

Princeton Affiliate

Education

- Ed.D. Rutgers, The State University of New Jersey, New Brunswick, May 2007; Mathematics Education; Dissertation Title: Teachers' Discourse Community; What it Reveals about Knowledge of Teaching Mathematics; Dissertation Advisor: A. B. Powell
- M.Ed. Rutgers, The State University of New Jersey, New Brunswick, May 2002; Mathematics Education
- B.A. Rutgers, The State University of New Jersey, New Brunswick, January 2001, Major: Mathematics; Minor: Psychology

Experience

Princeton University; Associate Director, Council on Science and Technology **October 2013 - Present**

Serve as the administrative head of the Council. Responsible for the daily operations, as well as long term and strategic planning. Cultivate relationships with academic and administrative units to develop synergistic collaborations. Provide leadership, supervision and professional development for four, full-time professional staff members. Develop and implement research on STEM learning and teaching, as well as evaluate Council initiatives. Responsible for financial management of the Council, including budgeting, accounts payable, and forecasting.

Rutgers University; Assistant Dean for Engineering Education **January 2010 - October 2013**

Developed and implemented an engineering education initiative focused on enhancing K-16 engineering education. Collaborated with engineering faculty to enhance undergraduate education. Worked with New Jersey school districts and Department of Education to integrate engineering into K-12 curriculum. Developed and taught an engineering education course for pre- service teachers enrolled in the dual-degree masters with teaching certification program. Provided strong counseling activity within the School of Engineering by maintaining a client load that attended to the needs of all students, including Educational Opportunity Fund scholars and other underrepresented populations. Worked with the Office of Enrollment Management to establish admission guidelines and procedures for the review of Educational Opportunity Fund applications. Established, conducted and published research to assess program effectiveness and current issues surrounding engineering education. Cultivated funding from major donors, as well as corporate, foundation and federal agencies. Managed a multimillion-dollar budget. Hired, trained and supervised professional and part-time staff.

Rutgers University; Assistant Dean, Women in Engineering Programs **June 2007 - January 2010**

Developed and implemented the "Women in Engineering Program," a multi-faceted initiative directed toward the recruitment and retention of women undergraduate and graduate students. Solicited funding from major donor, federal, foundation, and corporate sources. Defined, evaluated, documented, and monitored effectiveness of programs. Provided academic advising and counseling to School of Engineering students and served as a resource to the School's departments regarding faculty recruitment of women and other underrepresented populations.

Rowan University; Lecturer, Mathematics Department **August 2006 - May 2007**

Provided mathematical instruction for four courses per semester. Responsible for the development and implementation of curriculum for Calculus, Statistics and Math Education courses. Developed various methods of assessment, which included weekly quizzes, exams, and group projects. Evaluated and monitored students' performance and provided continuous feedback. Served on the Adjunct Review Committee. Appointed Pre-calculus Coordinator for the spring 2007.

Rutgers University; Program Development Specialist **July 1999 - September 2005**

Responsible for the development of Academic Plans for incoming, first year students and continued tracking, intervention, and counseling with students on a regular basis. Provided academic advising to undergraduate and graduate students. Developed and implemented summer and academic year programs for the Educational Opportunity Fund, The Academy at Rutgers for Girls in Engineering and Technology, and the Rutgers University Women in Engineering Leadership League. Designed marketing paraphernalia for programs and traveled to schools and conferences to promote programs. Developed and implemented an e-mentoring network for undergraduate female engineering students and alumnae. Designed and instructed a Methods of Inquiry course for engineering students. Traveled to high schools with University Admissions to evaluate college applications of high school students. Traveled to middle and high school career days to promote Rutgers.

University of the Virgin Islands; Assistant Director, Upward Bound **October 2002 - October 2003**

Developed and implemented a program that provided academic and social support for low- income high school students. The main goal of Upward Bound was to promote higher education and allow for a smooth transition from high school to an

institute of higher education. Implemented an academic year and summer program that provided students with the academic preparedness, confidence and resources necessary to pursue a degree of higher education immediately after high school. Assisted in writing a multimillion-dollar grant awarded by the federal TRIO program. Maintained an accurate and efficient program budget. Designed marketing paraphernalia for programs. Hired, trained, and supervised a staff of twenty academic teachers and counselors. Provided continuous feedback and support to program staff, students, and parents.

Grants

Co-Principal Investigator, National Science Foundation: Collaborative Research: Disseminating the Art of Structural Design (M. Garlock, PI; DUE 1432426); 2014 - 2018; \$498,814

Principal Investigator, National Science Foundation: STEM for Education Scholarship Program (DUE 1136381), 2011 - 2013; \$1,258,000

Co-Principal Investigator, National Science Foundation: Rutgers University Research Experience for Teachers in Engineering (K. Chennault, PI; EEC 1009797), 2010 - 2013; \$450,000

Principal Investigator, The New Jersey Space Grant Consortium: Engineers of the Future Summer Institute and Engineering Education: High School Physics; 2013, 2012 and 2011 for \$26,000 each year

Principal Investigator, The Motorola Foundation: The Academy at Rutgers for Girls in Engineering & Technology, 2009 and 2010; \$65,700 and \$50,700, respectively

Principal Investigator, The New Jersey Space Grant Consortium: The Academy at Rutgers for Girls in Engineering & Technology, 2004, \$3000

Principal Investigator, Engineering Information Foundation: The Academy at Rutgers for Girls in Engineering & Technology, 2002, \$17,000

Principal Investigator, Hewlett Packard Technology Grants: The Rutgers University Women in Engineering Leadership League, 2002, \$25,000

Principal Investigator, Rutgers University Dialogue Grant: Rutgers University Women in Engineering Leadership League, 2002, \$3000

Scholarly Publications, Synergies, & Fellowships

Laffey, E.H., Cook-Chennault, K. & Hirsch, L.S. (2013). Rutgers University Research Experience For Teachers In Engineering: Preliminary Findings. *American Journal of Engineering Education*, 4(1), 13-26.

Petiote, J.J., Jackson, L., Laffey, E.H. & Cook-Chennault, K. (2013). The Green Technology Revolution: Engineering-based, Hands-On. Workshop for K-12 educators facilitated at the Annual K-12 ASEE Conference, Atlanta, GA.

Laffey, E.H. & Brown, M. (2013). Preparing Diverse Students for a Diverse Workforce. Paper presented at the Urban Education Institute, Greensboro, NC.

Laffey, E.H., Cook-Chennault, K. & Hirsch, L.S. (2012). RU RET-E: Designing and Implementing Engineering-based Lessons for the Pre-college Classroom. Paper presented at the Annual Meeting of the American Society for Engineering Education, San Antonio, TX.

Laffey, E.H. & Etkina, E. (2012). Engineering Education: High School Physics. Paper presented at the 2nd Annual P-12 Engineering and Design Education Summit, Washington, D.C.

Laffey, E.H. & White, C. (2010). Leveraging Resources: Shortening contact time without negatively impacting

efficacy. Paper presented at the Women in Engineering Pro-Active Network National Conference, Baltimore, MA.

Laffey, E.H., Batmanina, N., & Leshko, C. (2010). Effects of Faculty-Student Interaction on Faculty Career Satisfaction. Paper presented at the Women in Engineering Pro-Active Network National Conference, Baltimore, MA.

Laffey, E. H. (2008). *Teachers' Discourse Community; What it Reveals about Knowledge of Teaching Mathematics*. VDM Publishing House, Germany.

Powell, A. B. & Hanna, E. (2006). Understanding Teachers' Knowledge of Teaching Mathematics: A Theoretical and Methodological Approach. International Group on the psychology of Mathematics Education 2006 Conference, Prague, Czech Republic.

Hanna (Laffey), E. (2004). A Unique Approach to E-Mentoring: Rutgers University Women in Engineering Leadership League. Women in Engineering Program Administrators Network and National Association of Minority Engineering Program Administrators 2004 Joint National Conference

Hanna (Laffey), E. (2002). Evolution of the Engineers of the Future Summer Institute. Women in Engineering Program Administrators Network 2002 National Conference Proceedings

Hanna (Laffey), E. (2000). The Academy at Rutgers for Girls in Engineering and Technology. American Society of Engineering Educators 2000 National and Regional Conference Proceedings Institute of Electrical & Electronic Engineers, Engineering Education Module Developer, 2007

Higher Education Educator of the Year: Society of Hispanic Professional Engineers, 2005

MetroMath Fellowship, Rutgers University: 2004 - 2005

Society & Committee Memberships

Intrepid Sea, Air and Space Museum, Member of STEM Council

American Society of Engineering Educators

Educational Opportunity Fund of New Jersey Professional Association

American Educational Research Association

National Council of Teachers of Mathematics

New Jersey's Council on Gender Parity: Science & Technology Sub-committee

New Jersey Department of Education Professional Development Provider

Society of Hispanic Professional Engineers

Society of Women Engineers

Women in Engineering Program Administrators Network