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## **Anthony D. Belvin**

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### **Education**

**Ph.D. in Mechanical Engineering**, 2004 – Florida Agricultural and Mechanical University, Tallahassee, FL

**M.S. in Mechanical Engineering**, 1999 – Howard University, Washington, DC

**B.S. in Mechanical Engineering**, 1997 - Georgia Institute of Technology, Atlanta, GA

**B.S. in General Sciences**, 1997 – Morehouse College, Atlanta, GA

### **Selected Honors and Awards**

- ♦ **Fellowship**, GEM Consortium (Ford Motor Company, PhD Sponsor), 2001
- ♦ **Fellowship**, Florida A&M NASA Scholar, 1999
- ♦ **Second Prize**, GEM Technical Paper Contest-Technical Symposium, W. Palm Beach, FL, 1999
- ♦ **Tau Beta Pi**, Howard University, 1999
- ♦ **Fellowship**, GEM Consortium (NASA, MS Sponsor), 1997
- ♦ **Summa Cum Laude**, Morehouse College, 1997
- ♦ **Pi Tau Sigma**, Georgia Institute of Technology, 1996
- ♦ **Phi Beta Kappa**, Morehouse College, 1996
- ♦ **Winner**, US WEST Scholarship (US WEST Communications), 1996
- ♦ **Winner**, Most Outstanding Fourth Year Mechanical Engineering Student (Atlanta University Dual Degree Engineering Program), 1996
- ♦ **Outstanding Academic Achievement-Third Year**, Atlanta University Center Dual Degree Engineering Program, 1995
- ♦ **Winner**, Most Outstanding Second Year Engineering Student (Atlanta University Dual Degree Engineering Program), 1994
- ♦ **Outstanding Academic Achievement-Second Year**, Atlanta University Center Dual Degree Engineering Program, 1994
- ♦ **Outstanding Academic Achievement-First Year**, Atlanta University Center Dual Degree Engineering Program, 1994
- ♦ **Winner**, Most Outstanding Freshman Engineering Student (Atlanta University Dual Degree Engineering Program), 1993
- ♦ **Scholarship**, Ronald E. McNair NASA Scholar (Morehouse College), 1992
- ♦ **Scholarship**, Amoco Scholar (Morehouse College), 1992
- ♦ **Scholarship**, Hope Scholar (Morehouse College, Georgia Institute of Technology), 1992

**Research Experience**

**Graduate Research Assistant, FAMU/FSU College of Engineering, Tallahassee, FL 1999 – present**

- ◆ Development of a damage model on polycrystalline nickel based on texture evolution and void coalescence
- ◆ Characterization of Titanium Diboride Alumina Ceramics using two-point distribution functions
- ◆ Development of a High Velocity impact simulation model of woven ceramic composites

**Research Assistant, Sandia National Laboratories, Microsystems and Materials Mechanics, Livermore, CA 2002**

- ◆ Conducted damage nucleation study of polycrystalline nickel alloys
- ◆ Determined causes of specimen failure as functions of void configuration.

**Research Assistant, Ford Motor Company, Vehicle Crash Safety, Side Impact Development, Dearborn, MI 2001**

- ◆ Conducted side impact foam investigation for the Ford Taurus
- ◆ Determined viability of replacement foams in Taurus door panels.
- ◆ Developed a Finite Element Model to predict the behavior of proposed foams during collision.

**Research Assistant, Pratt and Whitney, Mechanics and Materials, Failure Analysis Division, West Palm Beach, FL 1999**

- ◆ Determined the causes of hardware failure in military and spaceflight hardware
- ◆ Examined the failure of F-15 Eagle feathers

**Research Assistant, Pratt and Whitney, Mechanics and Materials, Creep and Tensile Testing, West Palm Beach, FL 1998**

- ◆ Conducted Stress Relaxation Tests of Nickel Super alloys
- ◆ Developed a testing standard and procedure for stress relaxation tests of nickel superalloys

**Research Assistant, GT SUPREEM, Packaging and Electronics Program, Georgia Institute of Technology, Atlanta, GA 1996**

- ◆ Conducted stress tests of printed wiring boards
- ◆ Developed a finite element model of printed wiring board warpage based on thermal cycling.

### **Research Experience (continued)**

**Research Assistant, Kennedy Space Center, Department of Materials Science, Cape Canaveral, Fl 1993**

- ◆ Conducted corrosion experiments
- ◆ Conducted an experiment using zinc as a corrosion barrier to metal

### **Teaching Experience**

**Graduate Teaching Assistant, Department of Mechanical Engineering, FAMU/FSU College of Engineering, Tallahassee, Fl, Spring 2001**

- ◆ Conducted study sessions, evaluated homework assignments for Solid Mechanics II

**Graduate Teaching Assistant, Department of Physics, Florida A&M University, Tallahassee, Fl, Fall 2000**

- ◆ Conducted tutorial sessions, evaluated homework and exams for Physics I

**Instructor, Introduction to Engineering, Florida A&M University, Tallahassee, Fl Fall 2000, Spring 2001**

- ◆ Developed and taught courses on time management and effective study skills
- ◆ Gave presentations on engineering disciplines

**Tutor, Public Housing Graduates Program, Washington, DC 1999**

- ◆ Tutored inner-city youth in mathematics and science classes
- ◆ Contributed into the development of incentive- based programs for PHG students

**Tutor, STEP Program, Georgia Institute of Technology, Atlanta, GA 1996-1997**

- ◆ Tutored minority undergraduates in freshman fundamental engineering courses

### **Conference Presentations**

**Presenter (1999-2003)**

- ◆ *“Texture Effects on the Ductile Fracture and Deformation Behavior of Polycrystalline Nickel”*, 2003 MS&T Meeting '03, Chicago Illinois, November 2003
- ◆ *“Use of Two-Point Functions for Microstructure Sensitive Design of a Two-Phase Composite Material”*, Plasticity 2003, Quebec City, Canada, July 2003
- ◆ *“An Experimental Study of the Effect of Void Configurations on the Ductile Fracture of Polycrystalline Nickel”*, GEM Faulty Bridge Conference, Houston, TX, May 2003

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### Presentations (continued)

Presenter (1999-2003)

- ◆ “*Investigation of the Mechanical Properties of Polyethylene Homocomposites*”, Technical Symposium, W. Palm Beach, Fl, July 1999

### Publications

2003: “*Use of Two-Point Functions for Microstructure Sensitive Design of a Two-Phase Composite Material*”, **A. Belvin**, G. Saheli, H. Garmestani, and B. Adams, Dislocations, Plasticity and Metal Forming, 2003.

2000: “*Temperature Effects on the Localization and Failure Mode of AL 5083*”, J. Watts, X. Chen, **A. Belvin**, N. Chandra, Proceedings of the International Conference on Superplasticity in Advanced Materials(ICSAM 2000) .

### Pending Conferences/Publications

“*Texture Evolution of Polycrystalline Nickel Containing Microvoids*”, submitted to LIMAT 2003, Honolulu, Hawaii.

“*Use of Two Point Functions to Determine Material Properties of Alumina Ceramics*”, submitted to 2004 Hawaii International Conference on Sciences, Waikiki, Hawaii.

### Media Appearances

2003: Featured in Summer/Fall 2003 Edition of Diversity/Careers in Engineering and Information Technology, “Gem program encourages minorities to get advanced degrees”.

### Affiliations

- ◆ Society of Automotive Engineers
- ◆ The Metals, Minerals, and Materials Society (TMS)
- ◆ National Society of Black Engineers
- ◆ Morehouse National Alumni Association