Shaik Jeelani, Ph.D., P.E., Fellow ASME
Tuskegee University
Phone: 334-727-8970, Fax: 334-724-4224, Cell: 334-552-1088
E-mail: jeelanis@mytu.tusk.edu

I. Education

Ph.D. in Mechanical Engineering, 1974, North Carolina State University, Raleigh, N. C.

II. Experience (Academic)

Professor: Department of Mechanical Engineering, Tuskegee University, 1980 **– Present**
Associate Professor of Mechanical Engineering, Tuskegee University, 1978 –1980
Assistant Professor of Mechanical Engineering, Tuskegee University, 1974 1978

III. Experience (Administrative/Managerial)

Vice President for Research & Dean of Graduate School, 2015-Present
Vice President, Research and Sponsored Programs, Tuskegee University, 1996-2015
Founding Chair, Department of Materials Science and Engineering 2011-2015
Founding Director, Tuskegee's First Ph.D. Program in Materials Science and Engineering
Founding Director, Center for Advanced Materials, Tuskegee University, 1977 - **Present**
Interim Dean, School of Engineering and Architecture, Tuskegee University, 1992-1994
Director, Computer Aided Design Laboratory (CAD), Tuskegee University, 1984-1996
Associate Dean: School of Engineering and Architecture, Tuskegee University, 1981 – 1996
Assistant Dean: School of Engineering and Architecture, Tuskegee University, 1976 – 1981
Interim Head, Mechanical Engineering Department, Tuskegee University, June 1, 1987 - August 31, 1987, June 1, 1982 – July 30, 1983, April 1, 1979 – June 1, 1980, June 1, 1977 – May 31, 1978

IV. Teaching Experience

Taught the following courses at graduate and undergraduate levels:
Engineering Graphics, Introduction to Engineering, Statistics, Dynamics, Applied Mechanics, Materials Science, Strength of Materials, Theory of Machines, Manufacturing Processes, Machine Design, Advanced Machine Design, Stress Considerations in Design, Experimental Stress Analysis.

V. Curriculum and Infrastructure Development

Dr. Jeelani played a leading role in the development of various curriculums and infrastructure in the School of Engineering and Architecture. He spearheaded the **Infrastructure and curriculum development** in the School of Engineering and Architecture through a **$2.50** million grant from the Army Research Office. This effort resulted in the university's obtaining full (six years) ABET **accreditation** for all its Engineering programs.

He also wrote the proposal for funding of the **first Endowed Chair in Materials Science and Engineering,** currently occupied by Dr. Tamara Floyd-Smith and **the Walter Massey Chair in**

Environmental Science and Engineering, occupied until July 31, 2014 by Dr. Nosa Egiebor, at Tuskegee University.
He was actively involved in the development of the curriculum, implementation of the programs and recruitment of students for the undergraduate programs in **Aerospace Science and Chemical Engineering.** He recruited and mentored the first batch of students for these programs.

He spearheaded the development of the curriculum, recruitment of students and establishment of **Tuskegee University's first Ph.D. program in Materials Science and Engineering.**

VI. Division of Research and Sponsored Programs

Dr. Jeelani is serving as the first **Vice President for Research and Sponsored Programs** (1996-Present) at Tuskegee University. The responsibilities include developing aggressive strategies and plans to increase funding for research and other sponsored programs and supervising three departments: Sponsored Programs, International Programs and Grantsmanship and Compliance. As a result of streamlining the Grants and Contracts process through development of various **Sponsored Programs and Compliance Guides** and publication of **Tuskegee's Research Capability,** Funding for Research and Sponsored Programs at Tuskegee University has been raised from **$23 million** 1n 1996 to **$44 million** in 2015

VII. Honors and Award

1. Alabama Academy of Science Award for Outstanding Contributions to Science 2014

2. Presidential Award for Mentoring 2011 (Received from President Obama)

3. The Shaik Jeelani Selfless Service Award**:** SECME, the nation's largest teacher training organization established an award in Dr. Jeelani's name, which is presented each year to one of SECME constituents who goes beyond the call of duty to ensure students are mentored and well-equipped so that they are moving successfully along the STEM pipeline.

4. Global Messenger Award presented by Southeastern Consortium for Minorities in Engineering (SECME), 2001

5. Outstanding Contribution Award by the National Association of Minority Program Administrators (NAMEP A), 1996

6. Exxon Foundation Faculty Development Award for Outstanding Research, 1984.

7. Outstanding Teacher from ME Department, 1978-1979

8. Outstanding Teacher from School of Engineering, 1977-1978

9. Outstanding Teacher from ME Department, 1977-1978

10. Outstanding Teacher from School of Engineering, 1977

11. UNCF Professor of the Year, 1976

12. Tuskegee University Teacher of the Year, 1976

13. Outstanding Teacher from ME Department, 1975-1976

VIII. Professional and Scientific Societies

Registered Professional Engineering in the State of Alabama, (Alabama PE#1197)

Fellow, American Society for Mechanical Engineers

Member, American Society for the Advancement of Science (AAAS)

Member, American Society of Mechanical Engineers (ASME)

Member, American Society of Engineering Education (ASEE)

Member, Society of Experimental Stress Analysis (SESA)

Member, American Ceramic Society

Member, Sigma XI

Member, Pi Tau Sigma Honor Society

Member, Society for Advancements in Materials Processing Engineering (SAMPE)

Vice President of Chattahoochee Sub Section of ASME, 1985-1986

Secretary of Chattahoochee Sub-Section of ASME, 1986-1987, 1987-1988

Member, Materials Research Society (MRS)

IX. Research Grants

Dr. Jeelani raised more than **$152** million over **43** years for basic and applied research in Advanced Materials through **100** grants. The following is a list of a few major grants

1. "A NonoBio Science Partnership for the Alabama Black Belt Region"**, National Science Foundation ($10 million**), (9/1/2011-8/31/2016)

2. "Research Infrastructure in Science and Engineering (**RISE**) Program, **National Science Foundation,** (**$4.0 million,** 02/10/04-31/08/2014).

3. "Intelligent Resin Transfer Molding for Integral Armor Applications", **Army Research Office (ARO), ($9,4 million**, 9/95-9/2000)

4. "Innovative Manufacturing of High Performance Materials," **National Science Foundation,** Center for Research Excellence in Science and Technology (**CREST**), ($**5 million**, 9/97-9/02).

5. "Synthesis, Manufacturing and Characterization of Structural Nanocomposites" Center for Research Excellence in Science and Technology (**CREST**) Program, **National Science Foundation**, (**$5 million,** 9/1/03-8/31/08).

6. "Integrative Graduate Education and Research Training in Nanomaterials Science and Engineering", Integrative Graduate Education and Research Training (**IGERT**) Program, **National Science Foundation,** (**$3.32 million**, 10/01/03-9/30/08).

X. Publications

Dr. Jeelani has authored or co-authored over **350** papers in refereed Journals and presented **450** technical papers at national and international conferences, and wrote numerous Technical reports for NSF, NASA, NAVY, ARMY and Air Force. The following list shows **only a few** refereed papers.

1. **Jeelani, S.** and Musial, M. "Dependence of Fatigue Life on the Surface Integrity in the Machining of 2024-T351 Aluminum Alloy", Part I, "Un-lubricated Conditions". **Journal of Material Science, 20(1)** 1986, pg. 155-160.

2. **Jeelani, S.** and Musial, M. "A Study of Cumulative Fatigue Damage in AISI 4130 Steel", **Journal of Materials Science**, 21(1) 1986, pg. 2109-2113.

3. **Jeelani, S.,** Ghebremedhin, S. and Musial, M. "A Study of Cumulative Fatigue Damage in Titanium 6A1-4V Alloy", **International Journal of Fatigue**, 8 No. 1, 1986, pg. 23-27.

4. **Jeelani, S.** and Bailey, J. A. "Residual Stress Distribution in Machining Annealed 18% Nickel Maraging Steel", **ASME Journal of Materials Science and Technology**, Vol. 108 (1986) 93-98.

5. **Jeelani, S.** and Collins, M. R. "Effect of Electric Discharge Machining on the Fatigue Life", **International Journal of Fatigue**, 10 No. 2 (1988) pg. 121-125.

6. **Jeelani, S.** and Scott, M. A. "How Surface Damage Removal Affects Fatigue Life", **International Journal of Fatigue**, 10 No. 4 (1988) pg. 257-260

7. Kanny, K., Mahfuz, H., Thomas, T. and **Jeelani, S**., "Fatigue of Cross-linked and Linear PVC Foams under Shear Loading," ***Journal of Reinforced Plastics and Composites***, Vol. 23, No. 6, pp. 601-612, 2004.

8. Thomas, T., Mahfuz, H**.,** Kanny, K. and **Jeelani, S**", High Strain Rate Response of Cross-linked & Linear PVC Foams," ***Journal of Reinforced Plastics and Composites***, Vol. 23, No. 7, pp. 739-749, 2004.

9. Thomas, T., Mahfuz, H., Kanny, K., and **Jeelani, S**.," Dynamic Compression of Sandwich Composites at sub-ambient Temperatures," ***Journal of Composite Materials***, Vol. 38, No. 8, pp. 641-654, 2004.

10. Kanny, K.,, Mahfuz, H., Thomas, T., and **Jeelani, S,** "Static and Dynamic Characterization of Polymer Foams under Shear Loads, ***Journal of Composite Materials***, Vol. 38, No. 8, pp. 629-640, 2004.

11. Mahfuz, H**.,** Majumdar, P., Saha, M. and **Jeelani, S.**, "Integral Manufacturing of Composite Skin-Stringer Assembly and their Stability Analyses," ***Applied Composite Materials***, 11 (3): 155-171, 2004.

12. Chisholm, N., Mahfuz, H., Rangari, V., Ashfaq, A. and **Jeelani, S.,** "Fabrication and Mechanical Characterization of Carbon/Epoxy Nanocomposites," ***Composite Structures*** 67 (2005) 115-124.

XI. Reviewer for Peer Reviewed Journals

Journal of Composite Materials
Journal of Composite Science and Technology
Journal of Reinforced Plastics and Composites
Journal of Materials Science and Engineering
Journal of Materials Science Engineering and Technology

XII. K-12 Initiatives

Tuskegee University is well known for its innovative K-12 programs, **all designed and implemented by Dr. Jeelani,** during his tenure of thirty-six years as a faculty member. These programs have become effective mechanisms to identify, motivate and recruit students for academic programs in science and engineering. The programs are briefly described below.

Saturday Academy

The program is offered for 8^{th} through 12^{th} graders attending schools in Macon County, Alabama, throughout the academic year, to strengthen their background in Mathematics, Physics, Chemistry, Biology and Physical Science, so that they could qualify for admission in science and engineering curricula at the college level. **Approximately 100 students are served, each year.**

Pre-Freshman Enrichment Program (PREP-8, PREP-9 and PREP-10)

These are six-week summer programs offered for students completing their 8th, 9th, and 10th grades, respectively. PREP consists of instruction in Mathematics, Biology, Chemistry, Physics and Computer Programming. Laboratory sessions are designed to provide students with experience in experimentation, report writing and problem solving. Field trips are arranged for the students' professional development. **Approximately 75 students are served, each summer.**

Introduction to Engineering (MITE)

MITE is a two week summer program designed to expose high school juniors/rising seniors to various aspects of engineering and college life. The main features of the program are lectures on engineering by faculty and engineering alumni, laboratory demonstrations, seminars, field trips and picnics. The program is offered at no cost to the students, except their transportation to and from Tuskegee. **Approximately 60 students are served through MITE, each summer.**

Research Apprenticeship for Disadvantaged High School Students (RADHS)

RADHS is an eight-week summer program designed to provide high school juniors/rising seniors the opportunity for "hands on" laboratory experience under the supervision of research faculty and graduate students. **Approximately 30 students are involved in RAHDS, each summer.**

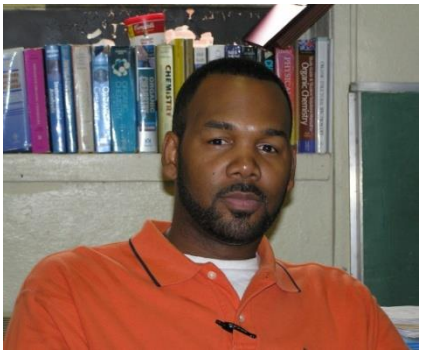
Freshmen Accelerated Start-Up and Training for Retention in Engineering Curricula (FASTREC)

FASTREC is an eight-week summer program offered at Tuskegee, every year, for high school graduates who are about to enter college. In the FASTREC program, students pursued an intensive program of study in English, Mathematics and Engineering Graphics or Computer programming. **Approximately 100 students participate in FASTREC, each summer.** At least 90% of the FASTREC participants enter science and engineering programs at Tuskegee University.

XIII. Seed Funds for Junior Faculty

In 2005, Dr. Jeelani initiated a new mentoring program, which involved providing seed funds for Junior faculty, from his research grants. The program, which still exists, involves providing subcontracts to selected junior faculty members, mentoring them in using and managing the funds and dealing with the grants and contracts process and publishing technical papers in peer reviewed journals and writing technical reports. The mentoring also includes showing them how to use FASTLANE and Grants.gov for submitting proposals and reports. The seed grants range from $40,000 to $75,000 per faculty for a period of two years. A total of eight junior faculty members, shown below, were supported during the period 2005-2014. These faculty members have published in peer reviewed journals and presented their work at several national conferences. Dr. Pamela Leggett- Robinson has moved to a four-year college in Georgia as Head of the Department of Natural Sciences Department, while Dr. Tamera Floyd Smith has been tenured and promoted to the rank of Professor at TU. These faculty members have become active participants in the research and educational programs headed by Dr. Jeelani. They have also

become very useful in recruiting new students for TU's programs. All of them now serve as faculty advisors/major professors for graduate and undergraduate students assigned to them.



Dr. Albert Russell, Assistant Professor of Chemistry

Dr. Tamara Floyd-Smith, Assistant Professor of Chemical Engineering

Dr. Michael Awaah, Assistant Professor of Electrical Engineering

Dr. Cynthia Lester, Assistant Professor of Computer Science

Dr. Pamela Leggett-Robinson, Assistant Professor of Chemical Engineering

Dr. Mohammad Kamal Hossain, Assistant Professor of Mechanical Engineering

Dr. Michael Curry
Associate Professor of Chemistry

Dr. Maria Calhoun-Charlton, *Assistant Professor of Mechanical Engineering*

Dr. Hadiyah-Nicole Green, *Assistant Professor of Materials Science and Engineering*

- **President George Bush's Visit**
  In 2008, President Bush visited the Center for Advanced Materials to meet with Dr. Jeelani and his graduate students. The photo in figure 2 shows President George W. Bush gathering information from Ms. Nydeia Wright, a Tuskegee University PhD student in Materials Science and Engineering, on the research conducted in the Center for Advanced Materials at Tuskegee University.

Figure 2: President Bush and Nydeia Wright, TU Graduate Student

Figure 3: Dr. Jeelani and President Obama

- **Presidential Award for Mentoring**
  In December 2011, Dr, Jeelani was invited to the White House to receive the Presidential Award for Mentoring. Figure 3 shows President Obama greeting Dr. Jeelani, in the Oval Office, after the award ceremony.