

BIOGRAPHICAL SKETCH

NAME: GEBRE-EGZIABHER KIROS

eRA COMMONS USER NAME (credential, e.g., agency login): GEBKIROS

POSITION TITLE: Professor of Public Health and Biostatistics

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Addis Ababa University, Ethiopia	B.Sc.	1982-1986	Mathematics
Addis Ababa University, Ethiopia	M.Sc.	1988-1990	Statistics
Brown University, Providence, RI	A.M.	1996-1998	Demography
Brown University, Providence, RI	Ph.D.	1996-2001	Demography
Population Council, New York, NY	Postdoc	2000-2002	Population Studies

A. Personal Statement

I have the expertise, training, leadership experience, and motivation to successfully lead the Data Analysis Unit described in the proposal. I have a broad background in statistical computing, data management and analysis. In addition to my vast experience in management and analysis of complex datasets, my research includes research design methods, and the application of contemporary biostatistical methods to clinical and health disparities research. Also, I am an IBM Certified Analytics Professional. My programming and software expertise include MLwin, aML, R, SAS, SPSS, STATA, and other software. My training background and experience in mathematics, statistics, demography, programming, data management and analysis makes me particularly well-suited to lead the unit well and support the research projects in the proposal. I am committed to work with the research group. I will be responsible to provide support in all phases of research by faculty, students and staff including research study design, data collection, data management, random sample selection, surveys, pilot tests, analysis and interpretation of results. I have served in similar position including serving as the FAMU-Leader of the Bioinformatics and Biostatistics Core of the U54 grant.

B. Positions and Honors**Positions**

1986 – 1990	Computer Programmer, National Urban Planning Institute, Ethiopia
1990 – 1996	Lecturer, Department of Statistics and Demographic Training and Research Center, Addis Ababa University, Ethiopia Africa
1993 – 1996	IT Consultant and Padisnet System Admin, United Nations Economic Commission for
1996 – 2000	Teaching and Research Assistant, Brown University
2000 – 2002	Berelson Postdoctoral Research Fellow, Population Council, NY, NY
2002 – 2003	Associate Research Scientist (Faculty position), Department of Sociomedical Sciences, Mailman School of Public Health, Columbia University
2003 – 2007	Assistant Professor, Institute of Public Health, College of Pharmacy, Florida A&M University
2007 – 2012	Associate Professor, Institute of Public Health, College of Pharmacy, Florida A&M University
2012 – Present	Professor, Institute of Public Health, College of Pharmacy, Florida A&M University

Honors

1996-97	Hewlett Foundation Fellowship
1998	Compton Foundation Fellowship
1998	Winner of Alder Spear, Jr. Memorial Award for an Outstanding Thesis
1999	Belfer Family Dissertation Fellowship, Brown University
2000	Harnish Fellowship, Brown University
2000-02	Berelson Postdoctoral Research Fellow, Population Council, New York
2007	Teacher of the Year, College of Pharmacy, Florida A&M University
2007	Research grant, University of Kentucky Center for Poverty Research

C. Contributions to Science

1. The Monto Carlo method is a popular numerical method often used for solving computational problems by means of random sampling. There are several ways of generating random variables and many computer programs include a random number generator routine or function. However, the randomness of the random variables generated using commonly available functions is questionable. In this paper, first we examined and compared several existing algorithms for generating uniform random variables. Second, we presented the 'best' methods for generating various univariate continuous distributions. Third, we provided simple to use algorithms and pseudo-codes of the recommended methods to generate random variables that do not deviate from their theoretical distribution. I initiated the research idea when I was working on my master's thesis in Statistics because my thesis was on comparison of estimators using Monte Carlo methods. I noticed then that the random number programs were not quite random. I designed the study, wrote the computer codes, conducted the study and wrote the paper. The study has been cited by scholars. The computer algorithms and pseudo-codes have been used by several researchers who are interested in generating random processes.
 - a. **Kiros, GE** (1992). Computer methods for sampling from univariate continuous distributions. *SINET*, 15:99-115.
2. Using a very rich dataset from the National Longitudinal Study of Adolescent Health, the article focused in identifying individual as well as contextual factors of adolescent smoking initiation and progression to daily smoking by race and ethnicity. We found that individual factors were more important predictors of smoking behavior than contextual factors. This article has been widely cited and used as a major reference for future studies including in research design and methodology. Dr. Kandel and I designed and conducted the study and wrote the article. In addition, I analyzed the data incl Kandel, DB, Kiros, GE, Schaffran, C and Hu, M-C (2004). Racial/ethnic differences in cigarette smoking initiation and progression to daily smoking: a multilevel analysis. *American Journal of Public Health*, January, 94(1): 128-135. Using the multi-level models. In this article, Dr. White and I investigated how parental migration affects child immunization in Southern Ethiopia. Southern Ethiopia is a region with high child mortality and morbidity. The data for the study was obtained from a Community and Family Survey that was conducted by a research team that includes Dr. White and I. Using a multilevel approach, we documented that children born to rural-rural migrant mothers have significantly less chance of receiving full immunization coverage than children born to non-migrant mothers. The findings of the study are so important because they suggest that further targeting of health services could be efficient and effective. Dr. White and I designed and conducted the study and wrote the article. I developed the study design and sample selection of the survey and analyzed the data for the article.
 - a. Kiros, GE and White, MJ (2004). Migration, Community Context, and Child Immunization in Ethiopia. *Social Science & Medicine*, 59:2603-2616. PMID: 15474213
3. There is a growing concern that new genetic technologies are likely to exacerbate racial/ethnic disparities in health. We investigated barriers to the use of genetic testing by race and ethnicity using a national representative sample. Our results showed substantial significant differences by race and ethnicity in knowledge as well as concerns about the potential misuse of genetic information. Higher levels of mistrust in a physician and the medical system among minorities were observed. Our findings suggest for a development of educational and communication strategies that facilitate in narrowing the gap. This study is very cited by researchers. We have been receiving requests by journal editors if we have conducted a related study. I initiated, designed and analyzed the study. Dr. Suther and I conducted the study and wrote the article.

a. Suther, S, Kiros, GE (2009). Barriers to the Use of Genetic Testing: A Study of Racial and Ethnic Disparities. *Genetics in Medicine*, September, 2009, 655-662. PMID: 19752639

4. The involvement of hyperactive polyisoprenylated proteins in cancers has stimulated the search for drugs to target and suppress their excessive activities. Polyisoprenylated methylated protein methyl esterase (PMPMEase) inhibition has been shown to modulate polyisoprenylated protein function. For PMPMEase inhibition to be effective against cancers, polyisoprenylated proteins, the signaling pathways they mediate and/or PMPMEase must be overexpressed, hyperactive and be involved in at least some cases of cancer. PMPMEase activity in lung cancer cells and its expression in lung cancer cells and cancer tissues were investigated. PMPMEase was found to be overexpressed and significantly more active in lung cancer A549 and H460 cells than in normal lung fibroblasts. PMPMEase inhibition disrupted actin filament assembly, significantly inhibited cell migration and altered the transcription of cancer-related genes. These results indicate that elevated PMPMEase activity spur cell growth and migration, implying the possible use of PMPMEase as a protein biomarker and drug target for lung cancer. My role in this study was in research design and use of appropriate biostatistical methods. It includes sample design, sample size requirements, comparison of treatment groups with the control group and interpretation of results.

a. Amisshah, F, Duverna, R, Aguilar, BJ, Poku, RA, **Kiros, GE**, and Lamango, NS (2014). Polyisoprenylated methylated protein methyl esterase overexpression and hyperactivity promotes lung cancer progression. *Am J Cancer Res*, 4(2): 116-134. PMC3960450

D. Additional Information: Research Support and/or Scholastic Performance

Completed

SC1CA190505	Nazarius Lamango (PI)	09/01/14-08/31/18
Project Title: Disrupting Polyisoprenylated Protein Function for Lung Cancer Therapy		
Our long-term goal is to contribute to the development of this novel, clinically reliable specific marker/drug target and targeted agents for early/companion diagnosis and treatment of lung cancer		
Role: Biostatistician		

UB6HP27875 (DHHS/HRSA) Subaward: T460657	Kathleen Miner Emory University(PI)/ Cynthia Harris (Co-PI)	09/01/14-08/31/18
Project Title: Region IV Public Health Training Center (R-IV PHTC)		
Our goal is to provide needed educational programs within the State of Florida to advance the practice of public health across the southeastern region		
Role: Trainer Health Informatics		