

John B. Kosmatka

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Professional Preparation

B. S., 1978 Mechanical Engineering, University of Wisconsin, Madison
M. S. 1980 Mechanical Engineering, University of Michigan, Ann Arbor
Ph.D., 1986 Aerospace Engineering, University of California, Los Angeles

Appointments

2002-date Director, Aerospace Engineering Program, University of California San Diego (UCSD)
1999-date Callaway Golf Professor of Structural Mechanics, Joint Appointment - Dept of Structural Engineering and Dept of Mechanical and Aerospace Engineering, UCSD
1989-1998 Associate Professor, Applied Mechanics and Engineering Science Dept., UCSD
1986-1989 Assistant Professor, Department of Mechanical Engineering, VPI&SU
1982-1986 Senior Engineer, Engineering Mechanics, TRW Corporation, Redondo Beach, CA
1980-1982 Technical Staff, Structural Dynamics Group, Aerospace Corporation, El Segundo, CA
1979-1980 Graduate Research Assistant, Dept of Mechanical Engineering, University of Michigan
1977-1978 Structural Engineer, Boeing Commercial Aircraft Company, Seattle, Washington

Government Sponsored Research:

	Topic:
2003-2005 National Science Foundation	Development of a Trans-Pacific Autonomous UAV
2002-2005 Los Alamos National Laboratory	Health monitoring of Unmanned Composite Aircraft
2002-2008 Office of Naval Research	Nonstandard Composite Bridge Structures
1998-2005 NASA-Glenn Research Center	Damped Composite Turbine/Fan Blades
2000-2003 DARPA	Intermetallic Laminates with Embedded Structures
1995-1999 U.S. Army, DARPA	Light-Weight All Composite Assault Bridge
1989-1999 NASA-Lewis Research Center	Damped Composite Turbine/Fan Blades
1991-1992 NASA-Johnson Space Center	Health Monitoring of Large Elastic Space Structures
1990-1994 NASA-Langley Research Center	Design/Testing Composite Tilt-Rotor Blades
1989-1991 NASA-Ames Research Center	Analysis of Composite Helicopter Blades
1988-1990 National Science Foundation	Optimal Passively-Controlled Composite Blades
1987-1993 Naval Surface Weapons Research	Analysis of Laminated Composite Missile Structures
1983-1986 NASA-Lewis Research Center	Dynamic Analysis of Composite Propellers

Industry Sponsored Research & Consulting:

	Topic:
2003, 2005 Northrop Grumman	Analysis and Vibration Testing of the Hunter UAV
2000 Lockheed-Martin, Sunnyvale CA	Analysis/Testing Next Generation Space Telescope
2000 General Atomics, San Diego, CA	Aeroelastic Analysis UAV Predator Aircraft
2000 Composite-Optics, San Diego	Design and Testing of Composite Space Antenna
1995 McDonnell Douglas Aerospace	Testing of a Composite Wing Box/Landing Gear
1993 SPARTA Corp., Laguna Hills, CA	Testing of Damped Composite Missile Structures
1992 ICOMP, Ohio Aerospace Institute	Modeling of Deformable Composite Turbine Blades
1987 TRW Corporation	Analysis of Large Space Structures

Research Fellowship Awards and Honors:

2005- AIAA Leadership Award – Outstanding Community Contributions
1999- Outstanding Teacher Award, UCSD School of Engineering
1999- Associate Fellow, AIAA
1996- Who’s Who in American Education, Who’s Who in Science and Engineering
1990 ASME Aerospace Structures and Materials Award, “Outstanding Paper in Aerospace Engineering”
1988-1990 NASA/ASEE Faculty Fellow
1984-1985 TRW Ph.D. Research Fellow

Selected Publications

- Kosmatka, J. B.; "Design and Spin Testing of Integrally Damped Hollow Core Composite Fan Blades," Proceedings of the 46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Paper No. 2005-5197, pp. 1-12, 2005.
- Kosmatka, J.B. and Jose Panza; "Flutter Behavior of the Composite GA-ASI Predator Aircraft," Proceedings of the 43rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Paper No 2002-3470, pp. 1-8, 2002.
- Kosmatka, J. B. and Jose Panza; "Aeroelastic Stability of GA-ASI Predator Aircraft," AIAA 1st Unmanned Aerospace Vehicle, System, Technology and Operations Conference, AIAA Paper 2002-3470, May 2002.
- Kosmatka, J.B. G. Appuhn, and O. Mehmed; "Design and Testing of Integrally Damped First-Stage Composite Fan Blades," Proceedings of the 43rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Paper No 2002-1511, pp. 1-13, 2002.
- Kosmatka, J. B. and Oral Mehmed; "Development of an Integral Damping Treatment for NASA's Next Generation Hollow Blades," Proceedings of the 2002 SPIE Smart Structures and Materials Conference, Vol. 4697, No. 3, pp. 15-24, 2002.
- Lee, D.G.; and J. B. Kosmatka; Damping Analysis of Composite Plates with Zig-Zag Triangular Elements, AIAA Journal, Vol. 40, No.6, pp. 1211-1219, 2002.
- Dong, S. B., J. B. Kosmatka, and H. C. Lin; "On Saint-Venant's Problem for an Inhomogeneous, Anisotropic Cylinder - Part I: Methodology for Saint-Venant Solutions" Journal of Applied Mechanics – Transactions of the ASME, Vol. 68, No. 3, pp. 376-381, 2001.
- Kosmatka, J. B., Lin, H. C., and S. B. Dong; "On Saint-Venant's Problem for an Inhomogeneous, Anisotropic Cylinder - Part II: Cross Sectional Properties," Journal of Applied Mechanics – Transactions of the ASME, Vol. 68, No. 3, pp. 382-391, 2001.
- Kosmatka, J. B. and J. M. Ricles; "Damage Detection in Structures by Modal Vibration Characterization," Journal of Structural Engineering – ASCE, Vol. 125, pp. 1384-1392, 1999.

Synergistic Activities

- Faculty Advisor, AIAA Cessna/ONR Student Design/Build/Fly Competition - Electric (UAV) Class Aircraft, 6th Place (2000), 4th Place (2001), 1st Place (2002), 10th Place (2003), 12th Place (2004), 5th Place (2005).
- Member, AIAA Structural Dynamics Technical Committee.
- Member, ASTM – Unmanned Air Vehicles
- Member, SAMPE – Unmanned Air Vehicles
- Member, Los Alamos National Laboratory, Engineering Sciences Review Committee
- Technical Design and Engineering Consultant on Unmanned Air Vehicles (UAV) to General Atomics Aeronautical Systems, TRW Aerospace Systems, Northrup-Grumman, Honeywell Aerospace, and Riley Super Sky-Rocket.

Current Collaborators

O. Mehmed (NASA Glenn Research Center), Dr. E. B. Fite (NASA Glenn Research Center), Dr. Mark Nixon (NASA Langley Research Center), R. Lake (NASA Langley Research Center), Chuck Farrer (Los Alamos Research Laboratory), Brian Hornbeck (U.S. Army, TACOM), Bill Seemann (Seemann Composites), B. Irvin (Lt Col, USAF).

Advisees

Ph.D.: A. Aviles (2005), J. Oliver (2005), M. Robinson (2005), J. Biggerstaff (2002), D. Huntington (1996), Z. Friedman (1996), R. Bhumbla (1995), C. A. Ie (1995)

M.S.: Ed Reed (2005), M. Shtayerman (2005), D. Chung (2005), Z. Ma (2005), P. Nguyen (2004), J. Gustin (2004), G. Appuhn (2002), W. Dunbar (1999), L.E. Waughtel (1999), A. M. Sekerak (1996), E. L. Hoffman (1995), K. F. Collins (1995), A. I. Davol (1994), F. Idosor (1994), A.J. Lapid (1994), R. H. Schlatter (1994), E. Zedelmeyer (1994), R. Tavares (1993), H.L. Wong (1993), H. Virdee (1992), T.H. Lee (1991), M. Fascetti (1991), P. Stiles (1988), S. Ligoure (1988), B. Asdal (1988).