
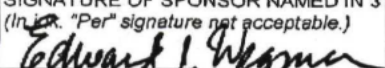



Progress Report Scanning Cover Sheet

5F32AA015876-02

PI Name: SAID, YASMIN
Org: GEORGE MASON UNIVERSITY
Start Date: 05/26/2007
Snap: Y
Appl ID: 7238639
Rec'd Date: 07/27/2007

Department of Health and Human Services Public Health Service Ruth L. Kirschstein National Research Service Award Individual Fellowship Progress Report <i>Follow instructions carefully</i>		Review Group Type 5 Activity F32 AHI 5876-02 Fellowship Number
Total Project Period From: 05/25/2006 Through: 05/24/2009		Requested Budget Period From: 05/25/2007 Through: 05/24/2008
1. TITLE OF RESEARCH TRAINING PROPOSAL A Social Network Model of Ecological Alcohol Systems		
2a. FELLOW (Name and address, street, city, state, zip code) Yasmin H. Said [REDACTED] [REDACTED]		2b. FELLOW'S E-MAIL ADDRESS [REDACTED] 2c. DEPARTMENT, SERVICE, LABORATORY, OR EQUIVALENT Department of Computational and Data Sciences 2d. MAJOR SUBDIVISION SCHOOL OF COMPUTATIONAL SCIENCES
3a. NAME OF SPONSOR Edward J. Wegman		3b. SPONSOR'S E-MAIL ADDRESS [REDACTED]
4. SPONSORING INSTITUTION (Name and address, street, city, state, zip code) George Mason University 4400 University Drive Fairfax, VA 22030-4444		6a. TITLE AND ADDRESS OF OFFICIAL IN SPONSORING INSTITUTION BUSINESS OFFICE Michael Laskofski 4400 University Drive, MS4C6 Fairfax, VA 220304444 6b. E-MAIL ADDRESS: mlaskofs@gmu.edu
5. ENTITY IDENTIFICATION NO. [REDACTED]		8. VERTEBRATE ANIMALS <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES 8a. If "Yes," IACUC approval date
7. HUMAN SUBJECTS <input type="checkbox"/> NO <input type="checkbox"/> YES 7a. Research Exempt <input type="checkbox"/> NO <input type="checkbox"/> YES If Exempt ("Yes" in 7a): Exemption No. _____ If Not Exempt ("No" in 7a): <input type="checkbox"/> Full IRB or <input type="checkbox"/> Expedited Review		8b. Animal welfare assurance no.
7b. Human Subjects Assurance No.		7c. NIH Defined Phase III Clinical Trial <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
10. NAME AND TITLE OF OFFICIAL SIGNING FOR APPLICANT ORGANIZATION (Item 14) NAME Michael Laskofski TITLE Interim Director, OSP TEL 703/993-4573 FAX 703/993-2296 E-MAIL mlaskofs@gmu.edu		9. TRAINING SITE(S) (Organizations and addresses) Additional site: Buffalo State - SUNY Center for Health and Social Research 1300 Elmwood Avenue, Buffalo, NY 14222 11. FELLOW'S TELEPHONE INFORMATION OFFICE (703) 993-9685 FAX (703) 993-9300 HOME [REDACTED]
12. CORRECTIONS (Items 1 - 6)		
ASSURANCES/CERTIFICATIONS: The following assurances/certifications are verified by your signature in Item 13. See Section II.A., Specific Instructions for the Fellow, for further information. If unable to certify compliance, provide an explanation and place it after this page. • Debarment and Suspension • Delinquent Federal Debt.		
13. CERTIFICATION AND ACCEPTANCE: I certify that the statements herein are true, complete, and accurate to the best of my knowledge, and I agree to comply with the Public Health Service terms and conditions if an award is issued as a result of this report. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. I certify that the award will not support residency training.		
SIGNATURE OF FELLOW NAMED IN ITEM 2. 		DATE July 24, 2007
14. SPONSOR AND SPONSORING ORGANIZATION CERTIFICATION AND ACCEPTANCE: We, the undersigned, certify that the statements herein are true, complete, and accurate to the best of our knowledge. If this application results in an award, appropriate training, adequate facilities, and supervision will be provided, and we accept the obligation to comply with the Public Health Service terms and conditions of award. We are aware that any false, fictitious, or fraudulent statement or claim may subject us to criminal, civil, or administrative penalties.		
SIGNATURE OF SPONSOR NAMED IN 3 (In ink. "Per" signature not acceptable.) 		DATE July 24, 2007
SIGNATURE OF OFFICIAL NAMED IN 10. (In ink. "Per" signature not acceptable.) 		DATE July 24, 2007

**Ruth L. Kirschstein National Research Service Award
Individual Fellowship Progress Report for
Continuation Support**

FELLOWSHIP NUMBER
1 F32 AA 15876-02

15a. PERMANENT MAILING ADDRESS OF FELLOW (Street, city, state, zip code)

[REDACTED]
[REDACTED]

15b. PERMANENT PHONE NUMBER

[REDACTED]

16. Human subjects and vertebrate animals (see instructions)

A. Human Subjects (Complete Item 7 on the Face Page)

Use of Human Subjects ☐ Change ☒ No Change Since Previous Submission

B. Vertebrate Animals (Complete Item 8 on the Face Page)

Use of Vertebrate Animals ☐ Change ☒ No Change Since Previous Submission

WOMEN AND MINORITY INCLUSION IN CLINICAL RESEARCH

See PHS 416-1 Instructions. Use Inclusion Enrollment Report Format Page and, if necessary, Targeted/Planned Enrollment Format Page.

17. SUMMARY OF ACTIVITIES (Use continuation pages. Do not exceed 3 pages.)

A. CHANGES

Since submission of the last application/progress report, have any significant changes occurred in the training program, particularly the research project, academic status, or time distribution of activities (i.e., percentage of time devoted to research project, course work, teaching, etc.)? If so, explain.

B. PROGRESS

Describe concisely the research performed and research training obtained during the past year. List all courses and publications. Complete the Gender and Minority Inclusion table(s) (see below), if applicable.

C. RESEARCH TRAINING PLANS

Describe concisely the research and research training planned for the requested budget period, including any course work.

A: CHANGES

The major change has been associated with classroom coursework. Because of a limitation of funds available to take formal coursework, I have had to take coursework informally. I have sat in on CSS 692, and CSS 645 as planned. I have written two papers on social network analysis. I have also spent three weeks at Buffalo State with Dr. Wieczorek as planned and have made extensive use of training at conference venues. The theme of my research project and my academic status are unchanged. I have spent somewhat more time on research and somewhat less time on formal classroom instruction. I have not been doing any formal teaching.

B: PROGRESS

TRAINING: I have been intensively studying materials relevant to the F32 proposal. I spent the period September 17 through October 1 in the Center for Health and Social Research at Buffalo State University. Specifically I worked with my mentors, Drs. William Wieczorek, Edward Wegman. I worked with Dr. William Wieczorek's deputy director, Dr. Kelly Marczynski, learned more about their operation at Buffalo State. Part of the effort was to develop connections between alcohol use and HIV/AIDS. They were conducting a survey to establish such connections in drivers that had DWI arrests. I have been sitting in on and working with students in social network courses and have developed the applications mentioned above. Working on the time-of-day analysis has enhanced my training in time series analysis and general linear models. I have been attending many conferences, statistical, computer science, as well as alcohol related including the 2006 RSA meeting in Baltimore, MD and the 2007 RSA meeting in Chicago. In most of the conferences, I have either spoken or organized one or more sessions. The conferences are as follows:

- SAMS/NISS 2005 – The NSF-sponsored Statistics and Applied Mathematics Institute held in Research Triangle Park, NC (September). I gave one of four young investigator talks on my NIAAA related research.
- COMPSTAT 2006 – Meeting of the International Association of Statistical Computing, (held even numbered years), held in Rome, Italy. I gave a talk relevant to my NIAAA research.
- Interface 2006 – Symposium on the Interface of Computing Science and Statistics, held in Pasadena, California. I organized a session and gave an invited talk on my NIAAA-related research.

- JSM 2006 – Joint Statistical Meetings (sponsored by the American Statistical Association, the Institute of Mathematical Statistics, the International Biometric Society, and the Statistical Society of Canada, 6000 attendees), held in Seattle, Washington. Again I gave a talk on my NIAAA research
- ACAS 2006 – Army Conference on Applied Statistics, held in Monterey, California. I gave a talk on NIAAA related research.
- Interface 2007 – (sponsored as above) Systems Biology is the theme. I have organized two invited Sessions, held in Philadelphia, Pennsylvania.

The ACAS and QMDNS although having a military focus in general also have sessions related to drinking behaviors of young enlisted men. I was also invited to give a talk on my alcohol research to the Washington Statistical Society (WSS). Finally, I am one of three Editors-in-Chief of the Wiley Encyclopedia of Computational Statistics and have arranged for a number of methodology articles related to alcohol studies.

RESEARCH: I completed several reports that are directly related to the topic of the F32 proposal and have been working on additional material. One paper, a refereed invited paper, is focused on a geospatial model of the acute consequences of alcohol use in Northern Virginia. This paper was an expansion of my dissertation work and focuses on the geospatial distribution of acute outcomes, including assault, suicide, murder, domestic violence, child abuse, sexual assault, and driving while intoxicated (DWI) crashes with fatalities. I have been attempting to find sources of data relating international classification of disease (ICD) codes for alcohol and HIV simultaneously, but this does not seem to be so easy to find. Another paper has been accepted in one of the most read outlets in the statistics community and focuses on the use of disability adjusted life years (DALYs) as a measure of both mortality and morbidity. I specifically focused on the consequences for North America compared to the world. Using data from the World Health Organization (WHO), we showed that alcohol is the number two risk factor for DALYs in North America following risks associated with tobacco. The interesting aspect of our study is that 34% of the DALYs can be attributed to violence-related outcomes and that these violence-related outcomes are often visited upon the non-drinking bystanders. This suggests a major societal issue. Incidentally, we briefed these results to staffers at the House Subcommittee on Oversight and Investigations and developed in them an encouraging interest, where a hearing on this matter is planned.

Another significant aspect of my work is the analysis of time-of-day, day-of-week, and month-of-year effects. The larger scale model we proposed in the F32 application suggested that we needed to model these temporal effects. We have assembled data on time of day of alcohol related crashes, on time of DWI arrests, and time of admissions for alcohol treatment. I have collected time-related mortality data from the Virginia Department of Health and Virginia DMV crash data both for the entire Commonwealth of Virginia. We have evolved graphical time series plots over a 5-year period and are in the process of building a more complex random effects model of the data at the three time scales. These will eventually be built into the alcohol ecology model.

The F32 proposal also is built on the premise that the model is a social network model. I have been intensively studying and working on developing applicable social network model. In particular, I have under development a bipartite alcohol-related social network model with individuals as one part of the social network and with institutions as the other part. I am developing the theory behind bipartite social network analysis for alcohol studies. I have been exercising this model on co-author networks (one set of actors being authors, the other set being papers). The social network research was reported in the Congressional testimony during July 19 and July 27, 2007 and in the report that was submitted the U.S. House Subcommittee on Oversight and Investigations.

[REDACTED]

I have also traveled extensively and have gained great insight into research and professionalism by giving talks and meeting distinguished professors and other professionals.

PROFESSIONAL NETWORKING: I have attempted to develop my network with scholars associated with alcohol research through direct contact, visits and invitations to participate in conferences. I do this to learn of methods and gain insights into alcohol studies. Some of my contacts include Drs. William Wieczorek and Kelly Marczynski of the Center for Health and Social Research at Buffalo State College, Dr. Maria Testa of the Research Institute on Addictions of the University of Buffalo, Dr. Paul Gruenewald of the Prevention Research Center, Gregory Bloss of NIAAA, Kendall Bryant of NIAAA, and Dr. Robert Wilson of the University of Delaware, Dr. Richard Scribner of the Louisiana State University School of Medicine, Drs. Linda and Bengt Muthen of UCLA, Dr. Charles Branas of the Center for Clinical Epidemiology and Biostatistics at University of Pennsylvania, Dr. Bridget Freisthler of the Department of Social Welfare at UCLA, and Dr. David Anderson of the Center for the Advancement of Public Health at George Mason University. I have been working with Hani Ali, M.D. of George Washington University and with Samer Ellaham, M.D. of Georgetown University respectively in the areas of neonatal pediatrics and cardiology especially with respect to effects of alcohol use in their respective specialty areas. Moreover, I met with Drs. Al Azmi, Kahn and Al Mazrou of the King Fahad Medical City to discuss alcohol and HIV/AIDS in Saudi Arabia.

PAPERS:

Said, Yasmin H. and Wegman, Edward J. (2006) "Geospatial distribution of alcohol-related violence in Northern Virginia," in Compstat 2006, (Alfredo Rizzi and Maurizio Vichi, eds.), 197-208

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Wegman, Edward J, Said, Yasmin H., and Scott, David W. (2006) "Ad-hoc Committee Report on the 'Hockey Stick' Global Climate Reconstruction," A Report to Chairman Barton, House Committee on Energy and Commerce and to Chairman Whitfield, House Subcommittee on Oversight and Investigations; Pleaeoclimate Reconstruction, to United States House of Representatives, 2006.

RESEARCH TRAINING PLANS: I plan to continue with formal and informal training. Specifically, I am planning coursework on behavioral biology of substance abuse, psychopathology, geographic information science and epidemiology. My research plans will follow the logical extension of existing work. Most importantly we are focusing on inclusion of HIV/AIDS as an additional acute outcome in our model. Also, Dr. Wegman and I are working on the inclusion of time-of-day effects into the model. We have also recognized that we are dealing with a two-mode social network (individuals and institutions) and are incorporating this dimension into our model. The two-mode network results based on zip code and ABC stores were presented at the 2007 RSA meeting and we were able to develop some mobility information from these results. I am also working to include and upgrade additional demographic information including gender and age distributions in my model. In summary, the research in the next year will focus on including HIV/AIDS, temporal and geospatial effects, mobility, two-mode social network, and gender and age-distribution demographics.

**Ruth L. Kirschstein National Research Service Award
Individual Fellowship Progress Report for
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(To be completed by sponsor — follow PHS 416-9 instructions)

FELLOWSHIP NUMBER

1 F32 AA 15876-02

18. SUPPLEMENTATION OF STIPEND: ☒ NO ☐ YES

If "yes," specify the amount(s) and dates on which supplementation occurred, and the source of the funds.

Stipend has not been supplemented during first year. A \$30,000 supplement from university funds is planned for the second year.

19. COMMENTS OF SPONSOR (Use additional page, if necessary)

Evaluate the quality of the training (including academic work) and research progress made by the fellow during the past year. Include performance on cumulative and qualifying examinations, if applicable.

Let me comment first on the George Mason University and me vis-a-vis Dr. Said. George Mason University and I have not had much experience with previous F32 awards. We are on a learning curve as well and hope that NIAAA management will take into account our inexperience. That being said, [REDACTED]

[REDACTED] The original proposal called for a series of courses as well as on-site training with both mentors. Dr. Said has audited courses on Spatial Agent-Based Models of Human-Environment Interactions and on Social Network Analysis. In addition she has spent approximately 2 1/2 weeks at the Center for Health and Social Research at Buffalo State under the mentorship of William Wiecezorek, Ph.D. as well as time with the Center for the Advancement of Public Health under the leadership of David Anderson, Ph.D. The coursework was provided by the Center for Social Complexity. Dr. Said's training previously had been focused on mathematics, computer science and statistics. We have made a great effort this past year in beefing up her background in the quantitative social science dimension. Dr. Wiecezorek's Center has a strong geospatial focus while Dr. Anderson's has a strong focus on underage drinking. [REDACTED]

In conjunction with Dr. Wiecezorek's Center as well as with Virginia state agencies, she has been actively seeking data on the connection between HIV/AIDS and alcohol use. She has undertaken a literature search along these lines as well. [REDACTED]

[REDACTED] she established additional contacts with epidemiologists at U. Penn medical school, which is a very promising potential collaboration. This past year has seen work by Dr. Said published or accepted for publication on geospatial directed graph models, on impact of alcohol on disability adjusted life years in North America, and on two-mode social network analysis. In addition to these papers, Dr. Said has given talks on her work in national and international venues including Italy and Saudi Arabia. She has organized sessions at a variety of meetings and through these sessions, has given additional exposure to the work of NIAAA, in general, to the statistics community. [REDACTED]

[REDACTED] Dr. Said's energetic outreach is simultaneously exposing statisticians to alcohol-related research as well as exposing alcohol researchers to more sophisticated statistical modeling methods. In addition to the focus on HIV/AIDS data collection, she has been developing additional data and models for the significance of time-of-day and other temporal effects, and introducing bi-partite graph models (two-mode social networks) into the alcohol modeling framework. In my opinion, [REDACTED]

SPONSORING INSTITUTION'S ASSURANCES/CERTIFICATIONS

The following policies, assurances, and certifications are verified by the signature of the Official Signing for Sponsoring Institution on the Face Page. See Item 14 for further information. If unable to certify compliance where applicable, provide an explanation and place it after this page.

•Human Subjects Research •Research Using Human Embryonic Stem Cells •Research on Transplantation of Human Fetal Tissue •Women and Minority Inclusion Policy •Inclusion of Children Policy •Vertebrate Animals •Debarment and Suspension •Research Misconduct •Civil Rights (Form HHS 441 or HHS 690) •Handicapped Individuals (Form HHS 841 or HHS 690) •Sex Discrimination (Form HHS 639-A or HHS 690) •Age Discrimination (Form HHS 680 or HHS 690) •Recombinant DNA Research, including Human Gene Transfer Research •Financial Conflict of Interest •Prohibited Research •Select Agents and Toxins