



Vipul Ranatunga

Associate Professor
Miami University

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EDUCATION:

Ohio University, Athens, Ohio.

Ph.D. in Integrated Engineering (Mechanical & Industrial Combined), November 2002.

Dissertation: "Modeling of Profile Ring Rolling with Upper Bound Elemental Technique".

M.S., Mechanical Engineering, March 1999.

Thesis: "Analytical Modeling of Axisymmetric Disk Forging".

PROFESSIONAL EXPERIENCE:

Assistant Professor, Dept. of Engineering Tech., Miami University, Middletown, Ohio.	August 2004-Present
Visiting Professor, Dept. of Engineering Tech., Miami University, Middletown, Ohio.	August 2002-July 2004
Instructor, Dept. of Mechanical Engineering, Ohio University, Athens, Ohio.	January 2001-July 2002
Research Associate, Center for Adv. Mat. Processing, Ohio University.	September 1996 – July 2002
Staff Engineer, Austral Engineering and Software Inc., Dayton, Ohio.	June – Dec. 1999 & June – Sep. 1998
Workshop Engineer, Engineering Workshop, University of Peradeniya, Sri Lanka.	June 1994 – August 1996

PROFESSIONAL ASSOCIATIONS AND RELATED ACTIVITIES:

Member of American Society of Mechanical Engineers since 1997

Member of Society of Manufacturing Engineers since 2000

HONORS, AWARDS, AND PUBLICATIONS:

School of Engineering and Applied Science Outstanding Researcher award, March 2005.

Journal Papers

Don C. Abeysinghe, Vipul Ranatunga, Ajit Balagopal, Haichuan Mu, Kuntao Ye, David Klotzkin, "A Novel Technique for High-Strength Direct Fiber-to-Si Submount Attachment Using Field-Assisted Anodic Bonding for Optoelectronics Packaging", IEEE Photonic Technology Letters, Vol. 16, No. 9, September 2004.

Vipul Ranatunga, Jay S. Gunasekera, Urban De Souza, Suhas P. Vaze, "Three dimensional UBET simulation tool for seamless ring rolling of complex profiles", Journal of Manufacturing Processes, Vol. 6/No.2, 2004.

Don C. Abeysinghe, Vipul Ranatunga, Ajit Balagopal, Joseph T. Boyd, David Klotzkin "Epoxy-Free Bonding of Optical Fiber to Silicon Submounts for Optoelectronics Packaging", to be submitted to Journal of Lightwave Technologies (JLT) on February 10, 2004.

Vipul Ranatunga, Enrique A Medina, "A volume-based mapping method for parameter estimation in multi-stage material processing, Journal of Materials Processing Technology, pp. 292-301, Vol. 147, Issue 3, April 2004.

Vipul Ranatunga, Jay S. Gunasekera, "Application of UBET for shape rolling of super alloy rings", Special Issue of JSME International Journal, July 15, 2003.

Vipul Ranatunga, Jay S. Gunasekera, William Garth Frazier, Kwan-Do Hur, Use of UBET for design of flash gap in closed-die forging, Journal of Material Processing Technology, pp. 107-112, Vol. 111, Issue: 1-3, April 25, 2001.

Conference Proceedings

Vipul Ranatunga, Ronald Earley, "Development of an introductory level finite element course for engineering technology curriculum", 2005 CIEC Conference, Savannah, GA Feb. 4-7, 2005.

Don C. Abeysinghe, Vipul Ranatunga, Ajit Balagopal, Haichuan Mu, Anish Saran, Joseph T. Boyd, David Klotzkin "Wired" Fiber: Field Assisted Bonding of Fiber to Silicon Submounts for Optoelectronics for Epoxy-Free Bonding Passive Alignment and Low-Cost Packaging", invited talk at the SPIE sponsored Great Lakes Photonic Conference, Cleveland, OH, June 11-15, 2004.

Vipul Ranatunga, Jay S. Gunasekera, "Process Modeling of Shape Rolling for Aerospace Industry", International Mechanical Engineering Congress and Exposition, New Orleans, November 2002.

Vipul Ranatunga, Jay S. Gunasekera, Urban De Souza, Suhas P. Vaze, "Three dimensional UBET simulation tool for seamless ring rolling of complex profiles", Proceedings of Thirty-first Annual North American Manufacturing Research Conference, Ontario, Canada May 20-23, 2003.

Vipul Ranatunga, Jay S. Gunasekera, “Application of UBET for shape rolling of super alloy rings”, JSME/ASME International Conference on Materials and Processing, Honolulu, Hawaii, USA on October, 15 - 18, 2002.

Vipul Ranatunga, Jay S. Gunasekera, “Penalty UBET Model for Shape Rolling of Super Alloys”, 14th U.S. National Congress of Theoretical and Applied Mechanics Proceedings, Blacksburg, VA, June 23-28, 2002.

Jay S. Gunasekera, Vipul Ranatunga, Urban De Souza, Suhas P. Vaze, “Application of the Upper Bound Elemental Technique to profile ring rolling of high temperature alloys”, TMS 2002 - 131st Annual International Meeting and Exhibition, Seattle, Washington, February 2002.

Vipul Ranatunga, Jay S. Gunasekera, Bhavin V. Mehta, “Application of numerical techniques in metal forming”, 2nd International Seminar on Numerical Analysis in Engineering (NAE-2001), Indonesia, March 2001.

Vipul Ranatunga, Jay S. Gunasekera, Kwan-Do Hur, Analysis of flash formation in closed-die forging of high temperature alloys, International Conference on Advanced Forming and Die Manufacturing Technology (AFDM 2000), Pusan, Korea, June 2000.

Jay S. Gunasekera, Vipul Ranatunga, Zhizhong Zhou, “Mathematical process model development for use with discrete event optimization techniques”, Electronic Prototyping Workshop, Wright State University, July 1998.

INSTUTIONAL AND PROFESSIONAL SERVICES:

Co-Chair: “Formability” at 31st Annual North American Manufacturing Research Conference (NAMRC-XXXI), Hamilton, Ontario, Canada, May 20-23, 2003.

Organized/Co-Chair: Session on Small Scale Manufacturing at the ASME International Mechanical Engineering Congress & Exposition, New Orleans, Louisiana, November 17-22, 2002.

Member of ENT Faculty Search Committee

Elected Member of the Middletown Campus Dean Search committee

Member of the Department chair search committee

Secretary, Research & Grants committee

Member, SEAS Research Council

PROFESSIONAL DEVELOPMENT ACTIVITIES:

Date	Description
*January 15 – 20, 2006 West Lafayette, IN	Introduction to Abaqus, 5-day workshop at Abaqus Central
*Feb. 1, 2006 Columbus, OH	Python Programming for HPC workshop
*June 27 - 29, 2006 Cincinnati, OH	Modeling Fracture and Failure with Abaqus; 3-day workshop
*August 15 – 16, 2006 Cincinnati, OH	Modeling Rubber and Viscoelasticity with Abaqus; 2-day workshop
*Dec. 5-7, 2006 Cincinnati, OH	Abaqus Explicit-Advance Topics; 3-day workshop
December 6, 2005 Web-seminar	Distributed and Parallel Computing with MATLAB
November 22, 2005 Web-seminar	New Approaches for Constrained Optimization in MATLAB
Oct. 18 – 19, 2005 Columbus, OH	Using the SGI Altrix System at OSC: Attended a two-day training at Ohio Supercomputing Center on using SGI-Altrix at OSC
June 4 - 5, 2004 UNC-Charlotte NC	Greenfield Coalition Learning Resources Workshop: Society of Manufacturing Engineers/Greenfield Coalition organized this learning resources workshop on developing problem-based learning environment for manufacturing-related subjects.
April 27, 2005 Oxford, OH	National Instrument Lab View Seminar: Hands-on campus workshop held in Kreger Hall.
April 21, 2005 Oxford, OH	Teach Abroad Fair: Seminal on how to develop a Miami University study abroad credit workshop.
March 14 – 16, 2004 Greensburg, PA	PRIME: Engineering the Future: Workshop on developing curriculum modules for teaching at associate-level course materials on Manufacturing, Measurement, and Computer Applications.
Jan. 26 - 28, 2004 Columbus, OH	OSC Training: Attended a three-day training at Ohio Supercomputing Center on using Abaqus and HyperMesh software on HPC
Nov. 7 -10, 2004 Tampa, FL	League for Innovation in the Community College: 4-day workshop on using multi-media tools in classroom teaching.
Sept. 30, & Oct. 21, 2003 Oxford, OH	CACR Cluster Workshop on “Introduction to Cluster Ohio”: Two training sessions on how to use Miami University CACR computing cluster.