AMY LOUISE FREEMAN
829 Seibert Road
Bellefonte, PA 16823
(814) 353-3376
afreeman@engr.psu.edu

EDUCATION

DOCTOR OF PHILOSOPHY: Workforce Education and Development — August 2009
Dissertation: *Money, math and engineering: The relationships between community economics, math preparation and the graduation of racially underrepresented engineers.*
The Pennsylvania State University

MASTER OF SCIENCE: Architectural Engineering — December 1991
The Pennsylvania State University

BACHELOR OF SCIENCE: Construction Management — June 1982
Washington State University

EXPERIENCE

The Pennsylvania State University, University Park, PA — 2004-present
Assistant Dean of Engineering Diversity

- Direct, design and implement recruitment and retention strategies for the College of Engineering.
- Represent the College of Engineering to corporate partners, internal university-wide partners and new and incoming students through national travel and recruitment.
- Provide resource advisement to equity groups including over 2500 (of about 10,000) graduate and undergraduate women, African American, Hispanic and Native American students.
- Develop external partnerships and $500,000 in annual resources supporting diversity programming.
- Procure significant support funding for special projects.
- Manage external Corporate Advisory Board, including biennial meetings and continued interaction with corporate and industry representatives.
- Represent the university to national and international industry constituents and alumni.
- Provide administrative direction to a staff of five who coordinate 15 to 20 programs annually.
- Provide current data, significant goals and metrics for the College of Engineering's contribution to the Penn State Strategic Plan for Diversity.
- Develop and teach courses and workshops designed to address specific areas of challenge for marginalized populations.

The Pennsylvania State University, University Park, PA — 2000-2004
Director, Multicultural Engineering Program (MEP)

- Provide resource advisement to equity groups including over 450 (of 7,600) graduate and undergraduate African American, Hispanic and Native American engineering students.
- Provide direction for the many MEP recruitment and retention programs with the goal of increasing the percentage of graduating underrepresented engineers.
- Direct special initiatives that address academic progress and employment opportunities for underrepresented populations.
- Attend and participate in professional programs and workshops for the improvement of recruitment, retention and graduation planning.

Lock Haven University, Lock Haven, PA 1992-2000
Director, Human and Cultural Diversity

- Provide resource advisement to equity groups including but not limited to women, students of color, transgender and international students.
- Serve as an advisor to current and evolving student organizations.
- Coordinate programs that bring greater awareness of cultural history, progress and concerns.
- Direct special initiatives that address academic progress for all underrepresented populations.
- Attend and participate in professional programs and workshops for the improvement of retention planning.

Freeman-Cripe Consulting Services, Lock Haven, PA 1990-1992
Engineering Consultant/Owner

- Management of construction renovation projects for owners of multiple facilities.
- Provision of specifications, drawings and direction to contractors on behalf of the client.
- Coordination of the bidding process.
- Representation of the client to the Pennsylvania Department of Labor and Industry, recommending facility upgrades for safety.

The Newhouse Company, Inc., Lock Haven, PA 1988-1990
President/Owner:

- Proposal development to meet clients' needs including facilities management and building renovation.
- Management of all building construction projects performed by the company.
- Project planning and monitoring including determination of costs, schedules and material procurement.
- Management of project and business cash flow.
- Competitive bid preparation for potential projects.
- On site inspection of work in progress and completed activities.

The Pennsylvania State University, University Park, PA 1985-1986
Coordinator, Tutoring Service for Engineering Students:

- Supervision of eleven tutors and other service assistants.
- Correspondence with and preparation for prospective visiting employers.
- Planning and implementation of recruitment activities for high school students into the engineering disciplines.
- Continuous evaluation of the new service while recommending improvements.

Rockwell International, Hanford Operations, Hanford, WA 1982-1985
Construction and Industrial Engineer:

- Management of construction projects designed to accommodate storage of nuclear materials including installation of security measures.
- Project planning including determination of costs, schedules and material procurement.
- Coordination of multiple contractors and projects while representing the client, Rockwell International.
- Building design and layout.
- Identification and analysis of building deficiencies.
- Updating of Hanford site maps as new projects were developed.

FUNDING AWARDS

Years	*Donor / Project No.*	*Amount*	*Project*
2003-04	NASA / *NAG10-326*	$100,000	*NASA Kennedy Internship Development Program-2003*
2004-05	NASA / NNK04ED21G	$90,000	*NASA Kennedy Internship Development Program- 2004*
2008-13	NSF / NSF0756992	$2,200,000	*Toys and Mathematical Options for Retention in Engineering*
2012-17	NSF / DUE-1154473	$600,000	*Engineering Pathways: An Undergraduate Scholars Program*
2013-18	NSF / RFP: 11-550	$2,000,000	***Submitted Dec. 2012-*** *STEM Talent Expansion Program*

INTERNATIONAL COLLABORATION AND RESEARCH

Arusha, United Republic of Tanzania *2011*

Lead Faculty: Penn State Humanitarian Engineering and Social Entrepreneurship Project
Faculty Team Leader for eleven students completing research projects over 4 weeks to assist the Tumaini University in creating hands-on science education curriculum modules to assist future secondary education teachers. The proposed lab projects were innovative in that they included inexpensive projects that are educational, teach scientific and engineering concepts, are created from local materials and have entrepreneurial potential. These include a food dryer, solar water heater, pot-in-pot cooler, an evaluation of building materials, and universal connector. In addition, a video collection of over 100 examples of indigenous knowledge was created.

Nyeri, Republic of Kenya *2010*

Engineer and Faculty Member: Humanitarian Engineering and Social Entrepreneurship Project
Participated with 35 students and faculty who shared engineering technology with the Children and Youth Empowerment Center which boards and educates 150 homeless children. Over a three week time period, the following projects were initiated or installed: construction of a green house and the creation of a raised-bed irrigation system allowing the group to grow tomatoes as a cash crop; installation of a bio gas system to produce enough gas for a cooking stove (to alleviate lung irritation caused by smoke from daily wood burning); a virtual medical records system; a virtual networking system connecting employers with the unemployed.

Busan, Republic of Korea

Invited Speaker: Review of Women in Engineering Programs *2010*
Presented at a review conference evaluating the progress of several program efforts over the past five years in Korea. Event held at Pukyong National University.

Invited Keynote Speaker: International Symposium on Advanced Engineering *2009*
Presentation at a professional engineering conference that focused on the importance of providing access to the field of engineering for women and others who bring alternative problem-solving strategies. Event held at Pukyong National University.

Invited Keynote Speaker: International Workshop for Women in Science and Engineering *2007*
Conference highlighted best practices of technical recruitment and retention programs at several universities across Asia and the US. Event sponsored by the Korean government and universities as part of a 10-year effort to create a national Women In Engineering program.

Mexico City, Mexico *2009*

Guest Presenter: Conversaciones Mathmáticas Conference at the Universidad Panamericana.
Invited to present information on student retention at a math education conference sponsored by the College of Engineering at the Universidad Panamericana. Discussion included math education strategies applied in a large Penn State retention project (spanning 15 campuses) funded by National Science Foundation. The conference focused on math instruction strategies and retention methods that effectively increase the numbers of students graduating in math based fields.

Ronda, Spain and Tangiers, Morocco, through Lock Haven University of PA *2000*
Planned and implemented year-long program which prepared 10 African American and Latino students for a four-week tour of Spain and Morocco focusing on the history of those countries and the impact on Hispanic and African people in North America.

Hong Kong and The People's Republic of China *1997*
Independently toured The Peoples Republic of China and Hong Kong two months prior to the end of British rule there. Observations included political contrasts between the two related societies and speculative information regarding the anticipated governmental changes that would take place in Hong Kong later that year.

LEADERSHIP AND PROFESSIONAL SOCIETIES (MEMBERSHIPS) 2000-2010

National Affiliations
- American Society for Engineering Education (ASEE)
- Women in Engineering ProActive Network (WEPAN)
- National Association of Multicultural Engineering Program Advocates (NAMEPA)
  -Executive Member, 2010-2012; President, 2008-2010
- National GEM Consortium

National Member and Faculty Advisor to Student Chapters of the following:
- National Society of Black Engineers (NSBE)
- Society of Women Engineers (SWE)
- Society of Hispanic Professional Engineers (SHPE)
- American Indian Science and Engineering Society (AISES)

Penn State University Service
- Humanitarian Engineering and Social Entrepreneurship Program
  -Faculty Team Leader
- Penn State Student Transitions Steering Committee
- University Faculty and Staff Achievement Awards Committee
  -Barash Award for Human Service
- Penn State Council of College Multicultural Leadership
  -Chair, 2005-2006
- Penn State Academic Council on Multicultural Affairs
- Penn State College of Engineering Diversity Task Force
- Women's Leadership Initiative
  -Invited Panelist

HONORS AND AWARDS

Forum on Black Affairs- State College, Pennsylvania
- Humanitarian Service Award 2012

National Society of Black Engineers
- Golden Torch Award - Lifetime Achievement in Academia 2010
- Golden Torch Award - Minority Engineering Program Director of the Year 2010

Society of Women Engineers, Region G
- Award of Recognition and Appreciation 2008

Society of Hispanic Professional Engineers, Penn State Chapter
- Third Annual SHPE Love Award 2003

National Society of Black Engineers, Penn State Chapter
- Determination Award 2003

Lock Haven University
- Annual Woman of Distinction Award 2000

REFEREED PUBLICATIONS AND ACADEMIC PAPERS *(*Freeman as Presenting Author)*

Hatzell, K.B., Hatzell, M.C., Pack, M.Y., Hatzell, J.G., Patel, S.N., Sulewski, T.L, **Freeman, A.L**. (2012). Overview of the first year of an innovative science education and entrepreneurship venture. Conference proceedings. American Society for Engineering Education Annual Conference & Exposition, San Antonio, TX

Margle, J., Cohan, C., Hsu, Y., Lane, J., **Freeman, A.L.,** Gomez-Calderon, J., Sathianathan, D., Engel, R. (2011). Toys 'n more: STEM students introduced to one or more intervention strategies. Conference proceedings. American Society for Engineering Education Annual Conference & Exposition. Vancouver, BC Canada

Margle, J., Cohan, C., Hsu, Y., Lane, J., **Freeman, A.L**., Gomez-Calderon, J., Sathianathan, D., Engel, R. (2010). Toys'n more -initial implementation of intervention strategies. Conference proceedings. American Society for Engineering Education Annual Conference & Exposition, Louisville, KY.

Margle, J.,Gomez-Calderon, J., Hsu, Y., **Freeman, A.L**., Sathianathan, D., Engel, R. (2010). Toys and mathematical options for retention in Engineering (Toys'n more) broad impact -the campuses. Conference proceedings. American Society for Engineering Education Annual Conference & Exposition, Louisville, KY

*__Freeman, A. L__., Persaud, A., Kharem, A., Rothwell,W. & Yoder, E. (2010). Money, math and engineering graduation: More high school funding could mean more underrepresented engineers. Conference proceedings. American Society for Engineering Education Annual Conference & Exposition, Louisville, KY.

*__Freeman, A.L__. (2009). *Money, math and engineering: The relationships between community economics, math preparation and the graduation of racially underrepresented engineers***.** Dissertation. The Pennsylvania State University, University Park, PA

*__Freeman, A.L__. (2009). Best practices applied: The Penn State WEP model. Conference proceedings. International Symposium on Advanced Engineering, Busan, Republic of Korea

*__Freeman, A.L__. (2008). Women in Engineering Programs in the United States and in Korea: Making best practices even better. Conference proceedings. Women in Engineering ProActive Network (WEPAN), St. Louis, MO.

*Persaud, A., **Freeman, A.L**., Salter, D. & Yoder, E. (2006). Work in progress- speaking out on the chilly classroom climate: women engineering students tell all. Conference proceedings, Frontiers in Education Conference, San Diego, CA.

*__Freeman, A. L.,__ & Persaud, A. (2005). Academic Summer Enhancement (ASE) program. Conference proceedings. Women in Engineering Advocates Network and National Association of Multicultural Engineering Program Administrators Joint Conference, Las Vegas, NV.

Persaud, A. & **Freeman, A. L**. (2005). Creating a successful model for minority students' success in engineering: The PreF summer bridge program. Conference proceedings. Women in Engineering Advocates Network and National Association of Multicultural Engineering Program Administrators Joint Conference, Las Vegas, NV.

Persaud, A., & **Freeman, A. L**. (2005). A model for underrepresented minority students' success in engineering: The PreF summer bridge program. Conference proceedings. Paper presented at the American Society for Engineering Education Annual Conference & Exposition, Portland, OR.

Freeman, A.L., Cripe, J.T. (2003). Intercultural Marriages and Child Rearing in E. Farmer, J. Rojewski & B. Farmer (Eds.) *Diversity in America: A Vision of the Future*, Kendall/Hunt

***Freeman, A.L**. (1991). *Ice Fracturing: A New Method of Rock Excavation.* Thesis. The Pennsylvania State University, University Park

References for Amy Freeman, Ph.D.

David N. Wormley, Dean
College of Engineering
The Pennsylvania State University
101 Hammond Building
University Park, PA 16802
Phone: 814-865-7537
Email: dnw2@psu.edu

Renata Engel, Associate Dean
Academic Programs, College of Engineering
The Pennsylvania State University
101 Hammond Building
University Park, PA 16802
Phone: 814-863-3750
Email: rengel@engr.psu.edu

Chinemelu (Chimay) Anumba, Department Head
Department of Architectural Engineering
The Pennsylvania State University
104 Engineering Unit A
University Park, PA 16802
Phone: 814-865-6395
Email: Anumba@engr.psu.edu