

Jemal Emina Gishe, Ph.D.

Department of Public Health, Health Administration and Health Sciences

College of Public Health • Tennessee State University

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Background:

Dr. Jemal Gishe is an associate professor in the department of Public Health, Health Administration and Health Sciences at Tennessee State University, in Nashville, TN. Prior to this appointment, he was a biostatistician at Momentum Research Inc. in Durham, N.C. and an assistant professor at Western Kentucky University. He earned B.Sc. and M.Sc. from Addis Ababa University and Advanced Diploma from International Center for Theoretical Physics (ICTP), Trieste in Italy. He received Ph.D. in mathematics and biostatistics from University of South Florida. He was a recipient of German Academic Exchange Scholarship (DAAD) and UNESCO funded scholarship at ICTP.

As a Biostatistician, he has experience working in the area of clinical trials for a Contract Research Organization, Momentum Research Inc., Durham, North Carolina. He has the expertise, experience, and interest in the applications of statistical methodologies: categorical, survival and longitudinal data analysis, exploratory and confirmatory factor analysis, and generalized linear mixed models. He collaborates in the area of public health, agriculture, sports & nutrition, health disparity studies, prostate cancer, obesity, and community-driven interventions.

He is a Co-PI in an NIH grant to address health disparity and health equity; authored and co-authored research articles in peer-reviewed journals, technical reports, and a book chapter. He consults in the area of study designs, statistical methods, and data analysis. He is a user of many statistical application soft wares such as R, SAS, and SPSS.

Education:

- 2014 Ph.D. and ABD, from Department of Mathematics, and Department of Epidemiology and Biostatistics, University of South Florida
Dissertation: "A finite family of q-orthogonal polynomials and results of Chebyshev polynomials";
Advisor: Mourad Ismail, Ph.D.
 - 2001 Graduate Diploma in Mathematics, Abdus Salaam ICTP, Trieste, Italy
 - 2000 M.Sc., Department of Mathematics, Addis Ababa University, Ethiopia
 - 1995 B.Sc., Addis Ababa University, Ethiopia
Major: Mathematics; Minor: Physics
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Technical Skills:

Statistics: Generalized Linear Mixed Models, Longitudinal Data Analysis, Survival Analysis, Categorical Data Analysis, Zero Inflated Models, Exploratory and Confirmatory Factor Analysis, Imputation and Propensity Score Matching

Statistical Softwares:

SAS, R, SPSS, STATA, SPlus, and WINBUGS

Text Formatting and Office Computing: LaTeX, Word, Excel, and Power Point

Teaching Experience :

2015 - Present **Tennessee State University, Nashville, TN**

Courses taught: Principles of Epidemiology (Graduate Course), Introduction to Biostatistics, Introduction to Epidemiology, Research Methods, Health Economics, Health Promotion and Disease Prevention, and Intro to Health Care Organizations.

2011 - 2014 **University of South Florida, Tampa, FL**

Courses taught: Biostatistics in Society, Biostatistics I and II (Graduate level, web based and in class)

2007 - 2011 **Western Kentucky University, Bowling Green, KY**

Courses taught: Real Analysis I (Graduate level), Introduction to Real Analysis, Complex Variable, Calculus I, II and III, Advanced Engineering Mathematics, Trigonometry, College Algebra

2006 - 2007 **William Penn University, Oskaloosa, IA**

Courses taught: Introduction to Statistics, Probability I, Introduction to Real Analysis, Differential Equation, Calculus I and II

Research and Consultation Experience:

2021 - Present Associate Professor, TSU, Nashville, TN:

publications in peer reviewed journals, grant proposals, collaborative work, and consultation on study designs, statistical methods, data analysis and report writing.

2015 - 2021 Assistant Professor, TSU, Nashville, TN:

publications in peer reviewed journals, grant proposals, collaborative work, and consultation on study designs, statistical methods, data analysis and report writing.

2014 - 2015 Biostatistician, Momentum Research Inc., Durham, NC:

manuscripts, study designs, statistical analysis plan, statistical analysis for clinical trials, and report writing.

2011- 2014 Research Assistant, University of South Florida, Tampa, FL:

peer reviewed articles, data management, data analysis, and report writing for variety of research programs in the College of Public Health

2011- 2015 Consultant (Statistical), University of South Florida, Tampa, FL:
assist in research planning (statistical methodology), data manage-
ment, analysis, and report writing

Publications

Peer Reviewed Publications:

1. **Gishe J.**, Dagne, G., Kanu, M., Patel, K., Briggs, R., Odedina, F. and Pleban, F. **2021** Prostate Cancer: Social, Economic and Demographic Correlates of Non Use of Supplemental Diets among Black Men in Florida. *Journal of Health Disparities Research and Practice*: Vol. 14 : Iss. 2 , Article 6. <https://digitalscholarship.unlv.edu/jhdrp/>
2. Barney D., Pleban F. and **Gishe J.** **2021** Effects of Music on Mood During Basketball Play in Junior High School Physical Education. *Journal of The Physical Educator*, Volume 78, No 1 , pp. 31 – 42. <https://doi.org/10.18666/TPE-2021-V78-I1-10395>
3. Patel, K., **Gishe, J.**, Liu, J. et al. **2020** Factors Influencing Recommended Cancer Screening in Low-Income African American Women in Tennessee. *J. Racial and Ethnic Health Disparities* 7: 129. <https://doi.org/10.1007/s40615-019-00642-4>.
4. Patel, K., Smith, J., **Gishe, J.**, Kanu, M., Theriot, R., Liu, J., Zhou, Y. and Hargreaves, M. **2018**. Factors influencing Healthy Eating Habits among Low-Income African Americans in Tennessee. *Journal of Health Disparities Research and Practice*: Vol. 11 : Iss. 4 , Article 10. Available at: <https://digitalscholarship.unlv.edu/jhdrp/vol>
5. Aregawi W., Agga G., **Gishe J.** and Abdi R. **2018** Seroprevalence and participatory epidemiology of camelpox in Afar region of Ethiopia. *Preventive Veterinary Medicine*, <https://doi.org/10.1016/j.prevetmed.2018.10.003>.
6. Patel K., Inman W., **Gishe J.**, Johnson O., Elizabeth B., Kanu M., Theriot R., Sanderson M., Hull P. and Hargreaves M. **2018** A community-driven intervention for improving bio-specimen donation in African American communities. *Journal of Racial and Ethnic Health Disparities*, Issue No: Vol. 5, No. 1, DOI: 10.1007/s40615-017-0336-2
7. Barney D., Pleban F. and **Gishe J.** **2016** The effects of music in enhancing the elementary physical education environment. *International Journal of Physical Education*, Volume LIII, Issue 4, 4th Quarter, pp. 23 – 32.
8. Carubelli, V., Cotter, G., Davison, B., **Gishe, J.**, Senger, S., Bonadei, I., Gorga, E., Lazzarini, V., Lombardi, C. and Metra M. **2016** In-hospital worsening heart failure in patients admitted for acute heart failure. *International Journal of Cardiology* DOI:10.1016/j.ijcard.2016.10.002
9. Sultan, D., Stenback, J., Walker, J., Castillo-Carranza, D., **Gishe J.** and Hanciles, A. **2016**. African American, Latino, and Older Patients in a Comprehensive

- Cancer Center. Atlas of Science. Available at <http://atlasofscience.org/african-american-latino-and-older-patients-in-a-comprehensive-cancer-center/more-14471>
10. Sultan, D., **Gishe, J.**, Hanciles, A., Comins, M. and Norris, C. **2015** Minority use of a National Cancer Institute-designated Comprehensive Cancer Center and non-specialty hospitals in two Florida regions. Journal of Racial and Ethnic Health Disparities, DOI: 10.1007/s40615-015-0084-0
 11. **Gishe, J.** and Toókos, F. **2012** On the Sturm comparison and convexity theorem for difference and q-difference equations. Acta Sci. Math. (Szeged), 78, 529–540
 12. **Gishe, J.** and Ismail, M. **2008** Resultants of Chebyshev polynomials, Z. Anal. Anwendungen, Volume 27, Issue 4, pp. 499 – 508.

Technical Reports:

- Debra Mowery, Linda Callejas, Wei Wang, Thomas Burrus, **Jemal Gishe**, and Mario Hernandez, Arizona’s Children’s System of Care Practice Review Fiscal Year 2012 Statewide Report.
- Debra Mowery, Linda Callejas, Wei Wang, Thomas Burrus, **Jemal Gishe**, and Mario Hernandez, Arizona’s Children’s System of Care Practice Review Fiscal Year 2011 Statewide Report.

Book Chapter:

- Ridda I, Mansoor S, Briggs R, **Gishe J.** Preparedness for mass gathering; the case of Hajj and Umrah attendees. The Springer 2019
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Grants:

1. Engaging Partners in Caring Communities (EPICC): Building capacity to implement health promotion programs in African American churches
RFA – RM – 21 – 022 (wiith Selove (TSU), Alexander (MMC), Jones (VU), and Congregational Health and Education Network (CHEN))
NIH **Award Number: 1U01OD033244-01**
\$4,117,865 **09/30/2021 - 09/29/2026**
 Evidence-based programs (EBPs) to reduce health disparities associated with hypertension, diabetes, cardiovascular disease, obesity, and cancer have been developed, disseminated and implemented, and yet relatively poorer health outcomes among African Americans continue to be documented. Challenges at each step of the research-to-community pipeline, and determinants of health associated with

social structures and policies, undermine efforts to advance health equity. Engaging Partners in Caring Communities (EPICC) is a community-engaged research (CEnR) project designed to address these challenges by supporting delivery of evidence-based health promotion programs in churches serving African American communities, and collaborating with community partners in identifying and addressing social determinants of health.

Grant Proposals (Unfunded):

- 2021 TSU Public Health Informatics and Technology Workforce Development Program (TSU PHIT)
ARP – PHIT – 21 – 001 (wiith Brock, Massey, Gibson, Noble)
 NIH \$4,744,875 09/14/2021 – 09/13/2025
 The main goal is to create a sustainable Public Health Informatics and Technology Program that will increase the number of underrepresented minority public health professionals trained in informatics and technology through offering an undergraduate minor, certificate and graduate certificate programs in Health Informatics and Data Analytics that will address the needs of the workforce.
- 2020 Quantification and mathematical modeling of multidrug resistant bacteria and antimicrobial resistance genes and their survival in poultry litter amended soil, grant proposal submit to FY20 AMR/ATA Funding. Collaborative work with Dr. Agga and Dr. Sistani (USDA-ARS, Bowling Green, KY)
- 2020 Supporting lifestyle changes to prevent cancer: Community-guided dissemination of evidence-based programs for African American church members, U54 renewal grant proposal, collaborative work with Dr. Selove (TSU) and Dr. Alexander (Meharry Medical College) and Dr. Jones (Vanderbilt)
- 2019 Grant proposal submitted to the National Heart Lung and Blood Institute in Octo. 2019, collaborative work with Dr. Selove (TSU) and Dr. Charles Brown (TSU)
- 2017 A grant proposal on Mitigating Antimicrobial Resistance by Promoting the Prudent Use of Antimicrobial on Farms: a system based Approach Submitted to USDA-AFRI Food Safety Challenge Area, with Dr. Dego and others from University of Tennessee and Dr. Aga from USDA.

- 2016 A grant proposal on Youth Enjoy Science Research Education Program to expose middle school students to cancer and cancer research as strategies to increase diversity in STEM careers submitted to IMPACT-4-Cancer Research, National Cancer Institute with Dr. Williams and others from PHHAHS, Tennessee State University and others from Meharry Medical College.
- 2016 A grant proposal (SF 424) on Improving Informed Decision Making in African Americans with regard to Tumor Tissue Donations submitted to National Institute of Health with Dr. Kushal Patel of PHHAHA, at Tennessee State University.
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Submitted Articles in Peer Reviewed Journals:

- Barney D, Pleban FT and **Gishe J**. The Measurement of Mood States in College Students Induced by Physical Activity, International Journal of Kinesiology in Higher Education, under review **2021**.

Manuscripts in Progress:

- Arthur T, Agga G and **Gishe J**. Comparing rectoanal mucosal swab sampling method for the detection and enumeration of E. coli O157:H7 and detection of super shedders in beef cattle relative to fecal grab sampling method, **2020**.

Unpublished Manuscripts:

1. **J. E. Gishe**, and M.E.H. Ismail, A finite family of q -orthogonal polynomials, submitted to Journal of Approximation Theory.
2. **Jemal Gishe**, and Dominic Lanphier, A new Integral Representation of Hypergeometric Series and Jacobi Polynomials, with Dominic Lanphier.
3. Marsha Black, **Jemal Gishe**, Kirsten Ellingsen, Wei Wang, and Mario Hernandez, Parent Involvement in Home Literacy and Community Educational Activities Home Instructional Program for Preschool Youngsters.
4. B. Benedict, **J. Gishe**, M. Hyungchu, R. Martel, R. Strain, and B. Tate, Energy consumption and interference in the BART system, NC State University

Conference and Other Presentations:

- 2019 **Gishe J**, Kanu M. Historical Perspective and Implications of Health Policies in Africa. Invited Speaker. 2nd International Conference on Inclusive Policy and Implementation Strategy for Sustainable Peace and Development in Africa. Arsi University (March 2 – 3 2019, As-sella, Ethiopia).
- 2019 College of Health Sciences Research Day; The Clinical Bottom Line: Research Summaries in the Health Sciences. TSU (April 3, 2019, Nashville, Tennessee).
- 2018 Aregawi WG, Agga GE, **Gishe J**, Abdi RD. Epidemiology of camelpox in Afar region of Ethiopi, 99th Conference of Research Workers in Animal Diseases, (Dec. 2 – Dec. 4, Chicago, Illinois).
- 2018 Patel K, **Gishe J**, Brown E and Margaret Hargreaves M. Factors Influencing Recommended Cancer Screening in Low-Income African American Women in Tennessee, Poster Presentation, TPHA, (Sep. 12 – Sep 14, Cool Springs, Tennessee).
- 2018 College of Health Sciences Research Day; The Clinical Bottom Line: Research Summaries in the Health Sciences. TSU (April 4, 2018, Nashville, Tennessee).
- 2017 Demographic characteristics of black men with no supplemental diet usage protective against prostate cancer, APHA 2017 Annual Meeting and Expo (Nov. 4 - Nov. 8, Atlanta, Georgia, USA)
- 2017 Patel K, Smith J, **Gishe J**, Brown E, Liu J, Zhou Y, Jackson C, Hargreaves M. Factors influencing healthy eating habits in low-income African Americans in Tennessee. Poster Presentation, TPHA, (Sep. 13 – Sep 15, Cool Springs, Tennessee).
- 2016 Higginson K, Barney D, Griffiths R, Pleban FT, **Gishe J**. The effects of music on elementary students Enjoyment in physical education, 2016 SHAPE America national Convention and Exposition (April 5 - April 8, Minneapolis, Minnesota)
- 2014 Cabral Ibrahim D, Dagne G, and **Gishe, J**, Colorectal Cancer Risk Perception in African American Men, Poster Presentation at African-Caribbean Cancer Consortium meeting, Philadelphia, PA
- 2013 Sultan DH, **Gishe, J**, Hancile A and Jahan N, Under-representation of Minority and Older Patients in the Cancer Patient Population of an NCI-Designated Comprehensive Cancer Center at Mid-South Sociological Association, (October 23 - 26, 2013 Atlanta, Georgia
- 2010 Resultants of Chebyshev Polynomials, AMS and MAA Annual Joint Meeting, San Francisco, CA
- 2009 Continuous q -Jacobi Polynomials, AMS and MAA Annual Joint Meeting, Washington, DC

- 2008 Continuous q -Jacobi Polynomials, AMS Sectional meeting, Huntsville (Alabama)
 - 2008 Basics of q polynomials, WKU Differential Equation Seminar, WKU
 - 2006 Resultants of Chebyshev Polynomials, AMS-MAA joint meeting, San Antonio (Texas)
 - 2006 Continuous q -Jacobi Polynomials, Tougaloo College, Jackson (Mississippi)
 - 2004 Wronskian determinant for orthogonal polynomials, U. of S. Florida, Tampa
 - 2003 Recovery of entire functions from special values, U. of S. Florida, Tampa
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Professional and University Service:

Tennessee State University, 2015 - Present:

- Fall 2021 Tenure and Promotion Committee member for College of Public Service
- 2020 - Present Faculty Senate Web Editor
- 2019 - Present Tenure Track Faculty Search Committee Chair
- 2019 Participated in the commencement ceremony, May 4th, 2019
- 2019 - Present CEPH Self Study member
- 2018 - Present Faculty Senator
- 2015 - Present Consultation work for faculty and graduate students in the area of study designs and statistical analyses
- 2015 - Present Member of Honors College Faculty
- 2018 Participated in the commencement ceremony, May 5th, 2018
- 2018 Participated in the Honors Convocation, March 20, 2018
- 2018 - Present College of Health Sciences Curriculum Committee member
- 2017 - Present College of Health Sciences (COHS) Research committee
- 2016 - 2017 College of Health Sciences Curriculum Committee member
- 2018 - Present Chair of the department of Public Health, Health Administration and Health Sciences (PHHAHS) Curriculum committee
- 2018 - Present Health Sciences Academic Audit committee
- 2017 Conducted SAS Workshop for graduate students and faculty from department of PHHAHS
- 2015 - Present Chair of the department of PHHAHS Website Committee
- 2015 - Present Graduate Comprehensive Exam Committee
- 2015 - Present Undergraduate Comprehensive Exam Committee
- 2020 - Present Site Based Decision Making (SBDM) counselor for South Warren Middle School (Bowling Green, Kentucky)
- 2015 - Present Advisor to Oromo Community in the state of Kentucky for civic engagement.

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| 2016 - Present | Serving as a member of International Oromo Advocacy Group (Advocated for the passage of House Resolution 128, Supporting respect for human rights and encouraging inclusive governance in Ethiopia, April 10, 2018) |
| 2015 - 2017 | Serve as a volunteer for the State Cup Soccer Competition for the Southern Kentucky Soccer Club (SKYSOCCER) Program |
| 2015 - 2021 | Coaching recreational soccer for young children for the betterment of their physical and mental growth at SKYSOCCER. |

Western Kentucky University, 2007 - 2011:

- Chair of the Organizing Committee of The 30th Annual Mathematics Symposium
- Planning and Organizing Committee of The 27th, 28th and 29th Annual Mathematics Symposium
- Chair of The Colloquium/Symposium Committee, The Undergraduate Studies Committee, The Graduate Studies Committee, Scholarship/Award Committee, Calculus I & II review ad-hoc committee, The General Education Committee and Chair of The Computer Lab Committee
- Coaching high school and Gatton academy students for The American Regions Math League competitions.
- 2008 - 2011 Coach/Assistant Coach for young children at Southern Kentucky Soccer Club (SKYSOCCER)
- 2008 - 2011, Advisor of Oromo Community of Kentucky

Journal Reviewer:

- MAA (Mathematics Magazine)

Thesis and Dissertation Committees:

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| 2017 | Sarah Iriogbe-Efonayi, An Examination of Early Childhood Teachers' Knowledge of Self-Regulation, TSU, Tennessee |
| 2010 | David Sekora, Continued Fractions, WKU, Kentucky |
| 2008 | William Bucklew, How to Speed Up Your Car, Minimizing Damage to Automobile Motors, WKU, Kentucky |
| 2007 | Andrew Stevens, Investigating the discrete wavelet transform and the fast Fourier Transform for implementing in software-radios, William penn University, Iowa |
| 2007 | Andrew P. Stangeland, Feasibility study of relativistic, antimatter rocket propulsion, William Penn University, Iowa |

Awards and Memberships:

2017 -Present	American Public Health Association
2005 - present	Oromo Study Association
2017	Internal grant to attend and present at conferences, TSU (Tennessee)
2011 - 2016	American Society of Tropical Medicine and Hygiene
2001 - 2011	American Mathematical Society
2011	NSF-RUMC grant to organize Annual Mathematics Symposium at WKU (Kentucky)
2011	Internal grant to invite Scholar in Residence, WKU (Kentucky)
2007 - 2011	Internal grant to attend conferences, WKU (Kentucky)
2008	Internal grant to invite Scholar in Residence, WKU (Kentucky)
2006 - 2007	Internal grant to attend conferences, William Penn University (Iowa)
2002 - 2003	NSF summer research assistantship support, USF (Florida)
2001 - 2006	Fred and Helen M Tharp End Scholarship, U. of S. Florida
2000 - 2001	UNESCO funded scholarship at International Center for Theoretical Physics (Trieste, Italy)
1998 - 2000	DAAD (German Academic Exchange Scholarship), AAU (Ethiopia)
