

**P. RUBY MAWASHA**

**e-mail:** ruby.mawasha@wright.edu

Wright State University

College of Engineering and Computer Science

Dayton, Ohio 45435

(937) 775-5005 - Phone

(937) 775-5009 - Fax

**EDUCATION AND TRAINING**

Ph.D., Mechanical Engineering, **The University of Akron, Akron, Ohio**, May 1998

Dissertation: *A Study of Nonlinear Dynamics of Single and Two-phase Flow Oscillations*

MS., Mechanical Engineering, **The University of Akron, Akron, Ohio**, December 1993

Thesis: *A Computer Simulation of a Steady-State Residential Air-to-Air Heat Pump.*

B.E., Mechanical Engineering, **City College of the City University of New York**, May 1990

Professional Certification: State of Ohio Registered Professional Engineer (**PE**) 69694

**ADMINISTRATIVE EXPERIENCE**

- **Assistant Dean, Engineering and Computer Science, Wright State University, 2001-Present**
- **Director, Wright STEPP, Pre-Engineering Program, 2001–Present**
- **Assistant to the Dean of Engineering, The University of Akron, 1998 – 2001**
- **Director, Diversity in Engineering and Science 1998 – 2001**
- **Assistant Director, Minority Engineering Program, The University of Akron, 1992 – 1997**

**ACADEMIC EXPERIENCE**

- **Lecturer, Mechanical and Materials Engineering, Wright State University, 2001- Present**  
Courses:
  - ❖ EGR 644: Principles of Internal Combustion Engines
  - ❖ EGR 444: Principles of Internal Combustion Engines
  - ❖ EGR 482: Fundamentals of Engineering – Engineering In Training (EIT)
  - ❖ ME 316: Thermodynamics II
  - ❖ EGR 153: FORTRAN Programming
  - ❖ AAP Math: Calculus
  - ❖ AAP Math: Trigonometry
- **Lecturer, Mechanical Engineering, The University of Akron, 1998- 2001**
- **Teaching Assistant, College of Engineering, The University of Akron, 1993- 1997**
- **Instructor, Department of Academic Achievement Programs, The University of Akron, 1993 - 2001**
- **Instructor, Ohio Space Grant Consortium, Summer 1994**
- **Instructor, College Bound Program, Summit County, Akron, Spring 1996**
- **Instructor, PRES, Minority Engineering Program, City College of New York, 1987 – 1991**

**WORKSHOPS AND PROJECTS**

- **Coordinator, Ohio Space Grant Consortium, 2003-present**
- **Coordinator, National Science Foundation (NSF) –LSAMP, collaboration with the Ohio Science and Engineering Alliance, 2003- Present**
- **Director, National Science Foundation-Computer Science, Engineering, and Mathematics (NSF/CSEMS) Scholarship Program, Wright State University, 2001 – 2002**
- **Coordinator, National Science Foundation-Information Technology Project for Dayton Public School Teachers, 2002**
- **Technical Programming Chair - 2001 ASEE North Central Regional Conference**
- **Academic Coordinator and Advisor, McNair’s Scholars Program, Spring 2000 – 2001**
- **Director, Girls Entering Technology, Science, Math, And Research Training (GET SMART Project), Summit, Wayne, and Portage County Schools, Spring 1999 – 2001**

- **Coordinator, A World in Motion Workshop Program, Akron Public Schools and The University of Akron, 1994-2001**

## HONORS AND AWARDS

2005 Presidential Award (Organization of Black Faculty and Staff); 2004 Nominee for Excellence in Teaching (Nominated by students); Omicron Delta Kappa (National Leadership); Pi Tau Sigma (Mechanical Engineering); Pi Mu Epsilon (Mathematics); Tau Beta Pi (Engineering); Golden Key Honor Society (Academics); McNair's Scholars Advisors Award (Undergraduate Research Advising); 2000 Nominee for The University of Akron Outstanding Teaching Award; ASME Young Engineers Program Award; ASME Minority Leadership Internship Program Award; Outstanding Service to Student Affairs; Wright State University Quest for Community Diversity Award for Wright STEPP Programming; Certificate – Workshop on Improving Student Learning, Wright State University; Certificate- Engineer Intern, State Board of Registration for Professional Engineers and Surveyors ; Certificate of Recognition for careers in engineering workshop – Pre-College Programs; Certificate of Appreciation for teaching- Pre-College Programs; ASME Oral Presentation Certificate; United Nations Fellowship ; Institute of International Education Scholarship

## SELECTED PUBLICATIONS (2000-Present)

P. C. Lam, D. Doverspike, J. Zhao, and **P.R. Mawasha**, “The ACT and High School Predictors of Success in a Minority Engineering Program”, *Journal of Women and Minorities in Science and Engineering*. In Press.

**P. Ruby Mawasha**, Kumar Yelamarthi, Paul C. Lam and, Blair A. Rowley, “Mentorship in Engineering Education: The role of faculty, graduate and undergraduate students on the career development of Pre-college students”, *ASEE-NCS Annual Conference*, Ohio Northern University, ADA, OH, April 2005.

K. Yelamarthi, **R. Mawasha**, B. Rowley, and T. Bazzoli, “The Temperature Satellite Project: The Integration of the Engineering Experience to First Year Students”, *ASEE-NCS Annual Conference*, Kalamazoo, MI, April 2004.

P. C. Lam, T. Srivatsan, **P.R. Mawasha**, and J. Vesalo, “Description of a Ten Year Study of the Pre-Engineering Program for Under-Represented, Low Income and/or First Generation College Students at The University of Akron”, *ASEE/IEEE Frontiers in Education*, Savannah, Georgia, October 2004.

**P. Ruby Mawasha**, Paul Lam, and Tirumalai Srivatsan, “An Innovative Approach for Training Undergraduate Students in the Research of Materials Science and Engineering,” *Journal of Materials and Education*. Volume 22, Nos. 4-6, 2003.

P. Lam, O. Ugweje, **R. Mawasha**, and T. Srivatsan, “An Initial Assessment of the Effectiveness of the First Two Years of the McNair Scholar Program at The University of Akron”, *Journal of Women and Minorities in Science and Engineering*. Vol.9, No. 1, 2003.

**Mawasha, P. R.**, and Kasturi, L., “Scholarship Programs Models for Recruitment and Retention in Science, Mathematics, Engineering, and Technology”, *Invited Paper for the 2002 Joint National WEPAN Conference*, San Juan, Puerto Rico, June, 2002.

**P. Ruby Mawasha**, Paul Lam, and Lalitha Kasturi, "Lung-Diaphragm Behavior of the Respiratory System During Input from Excitation", *ASME Bioengineering Division, BED – Vol. 45, ASME Advances in Bioengineering*, November 2002.

Lam, P., Ugweje, O., and **Mawasha, R.**, “Assessing the Society of Automotive engineers’ a world in motion ii - mobility toy” program at the Woodridge Middle School”, 32<sup>nd</sup> ASEE/IEEE Frontiers in Education, Boston, MA, November 6 - 9, 2002.

**P. Ruby Mawasha**, Ted Conway, and Paul Lam, "Modeling of Relaxation Oscillations in a Collapsible-Tube”, *Cardiovascular Engineering*, Vol. 1, No. 4, 2001.

- P. R. Mawasha** and R. Gross, "Periodic Forced Oscillations in a Horizontal Single Boiling Channel with Thermal Wall Capacity", *International Journal of Heat and Fluid Flow*, Vol. 22, No. 6, 2001.
- P. R. Mawasha**, R. Gross, and D. Quinn, "Periodic Forced Vibrations of a Horizontal Boiling Channel", *Heat Transfer Engineering*, Vol. 22, No. 5, 2001.
- P. R. Mawasha** and R. Gross, "Understanding the Nonlinear Dynamics of Fluid Flow With Surge Tanks", *International Journal of Mechanical Engineering Education*, Vol 29, No. 1, pp 27-38, 2001.
- P. Ruby Mawasha**, Paul Lam, John Vesalo, Ronda Leitch, and Stacey Rice "Girls Entering Technology Science, Math and Research Training (GET SMART): Model Preparing Girls for Science and Engineering Disciplines, *Journal of Minorities and Women in Science & Engineering*, Vol.7, No. 1, 2001.
- Mawasha, P. R.**, and Conway, T., Omotoso, O., Lam, P., "Dynamic Model and Analysis of a Centrifugal Blood Pump and Induction Motor", *ASME Bioengineering Division, BED – Vol. 45, ASME Advances in Bioengineering*, November 2001.
- Mawasha, P. R.**, Lam, and Kelly, S.G., "Key Institutional Assessment Practices to meet Accreditation Standards in the New Millennium", *2001 ASEE-NCS Annual Conference Proceedings*, Cleveland, Ohio, April 2001.
- P. R. Mawasha**, "A Math-Package Assisted Approach to Model Variables Influencing Air-to-Air Heat Pumps", *Computer Applications in Engineering Education*, Vol. 8, No. 2, 2000.
- Mawasha, P. R.**, Lam, P.C., and Hrko, D.P., "A Model Preparing International Graduate Teaching Assistants as Future Engineering Professionals", *Invited Paper for the 2001 Joint National NAMEPA and WEPAN Conference*, Alexandria, VA, April, 2001.
- Lam, P., **Mawasha, P. R.**, and Howard, H., "A Description of the Society of Automotive Engineers' "A World in Motion II" Pre-Engineering Outreach Programs at the Woodridge Middle School *2001 ASEE-NCS Annual Conference Proceedings*, Cleveland, Ohio, April 2001.
- Lam, P. C., **Mawasha, P.R.**, and Conway, T., "Transient Behavior of Seated Human Body During Input from Caudopalad Acceleration", *BED – Vol. 44, ASME Advances in Bioengineering*, November 2000.
- Mawasha, P.** Lam, P. C., Srivatsan, T., "An Innovative Approach for Training Research and Engineering Professionals in Undergraduate Education," *Proceedings, Spring 2000 Materials Research Society*, San Francisco, April 2000.
- P.R. Mawasha** and P.C. Lam "A Model for Preparing Girls Entering Science and Engineering Disciplines", *2000 ASEE-N.C.S. Proceedings on Innovative Outreach Programs*, March 2000.
- Paul Lam, **P. Ruby Mawasha**, Dennis Doverspike, A.B. McClain, and John Vesalo, "Assessing and Predicting the Success of the Increasing Diversity in Engineering Academics (IDEAs) Program at The University of Akron", *2000 NAMEPA Conference Proceedings*, Chicago, Illinois, March 2000.

## FUNDING:

<b>TITLE OF TECHNICAL AND EDUCATIONAL GRANTS</b>	<b>FUNDING AGENCY</b>	<b>FUNDING PERIOD</b>	<b>CO-PRINCIPAL INVESTIGATORS</b>	<b>AMOUNT</b>
Temperature/Telemetry Satellite and Flight Project	NASA-OAI (OSGC)	2005-2006	Blair Rowley, and Mitch Wolff	\$7,300
Temperature/Telemetry Satellite Project	NASA-OAI (OSGC)	2004-2005	Blair Rowley, and Mitch Wolff	\$5,750
Ohio Science and Engineering Alliance for Minority Participation Program	National Science Foundation	2003-2008	Ohio Alliance	\$3,500,000
STEM Student Bridge Program	Wright State University	2003-2004	Michele Wheatly	\$3,000
<b>Wright</b> Satellite, Teaching, Academic, Technology, and Educational (Wright STATE) Program	NASA-OAI (OSGC)	2003-2004	Blair Rowley, Thomas Bazzoli, and Mitch Wolff	\$8850
Research Foundations on Successful Participation of Underrepresented Minorities in Information Technology	National Science Foundation -Subgrant	Summer, 2002	Oscar Carcia and Leroy Edwards	\$10,000
CSEMS Scholarship Program	National Science Foundation	2001-2002		\$214,000
Undergraduate Fellowship Program	NASA-OAI (OSGC)	2000-2001	Paul Lam	\$4,500
American Society of Mechanical Engineers (ASME) Science Math And Research Training (SMART) Project	ASME	1999-2000	Joe Vujica and Paul Lam	\$1,500
Ohio Space Grant Science Math And Research Training (SMART) Project	NASA-OAI (OSGC)	1999-2000	Paul Lam	\$1,000
A Study of Health Beliefs, Health Practices, and Spiritual Beliefs Based on Gender Equity	Olivet Housing and Community Development Corporation	1999-2000		\$1,000
Girls Entering Technology, Science Math, And Research Training (GET SMART Project), Wayne County Career Center	Ohio- Department of Education	1999	Ronda Leitch and John Vesalo	\$15,000
Girls Entering Technology, Science Math, And Research Training (GET SMART Project), Portage County Career Center	Portage County Schools Career Center	1999		\$4,500
A World in Motion II: Design Experience-Challenge 2	NASA-OAI (OSGC)	1998-1999	P. Lam and J. Howard	\$ 2,000
FOSS and AWIM I Science/Math camp for Medina City and Cuyahoga Fall City Schools	NASA-OAI (OSGC)	1998-1999	P. Lam	\$ 1,000
Paving the Path to Electrical and Aerodynamics Engineering for Pre-College Students	NASA-OAI (OSGC)	1997	P. Lam	\$ 1,700
Introducing Aerodynamics Through Model Rocketry and A World in Motion I	NASA-OAI(OSGC)	1996	P . Lam	\$ 2,500
Increasing Diversity in Engineering Academics-Minority Engineering Program	Goodyear Tire and Rubber Company	1995-1999	P. Lam	\$25,000
Increasing Diversity in Engineering Academics-Minority Engineering Program	Lockheed Martin	1997-1998	P. Lam	\$ 2,500
Increasing Diversity in Engineering Academics Program	Diebold, Inc.	1993-1998	P. Lam	\$14,000
Increasing Diversity in Engineering Academics Program	Lubrizol Corporation	1991-1999	P. Lam	\$18,500