

**Jon-Michael Hardin**

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**EDUCATION**

**Doctor of Philosophy**

**Theoretical and Applied Mechanics**, October 1998

University of Illinois at Urbana-Champaign, Urbana, Illinois

Area of specialization: applied solid mechanics

Dissertation Title: *On Path Independence of Axially Loaded Wire-Rope Strands*

**Master of Science, Mechanical Engineering**, August 1991

University of South Carolina, Columbia, South Carolina

Area of specialization: applied solid mechanics

Thesis Title: *Development and Verification of an Optical System for Measuring In-plane Displacements to Determine Strains at High Temperatures*

**Bachelor of Science, Mechanical Engineering**, May 1982

University of South Carolina, Columbia, South Carolina

Area of specialization: Thermodynamics, Heat Transfer, Fluid Mechanics

**WORK EXPERIENCE**

**2004- present**

**Associate Professor**

Virginia Military Institute, Lexington, Virginia

**1998 – 2004**

**Assistant Professor**

Virginia Military Institute, Lexington, Virginia

**o Curriculum/Course Development:**

- **Introduction to Mechanical Engineering (ME105):**  
Developed and introduced a freshman team-design project using LEGOS *Mindstorms Robotic Invention System*<sup>TM</sup> which exposed students to engineering design concepts, computer programming, technical writing, and problem solution methods.

## Jon-Michael Hardin

### Curriculum/Course Development: (continued)

- **Fiber-Reinforced Composites (ME489):**  
Developed and introduced into the ME curriculum a fiber-reinforced composites design course. The course includes composite design theory and student design and fabrication of a fiber-reinforced composite structure (for example, a snowboard during the Spring 2000 semester).
- **Dynamic Systems Analysis (ME483)**  
Developed a Dynamic Systems Analysis design course that includes design theory for both vibrations and controls. The course will include student design and fabrication of a PID control system.

### o Teaching:

- **Introduction to Mechanical Engineering (ME105)**  
Freshman introduction to engineering problem solving methods, mechanical design, computer programming, and technical writing.
- **Statics (ME201), Dynamics (ME302), Solid Mechanics (CE206) : Fundamental theory.**
- **Instrumentation (ME325), Material Science (ME305):**  
Fundamental theory and associated laboratory.
- **Fiber-reinforced Composites (ME489):**  
Design theory and student design and fabrication of a fiber-reinforced composite structure.
- **Independent Research I (ME461):**  
Supervised student design teams for the 2000 ASME National Design Competition.
- **Senior Design Project (ME444):**  
Supervised student design teams for industrial design projects, such as with Advanced Shelving Products, Westvaco, and Rockbridge Precast Concrete, and for the annual SAE Super Mileage Car Competition.

Jon-Michael Hardin

**1992 - 1998**

**Teaching Assistant**

University of Illinois at Urbana-Champaign, Urbana, Illinois

- **Statics** (TAM150/152), **Dynamics** (TAM154/212), **Strength of Materials** (TAM221): Weekly problem solving discussion sections.
- **Laboratory Coordinator, Behavior of Materials Laboratory** (TAM 224):
  - o Taught a review of theoretical fundamentals related to weekly lab experiments, and assisted students in the laboratory.
  - o Coordinated instruction by lab teaching assistants.
  - o Assisted course coordinator in ongoing development of course material.
- **Fluid Mechanics Laboratory** (TAM 235):
  - o Taught a review of theoretical fundamentals related to weekly lab experiments, assisted students in the lab, and graded weekly lab reports.

**1992 - 1994**

**Instructor**

University of Illinois JETS/MITES Program

- Provided instruction and laboratory demonstrations in solid mechanics to high school students participating in the two week summer JETS and MITES programs.

**1992 - 1993**

**Research Assistant,**

Department of Theoretical and Applied Mechanics

University of Illinois at Urbana-Champaign

- Designed, purchased, installed and tested laboratory equipment for high-temperature vacuum and laser system research.

**1991**

**Adjunct Instructor**

Midlands Technical College, Columbia, South Carolina

- Taught fundamental theory and laboratory instruction for Engineering Graphics and Thermodynamics courses.

**Jon-Michael Hardin**

**1989 - 1991**

**Research Assistant**

Department of Mechanical Engineering

University of South Carolina, Columbia, South Carolina

- Developed a non-contact method, using digital vision and computer data correlation, for determining strains in high-temperature material applications.

**1982 - 1989**

**Engineer**

R. J. Reynolds Tobacco Company

Winston-Salem, North Carolina

**o Engineer II, 1984 - 1989**

Corporate Production Engineering Department

Held company-wide responsibility for all scheduling, budgeting, purchasing, and technical aspects for all casepacking/robotic palletizing complexes:

- Scheduled all company-wide resources and personnel for equipment purchase, delivery, installation, and start-up of 144 casepacking/robotic palletizing complexes in a new manufacturing facility.
- Coordinated equipment delivery, installation, and start-up schedules with other departments, such as Promotions, Production, Manufacturing, Electrical, and Maintenance.
- Developed and prepared all budgets, purchase orders, and technical specifications for all casepacking/robotic palletizing complexes.
- Principal liaison between RJ Reynolds and equipment vendor for all scheduling and technical aspects for equipment purchase, delivery, installation, start-up, and continuing production.
- Provided on-sight supervision and technical assistance to mechanics and electricians for equipment installation and for trouble-shooting of equipment problems in continuing production.

**Jon-Michael Hardin**

**o Engineer II, 1984 – 1989 (continued)**

- Designed and tested equipment and component modifications.
  - Developed and implemented extensive company-wide technical training programs for equipment operators and mechanics.
- o **Engineer I, 1982 - 1984**  
Whitaker Park Manufacturing Facility
- Supervised and assisted mechanics and electricians in installation, trouble-shooting, and modifications of process and manufacturing equipment.
  - Designed and tested equipment and component modifications of process and manufacturing equipment.
  - Developed and implemented a company-wide preventative maintenance program for all manufacturing equipment.
  - Developed equipment and support facility lay-out for major plant renovation.

## HONORS AND AWARDS

- o Awarded the *J. O. Smith Teaching Award* for excellence in teaching, University of Illinois at Urbana-Champaign, 1996.
- o Elected to the campus-wide *List of Teachers Ranked as Excellent by Their Students* for each semester course I taught at the University of Illinois at Urbana-Champaign.

## REFERENCES

- o **Dr. Timothy Hodges**  
Department of Mechanical Engineering  
Virginia Military Institute  
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e-mail: hodgestm@vmi.edu
- Jon-Michael Hardin**

## REFERENCES (continued)

- o **Dr. Howard Arthur**

Department of Mechanical Engineering  
Virginia Military Institute  
Lexington, VA 24450

Telephone: (540) 464-7308  
e-mail: arthurjh@vmi.edu

- o **Dr. Amit Acharya**  
Carnegie Mellon University  
Department of Civil and Environmental Engineering  
103 Porter Hall  
Pittsburgh, PA 15213

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