/eds/pubs/pubs_committee.html

Donald Rapp (B) 1934R 4g, Aa, Ga

Chief Technologist, Mechanical and Chemical Systems,

Jet Propulsion Laboratory (retired)

Professor of Physics and Environmental Engineering, University of Texas (1973-1979)

Author, "Assessing Climate Change" and "Ice Ages and Interglacials" (Springer-Verlag)

Fellow APS

Fields: Space; defense; energy; petroleum (one 1975 publication on peak oil)

Locations: CA-SF Bay Area; TX; CA-Los Angeles

Employers: Lockheed; U of TX; JPL; USC

Connections: **Gruntman, Kunc. Maserjian** (overlapped at JPL many years)

Notes: Cooper Union ChemEng BS 1955; MS ChemEng 1956; UC Berkeley Chemical Physics PhD 1960

Lockheed Palo Alto 1959-1965; Polytechnic Inst of NY 1965-1973; U of TX-Dallas 1969-1981 (on leave

1979-1981 @ JPL); JPL 1979-2002 (then retired); JPL consultant 2003-2009

Research professor, Viterbi School of Engineering U of Southern CA

www.informaworld.com/smpp/942440378-851443/title~db=all~content=g777655045

Article in same issue as **Chilingar**.

home.earthlink.net/~drdrapp/

"I have surveyed the wide field of global climate change energy and I am familiar with the entire literature of climatology."

He has written a (very expensive) climate anti-science book:

books.google.com/books?id=GOIV9MzyFHQC&printsec=frontcover&dq=assessing+climate+change+rap&lr=&ei=2qiBSs6qJYPkQS31b2WCg#v=onepage&q=&f=false

It begins: "Global-warming alarmists believe that human production of greenhouse gases, particularly carbon dioxide, with its concomitant water vapor feedback mechanism, has begun to add to the natural greenhouse effect, thereby raising global temperatures inordinately during the 20th century, with predictions of further increases in the 21st century that could be catastrophic.

Dr. James E. Hansen, perhaps the most respected spokesman for the alarmists, said...

Al Gore's film....has spawned a growing world movement that is seeking controls on greenhouse gas emissions. Because such controls would have serious economic consequences..."

Page xiv says:

"We have emerged from the Little Ice Age in the latter half of the 19th century and the Earth has warmed, but the connection to greenhouse gases remains unclear."

Google Books gave me a table of contents and selections, enough to recognize sources and emphasis. He references (poor) papers by **Soon** and **Baliunas** (2003). For a compendium of refutations:, see: www.realclimate.org/index.php/archives/2004/12/myths-vs-fact-regarding-the-hockey-stick/ Opinion: he has spent much effort to produce anti-science in an expensive book, but not in credible peer-reviewed journals, where his results would be stunning, if they stood up.

astronautics.usc.edu/research/climatechange.htm

The USC astronautics department is seeking funding for climate research.

"At the cutting edge of this new science is climate system dynamics in which observations are coupled with computer models that simulate the complex behavior of the ocean, land and atmospheric systems on various time scales. Consequently, advanced cyber infrastructures are an essential element of these evolving inter-disciplinary endeavors. This new science also requires new organizational structures that bring scientists from multiple disciplinary backgrounds and engineers together to work interactively and collaboratively. Traditional oceanographic or atmospheric programs are not necessarily well-equipped for such a challenge."

Contrib: Textron PAC 90-91, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=rapp&first=donald

Ned S. Rasor (E) 1927 2o, b, I

Consulting Physicist

Formerly President and CEO, Rasor Associates, Inc.

Member IEEE, AIAA

Fields: Nuclear; thermoelectric

Locations: MA; CA-SF Bay Area

Employers: Atomics International; Thermo Electron Engineering

Connections: ?

Notes: Atomics International, division of North American Aviation, Canoga Park, CA 1956-1960, at least Thermo Electron Engineering, MA paper 1964

Now in Cupertino, CA

Contrib: D79-83,

www.newsmeat.com/fec/bystate_detail.php?city=CUPERTINO&st=CA&last=rasor&first=ned

Richard T. Rauch (G) ???? 2o

NASA Stennis Space Center

Life Member APS, Associate Fellow AIAA

John E. Rhoads (B) 1945R 2o, fq, A

Professor of Physics

Midwestern State University (retired)

Member SPE

Fields: Astro; petroleum

Locations: TX; OK

Employers: OSU; El Paso Natural Gas; Schalk Oil (current:engineer), Wichita Falls

Connections: ?

Notes: Oklahoma State U (Stillwater); El Paso Natural Gas?; MSU.

prola.aps.org/abstract/PRB/v14/i8/p3583_1 1976 paper, OSU to El Paso Natural Gas

Difficult to locate; many JE Rhoads and JE Rhodes (including James E Rhodes, also astrophysicst); astro activities @ MSU;

SPE is (probably) Society of Petroleum Engineers; has done work in desalination near oil wells

Harry I. Ringermacher (B) 1947 1, uty, I

Sr. Research Physicist
 General Electric Global Research Center
 AIP "History of Physics in Industry" Participant at GE
 Sir William Herschel Medal (American Academy of Thermology)
 Copper Black Award (American Mensa) 2003 and 2007
Fields: NMR; imaging; lasers
Locations: NM; CT; NY-Eastern Upstate NY (Schenectady)
Employers: LANL; GE
Connections: APS-NES? (in CT 16 years)
Notes: Washington U St Louis Physics BS 1968, MS 1977, PhD 1980
 LANL (brief); West Point; NASA; United Technologies (Hartford 1981-1997); GE Schenectady 1997-
magazine.wustl.edu/Winter04/HarryRingrmacher.htm

Stanley Lunsford Robertson (B) 1944E 2g, q, A

Emeritus Professor of Physics
 Southwestern Oklahoma State University
Fields: Astro; neutron stars
Locations: OK
Employers: Southwest Oklahoma State U
Connections: ?
Notes: U of Oklahoma Astrophysics PhD 1969
 SWOSU papers 1999-2006
www.iop.org/EJ/article/1538-4357/517/2/L117/995107.web.pdf?request-id=5bd139ce-83ab-48ba-acb8-a61c0491e09b

Berol Robinson (B) 1924R 1, bX*, G

Principal Scientific Officer
 UNESCO (retired)
 Member AAPT, AAAS, Association des Écologistes Pour le Nucléaire
Fields: Nuclear
Locations: France; MA?
Employers: ?
Groups: EFN-USA, EFN0-Canada
Connections: **Cuttler**
Notes: Johns Hopkins U nuclear physics PhD, 1953
 UNESCO.
www.ecolo.org/base/baseus.htm Environmentalists for Nuclear Energy, President
www.ecolo.org/board/boardca.htm On Board
 This is odd: he has often written that nuclear emits no CO2; mentions driving Prius. Nuclear power folks ought to accept AGW, especially with James Hansen & others saying nuclear may be needed.
 Now in MA?

Daniel J. Rogers ???? 1

Staff Scientist
 Applied Information Sciences Department
 Johns Hopkins University Applied Physics Laboratory
 Member OSA
 Seems likely connection with **Kaplan**.

Robert C. Rohr (F) ????R 2g

Reactor Physicist
 Knolls Atomic Power Laboratory (retired)
 Former Adjunct Professor of Nuclear Engineering,
 Rensselaer Polytechnic Institute
ORNL papers 1949-1954
 1955 paper, U Tenn Knoxville, current address: Knolls Atomic Power Lab, Schenectady, NY.

Pipl: 1922, Schenectady. Almost certainly retired nuclear physicist from Manhattan Project days

Kelly R. Roos (F) ???? 2o

Professor of Physics
Bradley University
Surface /materials

John J. Ryan (I) 1961 1, , I

President
HEP Arts, Inc. (Advanced Software for IT)
Member AAAS, The Planetary Society
www.heparts.com/
www.heparts.com/people/jjr/jjr_page.html
Princeton Physics BA 1983, MIT Physics PhD 1991
First paper "CRYOGENIC PHOTON MASS EXPERIMENT" was with **Austin** in 1985.

Isaac C. Sanchez ???? 2o

William J. Murray, Jr. Chair in Engineering and Associate Chair
Department of Chemical Engineering, University of Texas at **Austin**
U.S. Department of Commerce Medals 1980, 1983
Edward U. Condon Award (NIST) 1983; SPE International Research Award 1996
Member National Academy of Engineering, Fellow APS

Raymond E. Sarwinski (E) 1936 2o, b, I

President, Cryogenic Designs, Inc.
Life Member APS
Fields: Cryogenics
Locations: CA-San Diego
Employers: General Atomics; Applied Superconetics
Connections: **Agnew** was Pres. General Atomics 1979-1984, may have overlapped?
Notes: Ohio State U papers 1966-1974; General Atomics, San Diego patents 1987-1989; Applied Superconetics, San Diego patents 1991-1995; Tristan, Technologies paper 2004.
May live in LaJolla.

Nicola Scafetta (B) 1956 4H, W*a*, A, 2

Research Scientist, Physics Department, Duke University
Fields: Statistics; solar
Locations: TX; NC
Employers: Duke
Connections: Often writes with **West**
Spoke Feb 11, 2009 @ UNCW (where **Alexanian** located); **Singer (NIPCC)**; **Heartland**.
Notes: Unviersita' di Pisa, IT Physics Laurea (Dottore) 1977; U of North Texas physics PhD 2001
Referenced **West** 16 times in dissertation, and his dissertation advisor, Grigolini, has co-authored many papers with **West**.
www.library.unt.edu/theses/open/20013/scafetta_nicola/index.htm
www.fel.duke.edu/~scafetta/
"Theoretical and applied statistics and nonlinear models of complex processes with applications in several fields. In particular I am currently studying solar and astronomical causes of climate change and modeling of physiological systems for diagnosing hypoxia and hyperoxia risk patients."
ruby.fgcu.edu/courses/twimberley/EnviroPhilo/WestArticleSolarHeating.pdf
Work supported by ARO (Army Research Office), where **West** works.
C.V.: Contributor, Author, Reviewer of **NIPCC** 2009 (**Heartland**)
Following (See talk Feb 26, 2009) basically asserts that most climate science is wrong, it's mostly the Sun, and maybe (Rhodes Fairbridge) movements of the planets making the Sun wobble:

yosemite.epa.gov/ee/epa/eed.nsf/5d2662e86b2ebff485256c2c005406b3/d314e13abf2421a285257601005a63d1!OpenDocument

This has moved once, so visit EPA Home Page and search.

* **Climate publications:** some; sometimes refuted fairly quickly.

Climate papers from C.V.:

2003 (1), 2004 (1), 2005 (1), 2006 (2), 2007 (1), 2008 (2), 2009 (3), not counting letters.

2006 papers are discussed:

www.realclimate.org/index.php/archives/2006/03/solar-variability-statistics-vs-physics-2nd-round/

"They also argue that their estimate, which is based on statistical models only, has a major advantage over physically based considerations (theoretical models), because the latter would require a perfect knowledge about the underlying physical and chemical mechanisms."

2007 paper discussions:

www.realclimate.org/index.php/archives/2006/10/how-not-to-attribute-climate-change/

www.realclimate.org/index.php/archives/2007/11/a-phenomenological-sequel/

tamino.wordpress.com/2008/04/05/stalking-the-elusive-solar-cycle-temperature-connection/

2009 paper discussions:

www.realclimate.org/index.php/archives/2009/05/acrim-vs-pmod/

Arguments about variations in solar irradiance and the amount of warming thereby created are reasonable science; arguing that "it's mostly the Sun" simply ignores the well-understood behavior of Greenhouse gasses, and signing up with **Heartland** and helping write **NIPCC** are not credibility-enhancers for a young researcher..He is unusual in having been a contributor to **Heartland/Singer's** 2008 **NIPCC** report <R#>, without also being a **Heartland** "climate expert", as of 10/04/09.

scholar.google.ca/scholar?q=author:N-Scafetta+climate

Articles are rarely cited, and sometimes only to refute.

Opinion: he is a fairly new PhD from outside climate science, trying hard to make his mark by offering "new theories" that disprove the mainstream viewpoints, mostly by statistical analysis, a possible case of the "data mining fallacy".

Frederick Seitz (X) 1911-2008 **5GHQ, A*V*k, GA**

Fields: Solid state, nuclear-related

Locations: CA; NJ; NY

Employers: Rockefeller U President 1968-1978; **GMI** Cofounder 1984

Connections: **Jastrow**; **Nierenberg**; **Nichols** (@ Rockefeller 1970-1990); other **GMI**

Agnew (committee).

Notes: Pre-minent solid-state physicist, but later cigarette consulting; wrote cover letter for **OISM**.

en.wikipedia.org/wiki/Frederick_Seitz

www.sourcewatch.org/index.php?title=Frederick_Seitz

Wrote article for **Heartland**, 2001:

www.heartland.org/policybot/results/812/Do_people_cause_global_warming.html

Contrib: D79, R94-02, www.newsmeat.com/fec/bystate_detail.php?st=NY&last=seitz&first=frederick

Mark D. Semon (G) ???? 2g

Professor, Department of Physics and Astronomy

Bates College

Member American Academy of Forensic Scientists, American College of Forensic Examiners

Lewiston, Maine

Thomas P. Sheahan (B) 1941 3gc, IR*s, G

President/ CEO, Western Technology, Inc. (energy sciences consulting)

Member AAAS; APS Congressional Science Fellowship (1977-78)

Author, Introduction to High Temperature Superconductivity (Springer)

Fields: Superconductivity; cryogenics, nuclear

Locations: IL; MD

Employers: DOE-ANL; NREL; SAIC; ITEST

Connections: Wrote at least one paper with **Grant** (2002).

Speculative cryogenics connection; in 1966 referenced **Giaever**, would certainly know his work.

*Speculative; possible science/religion connection with **Alexanian, Tipler.***

*Speculative: **Depp, Oehler, Payton: SAIC.***

Notes: MIT BS 1962, PhD 1966

Bell Labs; NBS; DOE-Argonne National Lab 1988-1992; NREL; SAIC (at least in 2002)

www.umresearch.umd.edu/sigma/Fall2006_meeting.pdf

www.faiithscience.org/about.html

www.faiithscience.org/Articles/Articles%20Pdfs/SHEAH001.pdf

arxiv.org/abs/cond-mat/0202386

climaterealist.com/index.php?id=2092

www.lavoisier.com.au/articles/climate-policy/garnaut/GarnautsubappxA.pdf (2007)

“Dr. Thomas P. Sheahen, an MIT educated physicist, author of the book *An Introduction to High-Temperature Superconductivity*, and writer of the popular newspaper column “Ask the Everyday Scientist,” dismisses the idea of a “consensus” on man-made global warming. “We must all remember that scientific truth is not determined by popular vote. The [UN] IPCC is severely tainted by politics,” Sheahen wrote to EPW on June 11, 2007. “No one disputes that the Earth has been warming over the last 150 years. The controversy is over whether it’s natural or anthropogenic (AGW),” he added. “I have done computer modeling of physical and chemical phenomena, and I know two things very well: first, your outputs will always be conditioned by the input assumptions you make at the front end; and second, data *always* trumps theory. For a model to be valid, it has to match the data. Given the observations of temperature variations during the 20th century, you really can’t make the case that mankind caused such erratic temperature swings,” Sheahen concluded.”

Contrib: R96-06, Alan Keyes 00. Keyes: en.wikipedia.org/wiki/Alan_Keyes, “Obama citizenship”,

www.latimes.com/media/acrobat/2009-10/50159006.pdf Keyes was a plaintiff.

www.newsmeat.com/fec/bystate_detail.php?st=MD&last=sheahen&first=thomas

Arnold J. Sierk (E) 1947 2_o, n, G

Technical Staff Member Theoretical Division Los Alamos National Laboratory

Fellow APS

Fields: Nuclear

Locations: NM

Employers: LANL

Connections: ?

Notes: Caltech+LANL papers 1976-1978; papers with ORNL.

Joseph Silverman (B) 1922E 2_{om}, ?, A

Professor Emeritus of Nuclear Engineering,

Department of Materials Science and Engineering

University of Maryland

Fellow APS, ANS

Fields: Nuclear

Locations: MD

Employers: U of MD

Connections: ?

Notes: CUNY-Brooklyn BA 1944; Columbia MA 1948, PhD 1951

Nuclear engineering

www.gradschool.umd.edu/catalog/faculty/ennu.htm

local.ans.org/dc/news/2007may.pdf 2007: shows 50-year members

Hard to find; J Silverman, numerous.

James D. Simpson ????R 2_o, , G

Senior Scientist

Argonne National Laboratory (retired)

Fellow APS

PhD 1967, U of IL

scholar.google.com/scholar?hl=en&q=jd+simpson+argonne&btnG=Search&as_ylo=&as_vis=0

Now in AZ, counted there, but could well have been IL, long career at ANL.

S. Fred Singer (A) 1924E 5GHqM, qN*O*C#G#R#S#A%, GA, 1

Professor of Environmental Sciences Emeritus

University of Virginia

First Director of the National Weather Satellite Service

Fellow APS, AAAS, American Geophysical Union

Fields: Space, atmospheric (long ago)

Locations: VA and elsewhere

Employers: **SEPP** (since 1990), i.e., he and his wife, primarily

Connections: Too many to list, but especially strong with **GMI**, **Heartland**; **SEPP**; ACSH (**Enstrom & Nichols**); **CATO**; NCPA; *Frontiers of Freedom*; NRSP. **Starr** was on his board, and together wrote the **Singer**, (Revelle), and **Starr** article for *Cosmos*, just before Revelle's death, a somewhat murky affair.

As of 9/25/09, **SEPP** Board lists **Seitz**, Charles Gelman, David L. Hill (nuclear-LANL, etc), Board of Scientific Advisors still includes **Nierenberg**, **Starr**, C.J.F. Bottcher (Netherlands) and Tor Ragnar Gerholm (U Of Stockholm). Spoke at **Stilbs'** 2006 Stockholm Conference, with **Baliunas**, **Soon**. Overlapped with **Michaels** @ UVa.

Notes: Ohio State; Princeton PhD (1948)

Really: **SEPP** since 1990, as not been at UVa for years.

[www.sourcewatch.org/index.php?title=S. Fred Singer](http://www.sourcewatch.org/index.php?title=S._Fred_Singer)

Scientific Advisor for ACSH (American Council on Science and Health).

He was involved with the 1982 Acid Rain Peer Review Panel (run by **Nierenberg**), weakening the recommendations, fought CFC regulation later.

Has organized petitions often. See **[HOG2009]**, Chapter 8, especially:

"Statement by Atmospheric Scientists on Greenhouse Warming", 1992

"Heidelberg Appeal", 1992

Leipzig Declaration", 1995, 1997, 2005

www.sepp.org/policy%20declarations/statment.html

www.sepp.org/policy%20declarations/heidelberg_appeal.html

en.wikipedia.org/wiki/Leipzig_Declaration

***Climate publications:** not much in last few decades; several books; a few papers. Books include "Hot Talk, Cold Science" and with Dennis Avery "Unstoppable Global Warming - Every 1,500 Years

Tobacco: see: **TASSC**, and "Tobacco Industry Contractor" (especially 1993-1996) in:

[www.sourcewatch.org/index.php?title=S. Fred Singer](http://www.sourcewatch.org/index.php?title=S._Fred_Singer)

legacy.library.ucsf.edu/tid/pwc42f00

www.sourcewatch.org/index.php?title=Science%2C_economics%2C_and_environmental_policy:_a_critical_examination

He also was lead author on "The EPA and the Science of Environmental Tobacco Smoke", 1994., legacy.library.ucsf.edu/tid/ech40c00/pdf?search=%22singer%20jeffreys%20epa%20environmental%20smoke%22

Contrib: R05-08,

www.newsmeat.com/fec/bystate_detail.php?city=ARLINGTON&st=VA&last=singer&first=fred

Frans W. Sluijter (F) ?????E 3, A%, A

Professor, Department of Applied Physics

Eindhoven University of Technology

Former Chair, Plasma Physics Division, European Physics Society

Former Vice President, International Union of Pure and Applied Physics

Member Dutch Physical Society, Institute of Physics UK

Singer contact, *Heidelberg Appeal* (Netherlands):

jules-klimaat.blogspot.com/2009/10/heidelberg-appeal-nederland.html

John R. Smith (G) ???? 1

Project Physicist, Experimental High Energy Physics

Department of Physics

University of California, Davis

Life Member APS

www.physics.ucdavis.edu/ehep/people/smith/

Contrib: D04 (MoveON PAC?), R04, Bush '04

www.newsmeat.com/fec/bystate_detail.php?city=DAVIS&st=CA&last=smith&first=john

Willie H. Soon (X) 1966 4GHQ, QG*T*G#J#Y#j*, A, 1

Harvard-Smithsonian Center for Astrophysics

Fields: Astrophysics

Locations: CA; MA

Employers: Harvard-Smithsonian Center for Astrophysics (H-S cFa)

Connections: Often writes with **Baliunas**. Advisor to **GMI**, **SPPI**; has written for Fraser Institute, **Heartland**; co-authored **OISM** report.

Soon coauthored at least 7 papers (1989-1992) with thesis advisor **Kunc @ USC**.

Notes: USC aerospace engineering PhD 1991

en.wikipedia.org/wiki/Willie_Soon

www.sourcewatch.org/index.php?title=Willie_Soon

Roy W Spencer (X) 1956 4GHoMc, q, A, 2

NASA; U of Alabama, Huntsville

Fields: Climatology

Locations: AL

Employers: NASA; UAH

Connections: Writes with **Christy**, including 1990 **GMI** paper, Director **GMI**. Answered questions for **Alexander**. Speculative: possible creationism connection with **Alexanian**.

Notes: U of Michigan atmospheric sciences BS 1978, U Wisconsin meteorology PhD 1981.

NASA Marshall -1991, then UAH.

www.drroyspencer.com/

en.wikipedia.org/wiki/Roy_Spencer_%28scientist%29

theevolutioncrisis.org.uk/testimony2.php

Robert L. Sproull (X) 1920R 4G, Rkdy, AG

Cornell; Rochester

Fields: Atomic & Solid state

Locations: NY-Upstate West

Employers: Cornell; DARPA (1963-64); Cornell; U of Rochester 1968-

Connections: **Jastrow**, **Nierenberg**, **Seitz**, **Nichols (via GMI)**. Surely knew **Douglass**, **Knox** at UofR.

Notes: Cornell PhD

Cornell paper 1943, then at RCA, Princeton, then back at Cornell

prola.aps.org/abstract/PR/v67/i5-6/p166_1

prola.aps.org/search/field/author/Sproull_R_L

U of Rochester: provost 1968-1970, VP 1971-1975, President 1975-1984.

Retired 1985, Professor Physics.

en.wikipedia.org/wiki/Robert_Sproull

www.rochester.edu/gradstudies/sproull.html

In 1996, was **Chairman of GMI**, and consulted for paper in 2001 with Arking (JHU), Cooper (Harvard), **Happer** (Princeton), Legates (Delaware), Lindzen (MIT), **Nichols** (NYAS), **Schlesinger** (Defense), Sedjo (RFF). Was listed as Emeritus Professor.

Listed as co-author with **Schlesinger**:

www.marshall.org/pdf/materials/86.pdf

Was on **GMI** Board 2002-2008, certainly earlier.

Chauncey Starr (X) 1912-2007 4Go, EZ*f*bj, GI

ORNL; Rockwell-Atomic International; UCLA; **EPRI**

Fields: Nuclear power; risk analysis

Locations: TN; CA-Los Angeles; CA-SF Bay Area

Employers: **ORNL** (Manhattan Project); Rockwell-Atomic International; UCLA; **EPRI**

Connections: Seitz (old associate); GMI (Starr was Director); Nierenberg (Dir @ EPRI).

He and Lewis were both American Nuclear Society award winners.

Grant (via EPRI, wrote articles together).

On Board of Science Advisors for Fred Singer's SEPP,

Cowrote paper with Singer and (Revelle (not really, murky))

Notes: Rensselaer BS EE 1932, physics PhD 1935. Possible Giaever connection?

en.wikipedia.org/wiki/Chauncey_Starr

www.rpi.edu/about/hof/starr.html

www.sourcewatch.org/index.php?title=Chauncey_Starr

Contrib: R01-02, www.newsmeat.com/fec/bystate_detail.php?st=CA&last=starr&first=chauncey

Hermann Statz (D) 1928R 2₀, vtC*, I

Raytheon Corporation (retired)

MicroWave Pioneer Award (IEEE) 2004 Fellow APS

Fields: microWaves; lasers; electronics engineering (NAE 1991)

Locations: MA

Employers: Raytheon

Connections: Multiple papers with Aisenberg; AES-NES

Notes: U Stuttgart Dipl Physiker; Technische Hochschule Stuttgart physics PhD 1951

Raytheon (1953-1989, at least)

www.nae.edu/nae/naepub.nsf/Members+By+UNID/675354F4C4C63EB386257552006B34B2?opendocument

Nick Steph (B) 1947 1, ?, A

Chair, Department of Physics Franklin College

Member AAPT, ACS

Fields: Atomic, molecular, optical physics; electronics; astronomy; history/philosophy of science

Locations: many; IN

Employers: US Army; Franklin College

Connections: ?

Notes: U of Southern Colorado Biology BS (1969); US Army Security Agency (1969-1972); U of Oklahoma, Norman Physics MS (1978), PhD (1979)

Lake Forest College (1984-1988); Franklin College (Indiana) (1988-)

www.franklincollege.edu/pwp/stephn/

www.franklincollege.edu/pwp/stephn/resume.htm

Peter Stilbs (D) 1945 4, G#S#, A

Professor of Physical Chemistry

Royal Institute of Technology (KTH), Stockholm, Sweden

Life Member APS

Fields: Nuclear magnetic resonance

Locations: Sweden

Employers: Royal Institute of Technology (KTH)

Connections: Wrote article with Singer; Organized 2006 Conference including Baliunas, Singer, Soon.

Notes: Lund U Chemistry BS 1969, Physical Chemistry PhD 1974

Uppsala U 1976-1982; on leave @ U of Bergen 1980, 1986; KTH 1986-

gamma.physchem.kth.se/~peter/

gamma.physchem.kth.se/~peter/cvwww.htm

en.wikipedia.org/wiki/Peter_Stilbs

gamma.physchem.kth.se/~climate/ (Organizing chairman, 2006 conference)

gamma.physchem.kth.se/~climate/speakers.htm (speakers there)

Organized **Stockholm2006**: "Global Warming-Scientific Controversies in Climate Variability"

Norman D. Stockwell (E) 1941R 2₀, acc*, I

Senior Project Engineer, TRW (retired)

Former Member of the Technical Staff, The Aerospace Corporation

Life Member APS, Member AAAS

Fields: Optics? defense

Locations: CA-Los Angeles

Employers: The Aerospace Corporation; TRW

Connections: **Bevc? Mirels?** (via Aerospace Corp)

Notes: 1816 Armour Ln Redondo Beach.

en.wikipedia.org/wiki/The_Aerospace_Corporation

Thomas F. Stratton (E) 1930R 1, nA#, G

Fellow, Los Alamos National Laboratory (retired)

Fellow APS

Fields: Plasmas

Locations: NM

Employers: LANL; almost certainly **Sumner Associates**

Connections: **Giovanielli**, via **Sumner Associates**

Notes: U of Minnesota paper 1955 (then LANL); LANL papers 1960-
AKA Thomas Fairlamb Stratton.

www.sumnerassociates.com/sumnerofficers.html

William R. Stratton (F) ????R 2q

Scientific Staff Member

Los Alamos National Laboratory (retired)

Member AEC Advisory Committee on Reactor Safety

Chair ANS Nuclear Reactor Accident Study

Fellow ANS

Would plausibly know **Starr**, **Lewis** and/or **Mansfield** plus other **LANL** people.

Szymon Suckewer (B) 1943 2o, P, A

Professor of School of Engineering & Applied Sciences

Director of Plasma Science & Technology Program

Princeton University

Fellow APS, OSA

Fields: plasma; lasers

Locations: NJ-Princeton

Employers: Princeton

Connections: **Austin** is on Exec Committee for Princeton PRISM; **Austin**, **Suckewer**, **Torquato** all faculty for PRISM. Likely knows **Happer**. Connection with **Kunc?** – sometimes cited together; both APS Plasma Physics Fellows; Might know **Kaplan** (Russian; lasers; both OSA Fellows)?

Notes: Moscow State U MS 1962, PhD/Dsc Warsaw U 1971; Princeton U 1975-
Mechanical and Aerospace Engineering

www.princeton.edu/mae/people/faculty/suckewer/

www.princeton.edu/mae/people/faculty/suckewer/homepage/

Energy Faculty:Nuclear Energy: www.princeton.edu/mae/energy-environment/energy-faculty/

PRISM: www.princeton.edu/prism/people/faculty-1/

Ronald M. Sundelin (C) 1939R , 2o, jH*, aG

Associate Director, DOE Thomas Jefferson National Accelerator Facility (retired)

Commonwealth Professor Emeritus of Physics, Virginia Tech

Fellow APS

Fields: Nuclear; electron-beams

Locations: PA; NY; VA-Newport News

Employers: **Carnegie Mellon U; Cornell U; JLab**

Connections: **Berman; Bodek?**

Notes: Carnegie-Mellon U; Cornell U; DOE-JLab

www.directory.unirel.vt.edu/sub-departments.php?department=Physics

www.osti.gov/energycitations/searchresults.jsp?Author=%22Sundelin,%20R.M.%22

Carnegie papers 1967-1970 (at least)
Cornell papers 1974-1985 (at least)
Newport News CEBAF 1986- (became Jefferson Lab, DOE-JLab); retired 2002.

Andrei Szilagy (H)

Formerly Chief Scientist, Aura Systems, Inc. Chief Technologist, Radiant Technology Corporation Chief Scientist, NanoMuscle Inc. Member MRS, Electrochemical Society, TMS – The Minerals, Metals, and Materials Society
AB Harvard, PhD MIT
www.linkedin.com/in/szilagy
Consultant, inventor.

Willard L. Talbert (E) 1932R 1, n, G

Scientific Consultant (1993-present)
Scientific Staff Member, Los Alamos National Laboratory, 1976-1993 (retired)
Professor of Physics, Iowa State University (1961-1976)
Fellow APS
Fields: Nuclear
Locations: NM
Employers: LANL
Connections: ?
Notes: Iowa State lists donors as '52. AKA Willard Lindley Talbert.

Lu Ting (F) ?????E 2o

Professor Emeritus of Mathematics
Courant Institute of Mathematical Sciences, New York University
Lead Author, Vortex Dominated Flows (Applied Mathematical Sciences, Springer)
Member SIAM, AIAA, AAM

Frank J. Tipler (B) 1947 3om, qW#, A

Professor of Mathematical Physics
Tulane University
Co-author, The Anthropic Cosmological Principle (Oxford U. Press)
Fields: Mathematical physics; cosmology
Locations: CA; TX; LA
Employers: UC Berkeley; U of TX; Tulane U
Connections: Possible indirect connections with **Alexanian** and **Sheahen** via science/religion.
Jastrow reviewed Barrow and **Tipler's** "The Anthropic Cosmological Principle" and called it a "Tour de Force", and they surely would have known each other.

www.math.tulane.edu/~tipler/anthropic.htm

Notes: MIT SB 1965-1969; U of MD PhD 1976
UC Berkeley 1976-1979; UT **Austin** 1979-1981; Tulane U 1981-

www.math.tulane.edu/faculty/tipler.html

math.tulane.edu/~tipler/

climaterealist.com/index.php?tid=110&linkbox=true March 19, 2009

"Anthropogenic Global Warming (AGW) is a scam, with no basis in science.....It is obvious that anthropogenic global warming is not science at all, because a scientific theory makes non-obvious predictions which are then compared with observations that the average person can check for himself. As we both know from our own observations, AGW theory has spectacularly failed to do this. The theory has predicted steadily increasing global temperatures, and this has been refuted by experience. NOW the global warmers claim that the Earth will enter a cooling period. In other words, whether the ice caps melt, or expand --- whatever happens --- the AGW theorists claim it confirms their theory. A perfect example of a pseudoscience like astrology."

climaterealist.com/index.php?id=2899 Feb 28, 2009

"Once again, the data is being adjusted to confirm the establishment theory: humans are responsible for global warming. In actual fact, satellite observations show that the Earth is now cooling, and has been cooling for about 10 years."

Contrib: *Libertarian 82, R96-08 (Forbes, Bush, McCain),*
www.newsmeat.com/fec/bystate_detail.php?st=LA&last=tipler&first=frank

Salvatore Torquato (B) 1954 1, P, A (missing in (D)), back in (E)
 Professor of Chemistry and the Princeton Center for Theoretical Science,
 Materials Institute and Applied & Computational Mathematics
 Princeton University
 2009 APS David Alder Lectureship Award in the Field of Material Physics
 Fellow APS

Fields: *materials; imaging*

Locations: *NJ-Princeton*

Employers: *Princeton*

Connections: *Austin is on Exec Committee for PRISM; Suckewer involved also;*

Notes: *Syracuse U MechEng BS 1975; SUNY Stony Brook MechEng MS 1977, PhD 1981
 General Motors, MI paper1982; North Carolina State U (MechEng) 1983-1992; Princeton 1993-
 IAS(Princeton) 2003-2004.*

cherrypit.princeton.edu/sal.html

www.princeton.edu/pr/catalog/gsa/06/351.htm PRISM connection with **Austin**

Rusty S. Towell (F) ???? 1

Professor of Physics
 Abilene Christian University
 Member IEEE
Collaborating with BNL, Fermilab, LANL 1969.

Edward S. Troy (D) 1952 1, v, I

Principal Engineer Aerospace Consulting Wireless, RF, microWave, analog/DSP, and GPS circuits and systems Member IEEE

Fields: *Electronics engineering*

Locations: *PA*

Employers: *self*

Connections: *?*

Notes: *Lehigh BSEE 1975, MSEE 1997; "PhD level research in electrical engineering at Lehigh".*

www.aeroconsult.com/cresume.pdf

GS: no publications found for es troy. No mention of APS membership, may have been past member.

William B. Walters (F) ???? 2o

Professor of Chemistry and Biochemistry, University of Maryland
 John Simon Guggenheim Fellow (1986)
 ACS Award in Nuclear Chemistry (2001)
Alexander von Humboldt Senior Fellow, University of Mainz (2002)
 Life Member APS, Member ACS

Contrib: *R98-09*

www.newsmeat.com/fec/bystate_detail.php?city=College+Park&st=MD&last=walters&first=william

Samuel A. Werner (B) 1937E 2o, S*, iA

Curators' Professor Emeritus
 The University of Missouri, *Columbia*
 Guest Researcher, NIST
 Fellow APS, AAAS

Fields: *Nuclear; Neutron interferometry.*

Locations: *MI; MO; MD (NIST)*

Employers: *Ford; U of MO*

Connections: *Chaired 1993 panel, of which Kaldor was member (weak, but possible); ANL?*

Was in Physics at U of MO, vaguely- possible connection with Anthony Lupo (a Heartland "expert"), who works in different department and building, but nearby.

Notes: U of Michigan PhD ~1965

-1965 U of Michigan (Nuclear engineering); ~1965-1975 Ford Motor; ~1975- U of Mo, Columbia
Work with Argonne National Laboratory

books.nap.edu/openbook.php?record_id=9192&page=113

prola.aps.org/search/field/author/Werner_S_A

Bruce J. West (B) 1943 3, rdW, aG, 2*

Adjunct Professor of Physics, Duke University (really: Army Research Laboratory, RTP)

Fellow APS

Fields: statistics; solar; defense

Locations: NY-Rochester; CA; TX; NC

Employers: LaJolla Institute; U of N TX; US ARMY

Groups: NYAS; AGU; APS; AAAS

Connections: **Scafetta**, would have known @ U of N TX.

Surely knows U of Rochester **Knox** and **Douglass**, who were there when he was doing PhD.

Possibly might have known **Nierenberg** (@ Scripps in LaJolla, 1965-1986), given overlap 1979-1989.

***Climate publications:** some, often with **Scafetta** (but often refuted quickly; see **Scafetta** discussion.)

Notes: SUNY Buffalo physics BS 1965; U Rochester Physics MS 1967 PhD 1970; La Jolla Institute 1976-1989; U of N Texas (1989-1999)

Primarily employed by US Army Research Laboratory (ARL), RTP (1999-): Duke listing gives phone number @ Army site, not @ Duke.

fds.duke.edu/db/aas/Physics/west

[www.google.com/url?sa=t&source=web&ct=res&cd=1&url=http%3A%2F%2Fmechatronics.ece.usu.edu%2Ffoc%2Fevent%2FFOC_Day%40USU%2F2009_files%2FWEST%2520ST%2520BIOGRAPH%2520for%2520CSLMO%2520\(2\).doc&ei=076DSsGIMo2msgP5wfiWBw&usq=AFQjCNHT0f18bR-c7BI_PSwwTJVI_WPVnCW&sig2=mjfhqs5JEp5vPKgOlr59Ww](http://www.google.com/url?sa=t&source=web&ct=res&cd=1&url=http%3A%2F%2Fmechatronics.ece.usu.edu%2Ffoc%2Fevent%2FFOC_Day%40USU%2F2009_files%2FWEST%2520ST%2520BIOGRAPH%2520for%2520CSLMO%2520(2).doc&ei=076DSsGIMo2msgP5wfiWBw&usq=AFQjCNHT0f18bR-c7BI_PSwwTJVI_WPVnCW&sig2=mjfhqs5JEp5vPKgOlr59Ww)

www.24-7pressrelease.com/press-release/bruce-j-west-recognized-for-excellence-in-mathematics-107528.php

www.wired.com/dangerroom/2008/06/army-vs-global/

Early papers with Goode, Siegel, Koltun @ U of Rochester

John B. West ???? 1, , G

Daresbury Laboratory

Fellow APS, Member Institute of Physics, UK

Edward L. Wills ????E 1, , A

Research Associate Professor Emeritus

Department of Physics

University of Alabama at Birmingham

www.phy.uab.edu/~wills/

Connections: **Harrison** (@ same UofA location)

Spectrometers; work with Johnson Spacecraft Center.

Peter J. Wojtowicz (D) 1931R I, 1, pL *, I

Group Head, Senior Member Technical Staff (retired) RCA Labs, GE,

Sarnoff Corporation Fellow APS

Fields: Electronics

Locations: NJ-Princeton (and currently)

Employers: RCA (Princeton); GE

Connections: **RW Cohen**

Notes: (Probably Rutgers 1949-1953) Chemistry BS; PhD; joined RCA Sarnoff in 1957

books.google.com/books?id=RBRrhjFtBNoC&pg=PA116&dq=peter+wojtowicz+sarnoff&ei=eKeLSsWwGpPOIQSP65ieCg#v=onepage&q=&f=falseCategories

Shows picture of Wojtowicz @ RCA Labs 1975, with Cody, Abeles, **Cohen**; latter group often coauthored papers in 1970s.

Ya-Hong Xie (E) 1959 2o, ws, IA

Professor of Materials Science and Engineering University of California at Los Angeles
Senior Member IEEE, Member Materials Research Society

Fields: *Materials; semiconductor research*

Locations: *CA-Los Angeles*

Employers: *Bell Labs; UCLA*

Connections: ?

Notes: *Purdue U BS Physics 1981, MS EE 1983, PhD EE 1986*

MTS Bell Labs 1986-1999, i.e. New jersey

www.seas.ucla.edu/ms/faculty1/xie.html

M. John Yoder (D) 1945 1, vt, I

Principal Physicist The MITRE Corporation
Life Member APS

Fields: *Defense (anti-missile); lasers; radar*

Locations: *MA*

Employers: *Avco-Everett; MITRE*

Connections: *APS-NES*

Notes: *U of Michigan Physics 1971 paper*

U of Michigan Avco-Everett Research Laboratory, Everett, MA 1975-1979 at least

adsabs.harvard.edu/abs/1989SPIE..999...72Y.1988, *lasers, radar, MITRE*

www.mitre.org/news/the_edge/spring_06/shi.html

AKA Marvel J. Yoder

Michael Zaezjev 1962 1, , A

Energy, Materials, and Telecommunications Center
Institute National de la Recherche Scientifique, Varrennes, Canada
Quebec

Claude Zeller (G) 1941 2o

Principal Fellow
Pitney Bowles Inc.

Member IEEE

Notes: *PhD Solid-State Physics, 1963-1968 Universite Henri Poincare (Nancy 1)*

www.linkedin.com/in/czeller

Many patents @ Pitney-Bowes, printing & imaging.

Martin V. Zombeck (D) 1936R A, 2o, Qt, A

Physicist, Harvard-Smithsonian Center for Astrophysics (retired)

Author, Handbook of Space Astronomy and Astrophysics (Cambridge University Press)

Coauthor, High Resolution X-Ray Spectroscopy of Cosmic Plasmas (Cambridge University Press)

Fields: *Astrophysics, X-ray technology*

Locations: *MA; FL*

Employers: *Harvard-Smithsonian*

Connections: *Would certainly have known Soon and Baliunas; overlap with Lombardi*

Notes: *MIT BS 1957, Physics PhD 1969.*

Harvard-Smithsonian Center apparently since 1975 or before