

BRUK T. BERHANE

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Fischell Department of Bioengineering, University of Maryland, College Park, MD 20742

EDUCATION

- Ph.D 2016 University of Maryland, Minority and Urban Education Unit, Department of Teaching and Learning, Policy and Leadership
- Research Interests: Engineering Pipeline, Community College Transfer Students, Underrepresented Racial and Ethnic Minorities, Black African and Black American Students, College Access
 - Dissertation: *“Ready for Transition: Factors that Facilitate Transfer to Undergraduate Engineering Programs Among Black African and American Students”*
- M.S. 2007 The George Washington University, Engineering Management
- B.S. 2003 University of Maryland, Electrical Engineering

EXPERIENCE

October 2018 – present	Fischell Department of Bioengineering, University of Maryland	Assistant Research Professor
September 2011 – October 2018	A. James Clark School of Engineering, University of Maryland	Director, Office of Undergraduate Recruitment and Scholarship Programs
November 2005 – August 2011	A. James Clark School of Engineering, University of Maryland	Coordinator, Center for Minorities in Science and Engineering
August 2005 – November 2005	Baltimore City Public Schools	Mathematics Instructor, Baltimore Polytechnic Institute
June 2005 – August 2005	The National Academies	Fellow, Christine Mirzayan Science and Technology Policy Program
June 2003 – June 2005	The Johns Hopkins University/Applied Physics Laboratory	Electrical Engineer, Research and Technology Development Center

PEER-REVIEWED JOURNAL PUBLICATIONS

- Berhane, B., Secules, S., & Onuma, F. (article conditionally accepted). Learning while Black: Identity formation and social experiences for six undergraduate engineering transfer students. *Journal of Women and Minorities in Science and Engineering*. Begell House. Danbury, CT.
- Khalil, D., Dixon, R., Palmer, R., & Berhane, B. (in progress). Using a sense of belonging to understand the experiences of Canadian students at an HBCU. Data analysis completed. Preparing for *Journal of College Student Development*.
- Onuma, F., Berhane, B., & Fries-Britt, S. (in progress). Family matters: The role of family members for first and second-generation Black STEM undergraduates. Data collection completed.
- Berhane, B. & Onuma, F. (in progress). The success narrative: Exploring the academic and pre-professional trajectories of Black engineering alumni. Data collection completed.
- Berhane, B. (2017). Networking 101: Exploring within-group differences between high-achieving Black African and Black American engineering community college student peer groups. *Journal of African American Males in Education*, 8(1), 67-91.

PEER-REVIEWED CONFERENCE PAPERS

- Berhane, B., Hayes, S., Aparakankanange, E., Koonce, D., & Salley, C. (2019, June). *On transfer student success: Exploring the academic trajectories of Black transfer engineering students from community colleges*. Paper to be presented at the 126th Annual Meeting of the American Society for Engineering Education, Tampa, FL.
- Onuma, F. & Berhane, B. (2019, June). *Exploring within-group differences in student-faculty interactions among Black engineering students at a selective four-year engineering college*. Paper to be presented at the 126th Annual Meeting of the American Society for Engineering Education, Tampa, FL.
- Berhane, B. (2018, May). *On becoming a "transfer institution": Research on a community college that supports diverse Black students in their transfer aspirations*. Paper to be presented at the 1st Annual Collaborative Network for Engineering and Computing Diversity Conference, Arlington, VA.
- Berhane, B. (2018, April). *Figures who inspire: Exploring the differences between role models for Black American and Black African engineering transfer students*. Paper to be presented at the 102nd Annual Meeting of the American Educational Research Association, New York, NY.
- Berhane, B., Onuma, F., & Secules, S. (2017, June). *Rethinking engineering pathways: An exploration of the diverse K-12 school experiences of six Black engineering undergraduates*. Paper presented at the 124th Annual Meeting of the American Society for Engineering Education, Columbus, OH.
- Berhane, B. (2014, April). *Readying the engineering pipeline: Factors that predict community college transition to competitive engineering programs among underrepresented minorities*. Paper presented at the 98th Annual Meeting of the American Educational Research Association, Philadelphia, PA.

UNREFEREED CONFERENCE PAPERS

- Berhane, B. & Marshall, A. (2010, April). *The science of fire*. Paper presented at the joint meeting of the National Association for Multicultural Engineering Program Advocates and the Women in Engineering ProActive Network, Baltimore, MD.
- Moran, M.E., Wesolek, D. M., Berhane, B.T., & Rebello, K.J. (2004, August). *Microsystem cooler development*. Paper presented at 2nd International Energy Conversion Engineering Conference, Providence, RI.

INVITED TALKS AND PANELS

- “The Pursuit of Possibilities: Planning for Success in STEM Majors in College.” SUCCESS 2017 – Maryland Pipeline Professional Development Conference, August 2017. PROMISE Summer Success Institute. Alliances for Graduate Education and Professoriate (AGEP), National Science Foundation. Hanover, MD.
- “The Pursuit of Possibilities: Planning for Success in High School, College, and Beyond.” A. James Clark School of Engineering, University of Maryland, June 2016 and June 2017. Summer Bridge Program. Louis Stokes Alliances for Minority Participation (LSAMP), National Science Foundation. College Park, MD.
- “Fostering an Inclusive Community through Advising” Keynote Panel. Undergraduate Studies Program, University of Maryland, August 2016. 21st Annual Undergraduate Studies Advising Conference, sponsored by the University of Maryland. College Park, MD.
- “Making the Transition: Factors that Facilitate Transfer to Undergraduate Engineering Programs Among Black African and American Students.” Undergraduate Studies Program, University of Maryland, August 2016. 21st Annual Undergraduate Studies Advising Conference, University of Maryland. College Park, MD.
- “Affirmative Action 101.” Town Hall Meeting, February 2016, College of Education, University of Maryland. Sponsored by the Graduate Student Organization, College of Education, University of Maryland. College Park, MD.
- “STEM: It Should Stand for Students that Earn Money.” Women in Engineering Program, University of Maryland, February 2016. DREAM Conference, University of Maryland. College Park, MD.

GRANTS

National Science Foundation, September 2018-September 2021

“Documenting Experiences and Resources Supporting the Community College Transfer, Persistence, and Graduation of Black Engineering Students”

Bruk Berhane (Principal Investigator)

Sharon Fries-Britt (Co-Principal Investigator)

Shannon Hayes (Co-Principal Investigator)

Darryll Pines (Co-Principal Investigator)

Amount awarded: \$553,027

National Science Foundation, September 2018-September 2022

“Engineering for US All - E4USA: A National Pilot Program for High School Engineering Course and Database (submitted)

Darryll Pines (Principal Investigator)

Leigh Abts (Co-Principal Investigator)

Kemi Ladeji-Osias (Co-Principal Investigator)

Ann McKenna (Co-Principal Investigator)

Kenneth Reid (Co-Principal Investigator)

Bruk Berhane (Senior Personnel)

Cheryl Bitner (Senior Personnel)

Michael Bitner (Senior Personnel)

Adam Carberry (Senior Personnel)

James Collofello (Senior Personnel)

Tirupalavanam G. Ganesh (Senior Personnel)

Jennifer Lee Kouo (Senior Personnel)

Margaret McLaughlin (Senior Personnel)

Matthew Miller (Senior Personnel)

Julia Ross (Senior Personnel)

James Turner (Senior Personnel)

Bevlee Watford (Senior Personnel)

Jim Zahniser (Senior Personnel)

Amount awarded: \$3,999,410

Academy of Applied Sciences, October 2017-June 2018

“Maryland Junior Science and Humanities Symposium”

Bruk Berhane (Principal Investigator)

Amount awarded: \$24,213

Academy of Applied Sciences, October 1, 2016-June 2017

“Maryland Junior Science and Humanities Symposium”

Bruk Berhane (Principal Investigator)

Amount awarded: \$30,830

Academy of Applied Sciences, September 2015-August 2016

“Maryland Junior Science and Humanities Symposium”

Bruk Berhane (Principal Investigator)

Amount awarded: \$30,830

Lockheed Martin, Summer 2011

Project Pipeline

Bruk Berhane (Principal Investigator)

Amount awarded: \$20,000

Lockheed Martin, Summer 2010

Project Pipeline

Bruk Berhane (Principal Investigator)

Amount awarded: \$20,000

Maryland Higher Education Commission, July 2010-August 2011
College Preparation Intervention Program
Rosemary Parker (Principal Investigator)
Bruk Berhane and LaWanda Kamalidiin (Co-Principal Investigators)
Amount awarded: \$133,449

Maryland Higher Education Commission, July 2009-August 2010
College Preparation Intervention Program
Rosemary Parker (Principal Investigator)
Bruk Berhane and LaWanda Kamalidiin (Co-Principal Investigators)
Amount awarded: \$129,993

Maryland Higher Education Commission, March 2008-March 2009
College Preparation Intervention Program
Rosemary Parker (Principal Investigator)
Bruk Berhane and LaWanda Kamalidiin (Co-Principal Investigators)
Amount awarded: \$163,887

Maryland Higher Education Commission, July 2007-August 2008
College Preparation Intervention Program
Rosemary Parker (Principal Investigator)
Bruk Berhane and LaWanda Kamalidiin (Co-Principal Investigators)
Amount awarded: \$142,950

FELLOWSHIPS AND AWARDS

- Scholarship for Graduate Courses, Department of Teaching and Learning, Policy and Leadership, University of Maryland, 2010.
- Christine Mirzayan Science and Technology Policy Graduate Fellowship, The National Academies, 2005.
- Scholarship for Graduate Courses, School of Engineering and Applied Sciences, The George Washington University, 2003-2004.
- ASPIRE Research Award, A. James Clark School of Engineering, University of Maryland, 2002-2003.
- Meyerhoff Scholarship, University of Maryland, Baltimore County, 1998-2003.

GUEST LECTURES AND WORKSHOPS

- “Engaging Community College Students in Engineering Majors: Support Programs in the A. James Clark School of Engineering.” Department of Counseling, Higher Education, and Special Education, University of Maryland, February 2018. Guest lecture in Organization and Administration in Higher Education, sponsored by the University of Maryland.
- “Making the Transition: Factors that Facilitate Transfer to Undergraduate Engineering Programs Among Black African and American Students.” Department of Counseling, Higher Education, and Special Education, University of Maryland, November 2017. Guest lecture in Professional Seminar in Higher and Adult Education, sponsored by the University of Maryland.

- “Community College Students and Research-to-Practice Implications.” Department of Counseling, Higher Education, and Special Education, University of Maryland, October 2017. Guest lecture in Retention Theories and the Impact of College, sponsored by the University of Maryland.
- “Admission Trends among Engineering Students at the University of Maryland.” College Park Scholars, University of Maryland, October 2017 and May 2018. Guest lecture in Science, Technology, and Society Practicum, sponsored by the University of Maryland.
- “Making the Transition: Factors that Facilitate Transfer to Undergraduate Engineering Programs among Black African and American Students.” College Park Scholars, University of Maryland, April 2016. Guest lecture in Science, Technology, and Society Practicum, sponsored by the University of Maryland.

TEACHING EXPERIENCE

- Research, Instruction, and Service in Engineering Leadership Seminar. A. James Clark School of Engineering, University of Maryland, College Park. Fall 2018.
- Expeditions in Engineering Summer Camp. Bullis School, Potomac Maryland. July 2018.
- Engineering Teacher Training Workshop. Aba, Nigeria. September 2013.
- Virtus Living and Learning Community Seminar I. A. James Clark School of Engineering, University of Maryland, College Park. Fall 2012.
- SAT Mathematics. Central High School, Capital Heights, Maryland. Fall 2009 and Spring 2010.
- Algebra I with Robotics. Central High School, Capital Heights, Maryland. Fall 2007 and Spring 2008.
- College Preparation Seminar. Potomac High School, Oxon Hill, Maryland. Fall 2005 and Spring 2006.
- Algebra II and Geometry. Baltimore Polytechnic Institute, Baltimore City, Maryland. Fall 2005.

GRADUATE STUDENT RESEARCH SUPERVISION

<u>Student</u>	<u>Date Degree Conferred</u>	<u>Degree</u>	<u>Position</u>	<u>Institution</u>
Danielle Koonce	N/A	Ph.D.	Research Supervisor	University of Maryland
Felicia Onuma	N/A	Ph.D.	Research Supervisor	University of Maryland
Stephen Secules	May 22, 2016	Ph.D.	Research Supervisor	University of Maryland

SERVICE TO THE UNIVERSITY, COMMUNITY AND PROFESSION

- March 2019, Panel Reviewer, National Science Foundation
- October – December 2018 – Present, Grant Writing Coach, National Research Mentoring Network – Committee on Institutional Cooperation Academic Network
- December 2017 – Present, Manuscript Reviewer, Journal of Diversity in Higher Education.
- August 2017 – Present, Manuscript Reviewer, Journal of African American Males in Education.
- June 2017 – Present, Member, Ronald E. McNair Post-Baccalaureate Achievement Program Advisory Board, University of Maryland.
- January 2017 – Present, Member, Engineering Education Research Group, University of Maryland.
- July 2016 – Guest Proposal Reviewer, National Science Foundation
- October 2011 – September 2012, Meyerhoff Alumni Association Mentoring Program, Meyerhoff Scholarship Program – University of Maryland, Baltimore County.