Timothy B. Hartman

Dassault Systèmes SIMULIA Corp.
166 Valley Street
Providence, RI 02909

Mobile: 260.627.9846
Office: 401.276.7187
Email: timothy.hartman@3ds.com

Education

Ph.D. Engineering Mechanics, Virginia Polytechnic Institute and State University, May 2013

Dissertation: Geometrically Nonlinear Stress Recovery in Composite Laminates

Engineering Education Graduate Certificate

Future Professoriate Graduate Certificate

Committee: Scott W. Case (co-chair)
Michael W. Hyer (co-chair)
Romesh C. Batra
Shane D. Ross
Robert L. West

B.S. Mechanical Engineering, Cedarville University, May 2006 (*GPA: 3.64/4.0*)

Passed Fundamentals of Engineering Exam, April 2006.

Teaching

Virginia Polytechnic Institute and State University Blacksburg, VA

Mechanics of Deformable Bodies, Spring 2012

Mechanical Behavior of Materials Laboratory, Fall 2008

The High School Affiliated with the People's University of China Beijing, China

English Physics and Grammar, Fall 2007 – Spring 2008

Employment

Dassault Systèmes SIMULIA Corp. Providence, RI

Technical Customer Support Manager, May 2013 – *present*

Support customers in their use of SIMULIA's simulation software portforlio, primarily the Abaqus finite element anlaysis software suite, with an emphasis on modeling linear dynamics and acoustics analyses.

Virginia Polytechnic Institute and State University Blacksburg, VA

Research Assistant, Scott W. Case, January 2010 – May 2013

Funded by Pratt & Whitney, East Hartford, CT. Simulated quasi-static punch experiment of graphite fiber reinforced composite laminate using progressive failure finite element analysis.

Research Assistant, Scott W. Case, January 2009 – December 2009

Funded by Army Research Laboratories. Designed single-stage gas gun and performed experimental tests to characterize the behavior of flexible fibrous composite plates under intermediate-velocity rigid-body impact.

GSE Systems Windsor Mill, MD

Systems Enginer, September 2006 – July 2007

Modeled combined cycle gas turbine power plant mechanical systems through numerical simulation tools for use in educational training environments.

ITT Industries Aerospace/Communications Division Fort Wayne, IN

Manufacturing Engineering Intern, Summer 2005

Evaluated use of automated optical inspection equipment for in-line inspection of circuit card assembly production.

Research

Journal Articles

T. Hartman, M. Hyer, and S. Case. "Geometrically Nonlinear Stress Recovery in Composite Laminates." *AIAA Journal.* 50.5 (May 2012) pp. 1156–1168.

Conference Proceedings

T. Hartman, M. Hyer, and S. Case. "Geometrically Nonlinear Stress Recovery in Composite Laminates Subjected to Dynamic Loading." *55th AIAA Structures, Structural Dynamics, and Materials Conference.* National Harbor, MD, 2014.

M. Tehrani, A. Boroujeni, **T. Hartman,** T. Haugh, S. Case, and M. Al-Haik. "Impact and Quasi-Static Mechanical Properties of a Carbon Fiber Reinforced Carbon Nanotube/Epoxy." *Proceedings of the ASME 2012 International Mechanical Engineering Congress and Exposition.* Houston, TX, 2012.

T. Hartman, M. Hyer, and S. Case. "Geometrically Nonlinear Stress Recovery in Composite Laminates Considering Inertial Effects." *American Socienty for Composites 27th Technical Conference.* Arlington, TX, 2012.

T. Hartman, M. Hyer, and S. Case. "Geometrically Nonlinear Stress Recovery in Composite Laminates." *52nd AIAA Structures, Structural Dynamics, and Materials Conference.* Denver, CO, 2011.

T. Hartman and S. Case. "Failure of Spectra Shield UHMWPE Composites Due to Low Velocity Hard Body Impact." *Proceedings of the 2010 SAMPE Fall Technical Converence.* Salt Lake City, UT, 2010.

Presentations

Geometrically Nonlinear Stress Recovery in Composite Laminates Including Inertial Effects

27nd ASC Technical Converence, Arlington, TX, 02 October 2012.

Geometrically Nonlinear Stress Recovery in Composite Laminates

52nd AIAA Structures, Structural Dynamics, and Materials Converence, Denver, CO, 05 April 2011.

Failure of Spectra Shield UHMWPE Composites Due to Low Velocity Hard Body Impact

SAMPE Fall Technical Conference, Salt Lake City, UT, 13 October 2010.

Honors and Awards

Jefferson Goblet Award for Best Student Paper, 52nd AIAA SDM Conference, April, 2011
NCCAA Sportsmanship Award in Men's Tennis, 2006
NAIA Scholar-Athlete in Men's Tennis, 2005, 2006

Activities

Advising

Undergraduate research with Matt Yaple	Virginia Tech	2013
Undergraduate research with David Allen	Virginia Tech	2012

Outreach

Virginia Tech Graduate Honor System	Panelist	2011–2013

Conference Attendance

American Society for Composites 27th Technical Conference	Arlington, TX	October 2012
4th Conference on Higher Education Pedagogy	Blacksburg, VA	February 2012
AIAA 52nd SDM Conference	Denver, CO	April 2011
SAMPE Fall Technical Conference	Salt Lake City, UT	October 2010

Workshop Attendance

Scientific Programming with Python	Virginia Tech	September 2012
High Performance Computing and Visualization Workshop	Virginia Tech	August 2012
Introduction to LS-DYNA	LSTC	June 2011
Graduate Teaching Assistant Workshop	Virginia Tech	August 2008

Professional Affiliations

American Institute of Aeronautics and Astronautics	Student Member	2011–2012
Society of Automotive Engineers	Student Member	2005–2006