Professor S. Pradyumna

Department of Applied Mechanics
Indian Institute of Technology Delhi

Research Interests:
Solid Mechanics
Structural Dynamics and Stability
Composite Structures
Functionally Graded Materials
Smart Structures
Finite Element Method

Academic Background:
1996-2000: B.E. in Civil Engineering, P.E.S. College of Engineering, Mandya , Mysore university
2001-2003: M.Tech. in Computer Aided Design of Structures , Malnad College of Engineering, Hassan, V.T.U., Karnataka – With Third Rank
2004-2009: Ph.D. in Civil Engineering, Indian Institute of Technology, Kharagpur

Professional Background:
Since May 2010- till date- Assistant Professor, Department of Applied Mechanics, IIT Delhi

March 2008-May 2010- Assistant Professor, Department of Civil Engineering, National Institute of Technology Rourkela
August 2003- December 2003- Post Graduate Trainee, Structures Division, National Aerospace Laboratories, Bangalore

Academic Recognitions:
Recipient of "Outstanding Young Faculty Fellow" at IIT-Delhi sponsored by Kusuma Trust, 2011.
Recipient of National Doctoral Fellowship, AICTE, New Delhi, to pursue research work at IIT Kharagpur.
Received Young Researcher Travel Grant to attend ACMFMS 2008, Shimane University, Matsue, Japan

Academic Activities:
• Secretary, Third Asian Conference on Mechanics of Functional Materials and Structures (ACMFMS 2012) to be held at IIT Delhi, 5th-8th, December, 2012
• Participated in a short term course 'Soft Computing Tools in Civil Engineering', conducted by Dept. of Civil Engg. IIT Kharagpur, 13-18th November 2006.
• Participated in 'National Program on Capacity Building of Engineers on Earthquake Risk Management' (NPCBEERM), conducted by Indian Institute of Technology Roorkee, 03-29 November, 2008.
• Invited by Bapatla College of Engineering, Andhra Pradesh for delivering a guest Lecture on 'Finite Elements in Engineering Analysis' at a TEQIP workshop-March 21, 2009.
• Reviewer
Mechanics Research Communication
Composites: Part B
Mechanics of Advanced Materials and Structures

Publications of S. Pradyumna:

S. Pradyumna and Namita Nanda, Geometrically nonlinear transient response of functionally graded shell panels with initial geometric imperfections, Mechanics of Advanced Materials and Structures, Vol. 20, pp. 217-226 (2013).

Namita Nanda and S. Pradyumna, Nonlinear dynamic response of laminated shells with imperfections in hygrothermal environments, Journal of Composite Materials, Vol. 45, No. 20, pp. 2103-2112 (2011).

S. Pradyumna and Abhishek Gupta, Nonlinear dynamic stability of laminated composite shells integrated with piezoelectric layers in thermal environment, Acta Mechanica , Vol. 218, pp. 295-308 (2011).

S. Pradyumna and Abhishek Gupta, Dynamic stability of laminated composite plates with piezoelectric layers subjected to periodic in-plane load, International Journal of Structural Stability and Dynamics, Vol. 11, No. 2 pp. 297-311 (2011).

S. Pradyumna and Abhishek Gupta, Nonlinear dynamic stability of composite plates with piezoelectric layers subjected to periodic in-plane load, Institute of Engineers Singapore Journal, Part A: Civil and Structural Engineering, Vol. 4, No.1, pp. 17-28 (2011).

S. Pradyumna and J.N. Bandyopadhyay, Dynamic instability behavior of laminated hypar and conoid shells using a higher-order shear deformation theory,Thin-Walled Structures,Vol. 49, pp. 77-84 (2011).

S. Pradyumna and J.N. Bandyopadhyay, Free vibration and buckling of functionally graded shell panels including thermal effects,International Journal of Structural Stability and Dynamics, Vol. 10, No. 5, pp. 1031-1053 (2010).

S. Pradyumna, Namita Nanda and J.N. Bandyopadhyay, Geometrically nonlinear transient analysis of functionally graded shell panels using higher-order finite element formulation, Journal of Mechanical Engineering Research , Vol. 2, No. 2, pp. 39-51 (2010).

S. Pradyumna and J.N. Bandyopadhyay, Dynamic stability of functionally graded shells using a higher order theory, Journal of Engineering Mechanics, ASCE , Vol. 136, No. 5, pp. 551-561 (2010).

S. Pradyumna and J.N. Bandyopadhyay, Buckling of laminated composite hypars and conoids using a higher-order theory, Institute of Engineers Singapore Journal, Part A: Civil and Structural Engineering, Vol. 3, No. 2, pp. 85-95 (2010).

S. Pradyumna and J.N. Bandyopadhyay, Influence of functionally graded material on the parametric instability behaviour of shell panels subjected to in-plane pulsating loads, Advances in Vibration Engineering, Vol. 8, No. 4, pp. 339-346 (2009).

S. Pradyumna and J.N. Bandyopadhyay, Free vibration analysis of functionally graded curved panels using a higher-order finite element formulation, Journal of Sound and Vibration, Vol. 318, No. 1-2, pp. 176-192 (2008).

S. Pradyumna and J.N. Bandyopadhyay, Static and free vibration analyses of laminated shells using a higher-order theory, Journal of Reinforced Plastics and Composites, Vol. 27, No. 2, pp. 167-186 (2008).