



## Mentoring Workshop for current and future faculty

### “Mentoring & Diversity: Gateway to Empowerment”

### Speaker Biographies

Funded by the National Science Foundation Alliances for Graduate Education and the Professoriate (NSF-AGEP), OPT-ED combines the resources of three institutions:

*North Carolina Agricultural & Technical State University  
North Carolina State University  
University of North Carolina at Chapel Hill*

The NC OPT-ED is joined by a formal network including North Carolina's:

Louis Stokes Alliance for Minority Participation (LSAMP)  
Historically Black Colleges and Universities Undergraduate Programs (HBCU-UP)  
Centers for Research in Science and Technology (CREST)  
North Carolina Mathematics and Science Education Network (NC-MSEN)  
Pisgah Astronomical Research Institute (PARI)

**Monday, March 31, 2008  
The McKimmon Center  
North Carolina State University Campus**

## NC OPT-ED Alliance Members

**AGEP** North Carolina Agricultural & Technical State University, North Carolina State University, University of North Carolina at Chapel Hill

**CREST** North Carolina Agricultural & Technical State University, North Carolina State University

**HBCU-UP** Bennett College, Johnson C. Smith University, North Carolina Agricultural & Technical State University, North Carolina Central University, Saint Augustine's College, Winston-Salem State University

**NC-LSAMP** Fayetteville State University, North Carolina Central University, North Carolina Agricultural & Technical State University, North Carolina State University, University of North Carolina at Chapel Hill, University of North Carolina at Charlotte, University of North Carolina at Pembroke

**NC-MSEN** Elizabeth City State University, Fayetteville State University, North Carolina Agricultural & Technical State University, North Carolina State University, University of North Carolina at Chapel Hill, University of North Carolina at Charlotte, Winston-Salem State University

**PARI** Pisgah Astronomical Research Institute



TIME	SESSION	LOCATION
8:15-9:00 AM	<b>REGISTRATION CONTINENTAL BREAKFAST</b>	Lobby Room 6
9:00-9:30 AM	<b><u>WELCOME</u></b> <b>Dr. Valerie S. Ashby</b> , Gordon and Bowman Distinguished Professor of Chemistry, Director of UNC AGEP, <i>University of North Carolina at Chapel Hill</i>	Room 6
	<b><u>GREETINGS</u></b> <b>Dr. Jose Picart</b> , Vice Provost for Diversity and African American Affairs, <i>North Carolina State University</i>	
	<b><u>REMARKS</u></b> <b>Dr. Roosevelt Johnson</b> , Program Director, AGEP, <i>National Science Foundation</i>	
	<b><u>MENTORING RECOGNITION PRESENTATION &amp; PROGRAM REVIEW</u></b> <b>Dr. David Shafer</b> , Assistant Dean for Outreach & Diversity and Director of NC State AGEP, <i>North Carolina State University</i>	
	<b>Dr. Margaret King</b> , Former Associate Vice Chancellor and Associate Dean of the Graduate School, <i>North Carolina State University</i>	
9:30-9:40 AM	<b>BREAK</b>	
9:40-10:40 AM	<b><u>BREAKOUT SESSIONS</u></b>	
	<u>Graduate Students &amp; Post Docs</u> <b>Moderator: Dr. Checo J. Rorie</b> , SPIRE Postdoctoral Fellow, <i>University of North Carolina at Chapel Hill</i>	Room 2
	<u>Faculty</u> <b>Moderator: Dr. Goldie Byrd</b> , Professor and Chair of Biology, <i>North Carolina A&amp;T State University</i>	Room 3
10:40- 10:50AM	<b>BREAK</b>	
10:50- 11:30AM	<b><u>BREAKOUT SESSION DISCUSSION</u></b> <b>Moderator: Dr. Saundra DeLauder</b> , Associate Professor of Chemistry and Interim Dean, College of Science and Technology, <i>North Carolina Central University</i>	Room 6

## AGENDA CONTINUED

## NOTES

TIME	SESSION	LOCATION
11:30AM- 2:00PM	<b>LUNCHEON</b>	Room 2C
	<p><b>PANEL DISCUSSION</b>                      “Mentoring as a Means to Increase the Participation of Underrepresented Groups”  <b>Moderator: Dr. Jose Picart</b>, Vice Provost for Diversity and African American Affairs, <i>North Carolina State University</i></p> <p>Panel Members - Recipients of the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring:  <b>Martha Absher</b>, Assistant Dean for Education and Outreach, Pratt School of Engineering, <i>Duke University</i> (1996)  <b>Dr. Winser E. Alexander</b>, Professor of Electrical and Computer Engineering, <i>North Carolina State University</i> (1998)  <b>Dr. Vallie Guthrie</b>, Associate Professor of Education and Director of GAMSEC, <i>North Carolina A&amp;T State University</i> (2000)  <b>Dr. Tony L. Mitchell</b>, Assistant Dean of Engineering Student Services, Director of Minority Engineering Programs and Associate Professor of Electrical and Computer Engineering, <i>North Carolina State University</i> (2000)  <b>Dr. Christine Grant</b>, Professor of Chemical and Biomolecular Engineering and Associate Dean of Faculty Development and Special Initiatives: College of Engineering, <i>North Carolina State University</i> (2003)  <b>Dr. Steven F. Watkins</b>, Associate Professor, former Director of Graduate Studies and former Associate Chairman, Chemistry Department, <i>Louisiana State University</i> (2004)  <b>Dr. Tanya Furman</b>, Professor of Geosciences and Assistant Vice President and Associate Dean for Undergraduate Education, <i>Pennsylvania State University</i> (2005)  <b>Dr. Jonathan F. K. Earle</b>, Former Associate Dean of Student Affairs and Professor of Agricultural/Biological Engineering, <i>University of Florida</i> (2006)  <b>Dr. Ricardo B. Jacquez</b>, Regents Professor of Civil Engineering and Director of New Mexico Alliance for Minority Participation, <i>New Mexico State University</i> (2006)</p>	Room 2C
2:00PM	<b>ADJOURNMENT</b>	



## Dr. Steven Watkins

*Associate Professor, former Director of Graduate Studies and former Associate Chairman, Chemistry Department*

Louisiana State University

Steve Watkins was born 67 years ago in the Texas panhandle, raised and educated in sunny Southern California, received his PhD in the frigid north (Wisconsin), and did post-doctoral studies in foggy Great Britain. But he has lived longer in Louisiana than all of those other places combined, because he joined the chemistry faculty at LSU in 1968. He is married to the beautiful Vera Watkins, and has helped raise five children: Brynda, Loretta, Daniel, Eliahue and Eric.

At LSU, he teaches Introductory Chemistry, Advanced Inorganic Chemistry, X-Ray Crystallography, and Chemical Group Theory. His research, which involves the crystal structure determination of small molecules and extended network systems, including high-temperature superconductors, has resulted in over 100 publications. He recently retired as Chemistry Department Associate Chairman and Director of Graduate Studies to return to teaching and research. He is a strong advocate of diversity and has helped the LSU Chemistry Department to become one of the leading producers of African American PhD Chemists in the nation. In 2004 he was presented with the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring.



## Martha Shumate Absher

*Assistant Dean for Education and Outreach Programs, Pratt School of Engineering*

Duke University

Martha Shumate Absher is Assistant Dean for Education and Outreach Programs for the Pratt School of Engineering of Duke University. She works to develop educational and outreach programs for all areas of engineering at Duke University. She directs numerous educational programs, many of which target underrepresented populations in the sciences and engineering: women, underrepresented minorities, and persons with disabilities. Her programs reach from the K-12 level up through the graduate level. Her programs have been used as national models for other educational programs.

She has received substantial national recognition and publicity for her work. In 1993, Gallaudet University awarded her their "Employer of the Year" award for her work with deaf students at Gallaudet. In September 1996, President Clinton awarded her a Presidential Award of Excellence for Mentoring in Science, Engineering, and Mathematics for her work, in a ceremony at the White House in the inaugural year of this prestigious award. For her work with persons with disabilities the Mayor of Durham (hometown of Duke University) and the Mayor's Committee awarded her the Distinguished Service Award In Recognition for Significant Contributions to Empowering Persons with Disabilities in October 2001. In an hour long ceremony on August 2002, Duke President Nan Keohane awarded her the Duke University Diversity Award, given to the person at Duke who has contributed to most to developing diversity and cross-cultural understanding campus-wide. On February 14, 2003, the QEM Network (Quality Education for Minorities) awarded her their inaugural Catalyst for Institutional Change award in a ceremony at the annual QEM Conference in Washington, DC. In September 2005, her REU Program was selected as one of the best NSF REU Programs in the country as part of the Pan-REU Workshop at NSF on September 20-22, and she presented a summary of her program achievements in a poster session at the US Capitol to federal agencies, Congressmen, and policy makers.

Contact Information:

Martha Shumate Absher, Assistant Dean for Education and Outreach Programs  
Pratt School of Engineering, Duke University

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Dr. Winser E. Alexander

*Professor of Electrical and Computer  
Engineering*

North Carolina State University

BS North Carolina A & T State University, 1964

MS University of New Mexico, 1966

PhD University of New Mexico, 1974

**W**insler Alexander's research spans the areas of digital signal processing, genomic signal processing, parallel algorithms, and parallel computer architecture. His current interests include the development of parallel algorithms, parallel computational structures and computer architectures for digital signal processing with applications to communications, multimedia and image processing and genomic signal processing.

**H**is teaching interest involves digital signal processing, application specific and special purpose computer system architecture and digital system design. He teaches both undergraduate and graduate courses in signal analysis, digital signal processing and computer system design.

**W**insler served as the Director of Graduate Programs for the ECE Department from August 1988 to May 1997 and from June 2001 to August 2002. He has developed graduate courses in Multidimensional Digital Processing and DSP Architecture, and he teaches courses at the undergraduate and graduate level in Digital Signal Processing.

Awards and Honors

**W**insler has received many awards including the following:

1. In June 1993, Winser received the American Society for Engineering Education (ASEE) Minorities in Engineering Award for Leadership in the Conception, Organization and Operation of Precollege and College Activities to Increase Participation of Minorities in Engineering.
2. In September 1998, Winser received the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring from the White House Office of Science and Technology and National Science Foundation.
3. In March 2000, Winser received the Dr. Janice A. Lumkin Educator of the Year Award from the National Society of Black Engineers (NSBE).



Dr. David M. Shafer

*Assistant Dean for Outreach &  
Diversity, Director of AGEP*

North Carolina State University

**D**r. David Shafer is Assistant Dean for Outreach and Diversity in the Graduate School at North Carolina State University. In addition to serving as one of the Principal Investigators of the NSF AGEP North Carolina Alliance to Create Opportunity Through Education (OPT-ED), he is responsible for oversight of fellowship and traineeship programs, graduate recruitment initiatives, and diversity programs. In addition, he organizes a number of professional development activities to prepare students for graduate school and, to help retain them once they are enrolled. He also is the past President of the NC State University chapter of the Honor Society of Phi Kappa Phi.

**D**r. Shafer began working with the Graduate School in 1990 after receiving his B.A. in political science at the University of North Carolina at Chapel Hill. Prior to his appointment as Assistant Dean in 2003, he served as Coordinator of the Colloquium on Issues in Graduate Education and Director of Fellowship Programs. Dr. Shafer earned both a master's degree in political science (1993) and Ph.D. in public administration (2002) from North Carolina State University.



Dr. Checo Rorie

*SPIRE Postdoctoral Fellow -  
Radiation Oncology*

University of North Carolina at Chapel  
Hill

**H**ello everyone and welcome to my story! I was born March 2, 1976, in Monroe, NC, and grew up on the countryside of Marshville, NC. My interest in science peaked early in life and I always had an interest in trying to teach somebody something. I decided in high school that I wanted to be a teacher and it then evolved into teaching at the college level as an undergraduate. I graduated from Forest Hills High located in Marshville, NC, in 1994. I attended Clark Atlanta University in Atlanta, GA, where I received a B.S. degree in biology in 1998. While at CAU, I immersed myself in biology with a focus in the biomedical sciences and I also had the opportunity to TA a biology lab. I was a Minority Access to Research Careers scholar (MARC) under the direction of Dr. Isabella Finkelstein. This program provided funding for me to do cancer research under the direction of Drs. John and Irene Browne. I then joined the Curriculum in Toxicology Ph.D. program here at UNC-Chapel Hill. I did cancer research as a focus and studied the effects of the chimeric oncogene Ews/Fli-1 found in the pediatric cancer Ewing's Sarcoma on neuronal differentiation and its negative effects on the tumor suppressor gene p53 under the supervision of Dr. Bernard (Buddy) Weissman, who suggested I apply for the SPIRE program since he learned that I had a great interest in teaching. Also as a graduate student I had the privilege of being a TA for the Biology 11 Lab course under the direction of Dr. Jean DeSaix. This opportunity solidified my thirst for teaching and mentoring undergrads. I graduated from UNC-Chapel Hill with a Ph.D. in 2004 and did a short postdoc at New York University in New York City under the supervision of Dr. James A. Borowiec. I studied the interaction of MDM2, and oncogene known for its inhibition of p53 activity, and nucleolin, a ribosomal protein that plays a role in enhancing p53 activity.

**I** joined SPIRE in September of 2005. I am currently developing an antibody column that recognizes p53 and MDM2 proteins in the lab of Dr. YanPing Zhang in the department of Radiation Oncology. We hope to discover new and unknown binding partners of both the proteins mentioned in hopes to understand more intimately their relationship to the control of cells in preventing cancer. I love the program and all what it stands for. My hope is to become a professor at an HBCU in order to help the growth of their biology and biomedical science curriculum and to become a mentor for those who wish to continue their education with a terminal degree in the biomedical sciences.



Dr. Valerie S. Ashby

*Gordon & Bowman Distinguished  
Professor of Chemistry &  
Director of AGEP*

University of North Carolina at Chapel  
Hill

**D**r. Valerie Sheares Ashby, born in Raleigh, North Carolina in 1966, received her B.A. degree in 1988 and her Ph.D. degree in 1994 from the department of chemistry at the University of North Carolina at Chapel Hill. Advised by Professor Joseph M. DeSimone, she was awarded a Kodak Corporate Research Fellowship for her achievements. The American Chemical Society recognized her research with the 1995 ACS Graduate Research Award in Polymeric Materials Science and Engineering. In her graduate career, she also carried out research at Eastman Chemical Company in Kingsport, Tennessee and polyimide research at IBM Almaden Research Center, San Jose, California during two summer internships.

**D**r. Ashby joined the department of chemistry at Iowa State University in January of 1996 as an assistant professor. Her teaching accomplishments were recognized by ISU students through her nomination for the Iowa State Teacher of the Year each year that she taught there. In 2001, Ashby was recognized as the ISU Teacher of the Year from the College of Liberal Arts and Sciences and as one of the four Iowa State Master Teachers in 2002 for her work in undergraduate teaching and research. ISU awarded Ashby the University Award for Early Excellence in Research in 2000. Ashby received tenure from ISU in 2001 and was promoted to associate professor. In this process, she was awarded the president's and provost's award for "a tenure dossier that embodied the highest aspirations of faculty at Iowa State". In 2002, before leaving ISU, Ashby was honored by the American Chemical Society as one of the 12 most promising young female chemists in the country and highlighted in a Chemical and Engineering News article in August of 2002. In August of 2003, Ashby began a faculty position at the University of North Carolina at Chapel Hill in the department of chemistry as an associate professor. From 2005-2007, she served as the vice-chair of undergraduate studies for the department of chemistry at UNC. In May of 2007, she became the Director National Science Foundation AGEP (Alliance for Graduate Education and the Professoriate) program at UNC. She was recently honored by the university with the Bowman and Gray Professorship for excellence in undergraduate teaching and research and will hold this title from July of 2007 for five years. In July of 2007, Ashby was promoted to full professor at UNC-Chapel Hill.

**S**he is presently the faculty advisor for the UNC Chapter of the National Organization of Black Chemists and Chemical Engineers (NOBCChE). She is married to Rev. George P. Ashby and presently resides in Durham, NC. She is active in her church, Union Baptist Church in Durham, NC, where she serves as a Sunday school teacher for a class of 9-11 year old students.



Dr. Goldie Byrd

*Professor and Chair of Biology*

North Carolina Agricultural & Technical  
State University

**D**r. Goldie Byrd received her BS degrees in Professional Biology and Biology Education at North Carolina A&T State University. She received her Ph.D. at Meharry Medical College in Microbial Genetics. She completed her Post Doc at Meharry and recently completed a sabbatical at the Duke University Center for Human Genetics.

**D**r. Byrd is currently Professor and Chair of the Department of Biology at North Carolina A & T State University. She collaborates with investigators at Duke University Center for Human Genetics and the University of Miami Institute of Human Genomics to research the genetics of Alzheimer's disease in African Americans; and bio-behavioral aspects of Sickle Cell disease.



Dr. Jose A. Picart

*Vice Provost for Diversity and African American Affairs*  
*Professor of Counselor Education*

North Carolina State University

**D**r. Jose Picart is a native of San Juan, Puerto Rico. He lived in Frankfurt and Mannheim, Germany for nine years before attending junior high school and graduating from Reid Ross Senior High School in Fayetteville, North Carolina. His family has lived in Fayetteville, NC for over 30 years.

**D**r. Picart is a graduate of the United States Military Academy, West Point where he received a Bachelor of Science degree in General Engineering and Humanities. Following his graduation from West Point, Dr. Picart served his country for 28 years in the active Army as a commissioned military officer, a research scientist, and a college educator. He retired from active duty with the rank of Colonel in October 2003. During his time on active duty, Dr. Picart also served as a senior college administrator at three institutions of higher learning. He is the recipient of the prestigious American Council on Education (ACE) Fellowship, which he completed at the University of California at Santa Cruz from 1994-1995. From 1995-1996, Dr. Picart served as the Strategic Planner for the Army War College and helped author the Army War College Strategic Vision 2010. For 16 years he served on the faculty in the Department of Behavioral Sciences and Leadership, at West Point.

**H**e presently serves as the Vice Provost for Diversity and African American Affairs at North Carolina State University. In addition, he is a tenured Professor of Counselor Education in the College of Education, where he is actively involved in the Culture Collaboratories of The Friday Institute. As Vice Provost for Diversity and African American Affairs, Dr. Picart helps shape the campus vision for diversity and facilitates programs to build a more diverse and inclusive campus.

**D**r. Picart has earned a Master of Science and Doctoral degree in Experimental Cognitive Psychology from the University of Oklahoma in Norman. Dr. Picart lives in Cary, NC with his wife, Susan Picart, and their two children Aaron (13) and Emily (11). Dr. Picart is an avid tennis player and enjoys spending time with this family.



Dr. Tony Mitchell

*Assistant Dean of Engineering Student Services, Director of Minority Engineering Programs, and Associate Professor of Electrical and Computer Engineering*

North Carolina State University

**T**ony L. Mitchell, Lieutenant Colonel United States Air Force, Retired, received his B.S. degree in Mathematics from North Carolina A&T State University (1970), the M. S. in Information and Computer Science from Georgia Tech (1975), and Ph.D. in Electrical and Computer Engineering from North Carolina State University (1987). Currently he is Assistant Dean, Engineering Student Services, Director, Minority Engineering Programs, and visiting Associate Professor of Electrical and Computer Engineering at North Carolina State University in Raleigh. Previous educational assignments include Professor and Chairman of Electrical Engineering at NC A&T State University in Greensboro, Associate Professor of Computer Engineering at NC State, and Associate Professor of Mathematics at the United State Air Force Academy in Colorado Springs, Colorado. He worked for one year on educational sabbatical to the National Science Foundation. His teaching and research interests include control systems, high-speed packet and cell switching networks, multicast routing, and image and data compression of full motion color images.

**T**ony L Mitchell retired after 20 years in the United States Air Force, winning the 1988 United States Air Force Research and Development Award for his work on computer network topologies for the National Aeronautics and Space Administration Space Station.



Dr. Sandra DeLauder

*Associate Professor of Chemistry and Interim Dean of College of Science and Technology*

North Carolina Central University

**S**aundra F. DeLauder is a native Greensboro, North Carolina. She received a BS in Chemistry, a MS in Physical Chemistry from NCATSU in 1986, and Ph.D. in Analytical Chemistry in 1992 from Howard University. A Kodak Fellowship while in attendance at Howard funded her graduate research appointment at the Center for Advanced Research in Biotechnology (CARB), Rockville, MD. She was an American Society for Engineering Education postdoctoral and faculty fellow at the Naval Research Laboratory, Washington, DC. (1993-1994, summers 1996-1998). Additional research was conducted through the Summers of Discovery program in the Laboratory of Structural Biology at NIEHS during the summers 1999-2003.

**I**n 1996 she returned to North Carolina as an Assistant Professor in the Department of Chemistry at NCCU and was tenured and promoted to Associate Professor in 2003. From 2004-2006 she served as Interim Chairperson for the Department of Chemistry. During 2006-2007 she was an American Council on Education Fellow at Duke University and now serves as Interim Dean for the recently formed College of Science and Technology. She currently serves as Co-PI and chair for the Internal Advisory Board for the Initiative for Transforming and Sustaining Science, Technology, Engineering, and Mathematics (ITSSTEM) grant and as the campus PI for the Louis Stokes Alliance for Minority Participation (LSAMP) Program both funded through the National Science Foundation.



Dr. Jonathan F.K. Earle

*Former Associate Associate Dean of  
Student Affairs and Professor of  
Agricultural and Biological  
Engineering*

University of Florida

**J**onathan F. K. Earle is the former associate dean for student affairs and a former associate professor of agricultural and biological engineering at the University of Florida. He participated in the University of Florida Minority Mentor Program for the 18 years, and started a new mentoring program in the college of engineering to attract and retain pre-college students and undergraduates in the field of engineering. Among these, the Successful Transition through Enhanced Preparation for Undergraduate Programs (STEPUP), a transition program for entering minority engineering undergraduate students, became the model for a university-wide program established to address the needs of incoming African-American freshmen across the campus.



Dr. Margaret F. King

*Former Associate Vice Chancellor  
and Associate Dean of the  
Graduate School*

North Carolina State University

**D**r. Margaret King retired in August 2002 as Senior Associate Dean and Associate Vice Chancellor for Research and Graduate Studies from North Carolina State University. After receiving her Ph.D. from the University of North Carolina at Chapel Hill, she joined the faculty of the English Department at NC State in 1974, where her area of specialization was Victorian fiction. In 1989, she received a fellowship for an administrative internship in the Graduate School, working with Dean Debra Stewart on a study of doctoral education at NC State. In 1991, she joined the Graduate School permanently as Associate Dean. Her responsibilities included oversight of the Graduate School's fellowship, traineeship, and professional development programs, as well as Graduate School fund-raising and service as the advisor to the University Graduate Student Association. During her tenure in the Graduate School as Associate Dean, she was active in the graduate community at the state, regional, and national levels, serving as a member of the executive committee of the Conference of Southern Graduate School, as secretary of the Council of North Carolina Graduate Schools, and as a member of the national GRE Services Committee. She is also a member of Phi Beta Kappa, Phi Kappa Phi, and the NC State University Academy of Outstanding Teachers. Since her retirement, Dr. King has returned to work part-time in the Graduate School as coordinator of graduate program reviews.

**W**hen the Graduate School received a grant from the National Science Foundation to develop its Research Ethics Initiative, which included the development of web-based instructional modules, Dr. King volunteered to write the central essay for the module on the ethics of supervising graduate student research. A revision of this essay has been published by the Council of Graduate Schools and Peterson's as a booklet entitled *On the Right Track: A Manual for Research Mentors*, which has been purchased by graduate schools across the country for distribution to faculty and graduate students.



Dr. Ricardo B. Jacquez

*Regents Professor of Civil Engineering  
and Director of New Mexico Alliance  
for Minority Participation*

New Mexico State University

Over the course of his career, Dr. Jacquez has earned a respected reputation for broadening student opportunities, establishing important pathways to graduate studies, providing research and transfer assistance to community college students, and providing underrepresented high school students reasons to aspire to STEM post-secondary education. Dr. Jacquez has served as a board member of the New Mexico Mathematics, Engineering, Science Achievement program (New Mexico MESA), co-chair of the NMSU STEM Education Working Group, and faculty advisor to the American Indian Science and Engineering Society (AISES).

Dr. Jacquez's most significant accomplishments include:

- \* Serving as founding Director of the New Mexico Alliance for Minority Participation (New Mexico AMP), the New Mexico AMP Bridge to the Doctorate, the Collaborative for Excellence in Teacher Preparation (CETP), the Hewlett Foundation Engineering Schools of the West Initiative, the Computer Science, Engineering, and Mathematics Scholarship Program (CSEMS), and the recently awarded STEM Talent Expansion Program (STEP).
- \* Serving for ten years as the Education Director of the DOE-funded Waste-management Education and Research Consortium (WERC) during which time he led the effort to establish the M.S. in Environmental Engineering.
- \* He was the founding advisor of the Society of Hispanic Professional Engineers (SHPE) student chapter at NMSU, one of the first student chapters in the nation. Under Dr. Jacquez's leadership, the chapter established the NMSU SHPE Career Fair and was recognized on two occasions as the National Outstanding Student Chapter of the Year.
- \* Most recently, Dr. Jacquez and the New Mexico AMP team have developed and implemented the Freshmen Integrated Learning Communities project in the College of Engineering to improve retention and progression of engineering students.

Dr. Jacquez has served as Principal Investigator for grants totaling well over \$20 million dollars, with the majority of these efforts focused on the mentoring and professional development of countless students at NMSU and throughout the state.



Dr. Tanya Furman

*Professor of Geosciences,  
Assistant Vice President and Associate  
Dean for Undergraduate Education*

Penn State University

Dr. Furman is Professor of Geosciences, Assistant Vice President and Associate Dean for Undergraduate Education, and Associate Director of AESEDA (Alliance for Earth Science, Engineering and Development in Africa) at Penn State University. She earned a Ph.D. in Geochemistry from Massachusetts Institute of Technology in 1989. Her current research interests include using geochemistry of mafic lavas and phenocrysts to unravel melt generation, segregation and transport processes in the lithosphere and asthenosphere, with particular interest in continental rift zone magmatism and the development and maintenance of mantle reservoirs.

Dr. Furman has developed innovative programs to help increase the number of underrepresented students considering STEM-based careers and has built collaborative partnerships with other institutions that now use her programs. In 2005, Furman received a \$1.5 million grant from the National Science Foundation Program, Opportunities to Enhance Diversity in the Geosciences (OEDG). The grant, \$900,000 of which is administered by Penn State, is entitled "Building and Maintaining a Pipeline for Diversity." This is a four-year program that builds upon AESEDA's partnership with Jackson State University by providing longitudinal training, mentoring and support opportunities for students from underrepresented groups to achieve success in the geosciences. Furman collaborated with Jackson State colleagues to assist with the establishment of a department entitled Physics, Atmospheric Sciences and Geosciences. The new curriculum in Earth System Science was approved by the university and the state board of education, and went on line in summer 2007. More information about Dr. Furman may be found at:  
<http://www.geosc.psu.edu/people/faculty/personalpages/tfurman/index.html>



Dr. Christine Grant

*Professor of Chemical Engineering*

North Carolina State University

**D**r. Christine Grant is a tenured Full Professor of Chemical and Biomolecular (CBE) engineering at North Carolina State University. As one of only eight tenured female African-American chemical engineering faculty in the nation, Grant is working to change the under-representation of minorities on engineering and science faculty. She obtained a Bachelors degree in Chemical Engineering from Brown University in 1984; where she served as the president, vice president and secretary of the NSBE student chapter. Her graduate degrees (M.S. and Ph.D) were both obtained from Georgia Institute of Technology in 1986 and 1989. She joined the NCSU faculty in 1989 after completing her doctorate and has moved through the ranks of Assistant and Associate to Full Professor – one of only 2 African-American women in the country at that rank. Her research focuses on surface and interfacial phenomena in the areas of electronic materials and polymers. She has served her profession as a member of both the Board of Directors and the Chemical Technology Operating Council of the American Institute of Chemical Engineers (AIChE).

**G**rant, an NSF Presidential Award for Excellence in Science, Math and Engineering Mentoring (PAESMEM) awardee, was recently selected as a Boeing Senior Fellow of the National Academy of Engineering's Center for the Advancement of Scholarship on Engineering Education (CASEE). As a Boeing Fellow her project involves strategic planning, and infrastructure development to catalyze existing resources and develop new resources to enhance the recruitment, retention, and advancement of faculty drawn from underrepresented minority (URM) populations in engineering and science. A critical aspect of her project is to develop a strong collaborative effort between university administrators (e.g., engineering deans, department heads) and senior URM faculty in engineering and science that will address this opportunity based on the wisdom of their own experiences. She recently founded the "Promoting Underrepresented Presence on Science and Engineering Faculties (PURPOSE) Institute". PURPOSE is the culmination of Grant's over 20 years working on the development of URM scientists and engineers. She has been a co-facilitator of an active network of chemical engineering faculty through: leadership of the Minority Affairs Committee in AIChE, organization of NSF workshops for minority engineering faculty, and numerous presentations as a speaker or a panel member for programs focused on excellence in the academy. Her progress in this arena was recently recognized with the AIChE Minority Affairs Committee Distinguished Service Award.



Dr. Vallie Guthrie

*Associate Professor of Chemistry and  
Director of GAMSEC  
(Greensboro Area Math & Science  
Education Center)*

North Carolina Agricultural & Technical  
State University

**D**r. Vallie Guthrie is the director of the Greensboro Area Mathematics and Science Education Center (GAMSEC), a program to improve math and science skills for students in grades 7-12. It offers workshops and institutes for K-12 teachers in the fields of math, science, and technology. She has directed the GAMSEC program at A&T 16 years. It currently reaches 450 students in Greensboro and surrounding areas. She was born in 1939, in Maple Hill, N.C. She attended A&T and graduated in 1961 with a degree in professional chemistry. She also joined the Delta Sigma Theta Sorority while she was at A&T. She attained her master's degree from Fisk University in Nashville, Tenn., and went on to get her doctorate at American University in Washington, D.C.