

Arup Kanti Maji
Department of Civil Engineering
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Education:

PhD. in Structural Engineering, Northwestern University, IL, August 1988
MBA, Finance, University of New Mexico, December 2009
MS in Civil Engineering, University of Miami, FL, December 1984
B. Tech (Honors) in Civil Engineering , IIT Kharagpur, India, 1983.
Registered Professional Engineer, PE Registration # 12182

Citations and Awards:

Air Force Research Lab (VS) Technology Transfer Team Award, CY05 Structures Team Fellow, American Society of Civil Engineers, 2002.
Division D-5's nominee for LANL Outstanding Team award, GSI-191 Team, 2003.
UNM General Library 'Faculty Research Acknowledgment' Award, 2001.
AFRL/Space Vehicles, Scientist & Engineer Team award- Ultralite Team, 1999.
UNM College of Engineering 'Teaching Excellence Award', 1994.
National Talent Search (NTS) award, to top 200 high-school students in India, 1977.
Tau-Beta-Pi, Phi-Kappa-Phi, Chi-Epsilon

Professional Employment:

Aug 1988 - present: faculty of Civil Engineering, UNM (tenured 1994, Professor, 1999)
July 2011 – present: Senior Research Scientist, Air Force Research Lab (part-time IPA)
July 2009 – July 2011: Interim Dean, School of Engineering, Univ. of New Mexico.
July 2005 – June 2009: Chair, Department of Civil Engineering, Univ. of New Mexico.
1995 –2005, 2009-2013 : Senior Research Scientist, (part time) Air Force Res. Lab.

Research Specialization

Precision smart materials and sensors; nondestructive evaluation of civil and aerospace structures and materials; acoustic wave propagation and laser interferometry; experimental mechanics of composites and cellular materials; test design, data acquisition and instrumentation; fracture and damage mechanics.

Professional Service

Associate Editor: SEM Experimental Mechanics Journal, 2004-2007, 2011-2013.
Associate Editor: ASCE Engineering Mechanics Journal, 1999-2001.
Associate Editor: SEM Experimental Techniques, 2004-2007.

Executive Committee Member, ASCE-Aerospace Division, 2004- 2009.

President, ASCE New Mexico Section, 2002-2003.

Technical Chair of International Conferences: ASCE's Earth and Space 2004, 2006

RECENT TEACHING & EVALUATIONS

Time	Course # and Title	# Students	Instructor	Course
Spr 13	CE411/511 Reinforced Concrete Design	35	4.8/5.0	4.8/5.0
Fall 12	CE305 Infrastructure Materials Science	53	4.6/5.0	4.2/5.0
Spr 12	CE302Mechanics of Materials	54	4.5/5.0	4.5/5.0
Fall 11	CE 478/578 Temporary Support Structures	18	4.1/5.0	4.0/5.0
Spr 11	CE 310 Structural Design I	29	4.5/5.0	4.5/5.0
Fall 11	CE/ME350 Engineering Economy	74	NA	NA

RESEARCH

Books (Editor)

1. "Intelligent Civil Engineering Materials and Structures", ASCE Special Publication, ed : Ansari, Maji and Leung, June 1997, ISBN 0-7844-0248-5, 300 pages.
2. "Nondestructive Evaluation of Concrete: US-India Workshop", Indian Concrete Institute publishers, ed : Kaushik, Maji and Shah, 1997, 280 pages.
3. "Advances in Composite Materials and Mechanics", Editor: A. K. Maji, ASCE Special Publication, ISBN 07844-0456-9, 1999, 116 pages.
4. "Engineering, Construction and Operations in Challenging Environments", Editor: Malla and Maji, ASCE publications, 2004, 1040 pages, ISBN 0-7844-0722-3.
5. "Earth and Space 2006", Editors: Malla, Binienda and Maji, ASCE Publication, ISBN 0-7844-0830-0, 176 papers, March 2006.

Recent Journal Publications

1. Choi, K. K., Urgessa, G., Reda Taha, M.M., Maji, A. K. "A Quasi-Balanced Failure Approach for Evaluating Moment-Carrying Capacity of FRP Under-Reinforced Concrete Beams", ASCE J. of Composites for Construction, Vol. 12, No. 3, 2008. pp. 236-245.
2. Maji, Brown and Urgessa, "Full-Scale Testing and Analysis for Blast-Resistant Design", J. of Aerospace Engineering, V21, No. 4, October 2008, pp. 217-225.
3. Maji, Mahnke and Murphey, "Actuation of Neutrally Stable Composite Tape-Springs with Shape Memory Alloy", Journal of Advanced Materials, V41, #1, 2009, pp. 18-33.
4. Harris, Maji, deBlonk, Whetzal, "Optical Testing of a Deployable Space Telescope", Experimental Techniques, available online, 2009, in print Sept-Oct, 2010.
5. Bowser J, Maji A., "Effect of Nanosized Silica on Mechanical Properties in High Performance Concrete Mixes", 'Nanotechnology in Concrete', ACI-SP267, 'Nanotechnology in Concrete', Nov, 2009.
6. Urgessa G. and Maji A. K., "Dynamic Response of Retrofitted Masonry Walls for Blast Loading," ASCE J. Engineering Mechanics, July 2010, pp. 858-864.
7. Maji, Harris, Garcia, deBlonk, "Feasibility Assessment of a Deployable Composite Telescope", Journal of Aerospace Engineering, V24, #1, January 2011, pp. 12-19.
8. Montoya A., Maji A., "An Assessment of Joint Rigidity with Ultrasonic Wave Energy", Journal of Nondestructive Evaluation, Volume 30, #3, 2011, Page 122-129.

9. Azarbajejani M., Maji A. and Lips J., "Measurement and Analytical Modeling of the Deployment Rate of Elastic Memory Composites", J. Experimental Mechanics, V52, #7, 2012, pp. 717-727.
10. Torres A., Maji A., "Biaxial Testing of Woven and Laminated Carbon Fiber Composites", Journal of Composite Materials, Volume 47 Issue 19, September 2013.
11. Montoya, A., Doyle D., Maji A., Dumm H-P., "Ultrasonic Evaluation of Bolted Connection for a Satellite", accepted, Research in Nondestructive Evaluation J., 2013.
12. Maji A., Qiu, Y., "Experimental and Numerical Investigation of Axially Pre-loaded Carbon Fiber Cable Vibration," accepted, J. Aerospace Eng, # ASENG-545, 2013.

Patent

Identifying source of Acoustic Emissions in structures using lamb waves and vibration modes (US patent # 5,635,643), June, 1997.

Space Flight Experiment

Served as the Principal Investigator for the Elastic Memory Composite Hinge (EMCH) flight experiment flown to the International Space Station aboard Space Shuttle Discovery, on December 9, 2006.

Recent Conference Proceeding Papers

1. Torres A., Maji A., Tarefder R., "The Development of a Modified Biaxial Composite Test Specimen", Proc. ASCE Earth and Space 2010, HI, March 2010.
2. Montoya A., Maji A., "Transmission of acoustic waves to assess the quality of panel to panel connections in satellites", Proc. ASCE Earth and Space 2010, HI, March 2010.
3. Maji A., "Effectiveness of Textbook and Outside Sources in Teaching Engineering Economics", Proc. ASEE National Conf, Louisville, KY, paper # AC2010-2191, 2010.
4. Maji A., Baranes J., "Material and Geometric Nonlinearity to Analyze Composite Retrofit for Blast Resistance", Proceedings of ICCE-18, Anchorage, Alaska, July 2010.
5. Maji A., Qiu Y., "Experimental Study of Cable Vibration Damping", Proc. of SEM Conference, paper # 147, June 2011.
6. Maji A., Vernon B., "Vibration-based monitoring to detect mass changes in satellites", Proc. SPIE V8348, #1G, ISBN 978-0-8194-9005-6, 2012.
7. Torres, Maji, Tarefder, "Effect of Holes on the Biaxial Strength of Woven Composites", Proc. ASCE Earth and Space 2012, Pasadena, CA, April, 2012.
8. Estvanko, Maji and Ng, "Numerical Analysis of a Tape Spring Hinge Folded About Two Axes", Proc. ASCE Earth and Space 2012, Pasadena, CA, April, 2012.
9. Schoepfer J. and Maji A. "Nano-Macro Correlation of Nano-Silica Concrete", Proc. of SEM International Conference, Costa Mesa, CA, June, 2012.
10. Banik, Maji, "Beam-String Approximation of Tensioned-Blanket Space Structures", accepted, AIAA-SDM Conference (Control ID: 1513608), April, 2013.
11. Torres, Ganley, Maji, "Enhanced Processability and Crystal Suppression of ZBLAN Glass In Microgravity", Proc. of SPIE Optics..., SanDiego, May 2013.
12. Maji, "Design for Blast Resistance – A Review of Tests, Analyses & Design Procedure", Proc. International Conference (ACI-India Chapter), Mumbai, Dec 2013.