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Education

3. Ph.D.Engineering (Civil & Instrumentation and Applied Physics), Indian Institute of Science, Bangalore, India, 2009.
2. M.Tech. Engineering (Civil, Structural), Indian Institute of Technology, Kharagpur, India, 2004.
1. B.E. Construction Engineering, Jadavpur University, Kolkata, India, 2000.

Academic Experience

4. Guest Professor, TU Ilmenau, Germany, Department of Biomedical Engineering, June 2015–December 2015.
3. Assistant Professor, IIT Kharagpur, India, Department of Civil Engineering, December 2011–Till Date.
2. Post Doctoral Fellow, Cornell University, USA, School of Civil and Environmental Engineering, January 2010–December 2011.
1. Research Assistant, Indian Institute of Science, India, Department of Civil Engineering, October 2009–December 2009.

Industrial Experience

3. Structural Engineering Research Centre, Chennai, India (A constituent unit of the *Council of Scientific and Industrial Research*, Ministry of Science and Technology, Govt. of India), Scientist B (Gr. IV (I)), 2004– 2005.
2. TRF Limited, Jamshedpur, India (A TATA Enterprise), Post-Graduate Trainee, 2004.
1. Gammon India Limited, Patna, India, Junior Engineer, 2001.

Research Publications

Refereed International Journals

19. Guchhait, S., **Banerjee, B.** (2016) "Anisotropic Linear Elastic Parameter Estimation Using Error in Constitutive Equation Functional". *Proceedings of The Royal Society London A, Accepted for Publication*.
18. Kumar, R., Ramachandra, L. S, **Banerjee, B.** (2016) "Nonlinear Stability Characteristics of Composite Cylindrical Panel Subjected to Non-uniform In-plane Mechanical and Localized Thermal Loadings", *Proceedings of the Indian National Science Academy*, 82(2), pp. 271-288.
17. Guchhait, S., **Banerjee, B.** (2016) "Material Parameter Identification in Transient Dynamics by Error in Constitutive Equation Approach", *Procedia Engineering*, 144, pp. 512-519.
16. Kumar, R., **Banerjee, B.**, Ramachandra, L. S., (2016) "Nonlinear Stability and Dynamics of Composite Skew Plates under Non-uniform Loadings using Differential Quadrature Method" *Mechanics Research Communications*, 73, pp. 76-90.
15. **Banerjee, B.** (2016) "Elastic Parameter Identification of Plate Structures Using Modal Response: An ECE Based Approach" *Journal of Engineering Mechanics, ASCE*, 142(1), 04015059.
14. Guchhait, S., **Banerjee, B.** (2015) "Constitutive Error Based Material Parameter Estimation Procedure for Hyperelastic Material" *Computer Methods in Applied Mechanics and Engineering*, 297, pp. 455-475.
13. Kumar, R., Ramachandra, L. S, **Banerjee, B.** (2015) "Dynamic Instability of Damped Composite Skew Plates under Non-uniform In-plane Periodic Loading", *International Journal of Mechanical Sciences*, 103, pp. 74-88.
12. Chakraborty S., Shaw, A., **Banerjee, B.** (2015) "An Axisymmetric Model for Taylor Impact Test and Estimation of Metal Plasticity", *Proceedings of The Royal Society London A*, 471 (2174).
11. **Banerjee, B.**, Walsh, T. F., Aquino, W., Bonnet, M. (2013) "Large Scale Parameter Estimation Problems in Frequency-Domain Elastodynamics Using an Error in Constitutive Equation Functional", *Computer Methods in Applied Mechanics and Engineering*, 253, pp. 60-72.
10. **Banerjee, B.**, Roy, D., Vasu, R. M. (2010). "Self-Regularized Pseudo Time Marching Schemes for Structural System Identification with Static Measurements", *International Journal for Numerical Methods in Engineering*, 82(7):pp. 896-916.
9. Pimprikar, N. A., **Banerjee, B.**, Roy, D., Vasu, R. M., Reid S. R. (2010), "New Computational Approaches for Wrinkled and Slack Membranes", *International Journal of Solids and Structures*, 47(18-19):pp. 2476-2486.
8. Varma, H. M. **Banerjee, B.**, Roy, D., Nandakumaran, A. K., Vasu, R. M. (2010). "Convergence analyses of the Newton algorithm and a pseudo-time marching scheme for diffuse correlation tomography", *JOSA A: Journal of Optical Society of America A*, 27(2): pp. 259-267.

7. **Banerjee, B.**, Roy, D., Vasu, R. M. (2009). "Efficient Implementations of a Pseudo-Dynamical Stochastic Filtering Strategy for Static Elastography", *Medical Physics*, 36 (8): pp. 3470-3476.
6. **Banerjee, B.**, Roy, D., Vasu, R. M. (2009). "A Pseudo-Dynamical Systems Approach to a Class of Inverse Problems in Engineering", *Proceedings of The Royal Society London A*, 465 (2105): pp. 1561-1579.
5. **Banerjee, B.**, Roy, D., Vasu, R. M. (2009). "A Pseudo-Dynamic Sub-Optimal Filter for Elastography under Static Loading and Measurements", *Physics in Medicine and Biology*, 54(2):pp. 285-305.
4. Varma, H. M. **Banerjee, B.**, Nandakumaran, A.K., Vasu, R. M., Roy, D. (2009) "Pseudo Time Marching Schemes for Inverse Problems in Structural Health Assessment and Medical Imaging", *Current Science*, 97 (8): pp. 1220-1226.
3. **Banerjee, B.**, Shaw. A., Roy, D. (2009) "The theory of Cosserat points applied to the analyses of wrinkled and slack membranes", *Computational Mechanics*, 43(3):pp. 415-429.
2. **Banerjee, B.**, Bagchi. S., Vasu, R. M., Roy, D. (2008) "Quantitative Photoacoustic Tomography from Boundary Pressure Measurements: Non-iterative Recovery of Optical Absorption Coefficient from the Reconstructed Absorbed Energy Map", *JOSA A: Journal of Optical Society of America A*, 25(9):pp. 2347-2356.
This article is also selected for publication in *VJBO: Virtual Journal for Biomedical Optics*, 3(11), October 2008 and in *Virtual Journal of Biological Physics Research*, 16(8), 15th October 2008.
1. Shaw, A., **Banerjee, B.**, Roy, D. (2008), "A NURBS-based Parametric Method Bridging Mesh-free and Finite Element Formulations", *CMES: Computer Modeling in Engineering and Sciences*, 26(1):pp. 31-60.

Book Chapters

1. **Banerjee, B.**, Roy, D. (2010) "A Pseudo-Dynamical Systems Approach to Inverse Problems", The **IUTAM** Symposium on Multi-Functional Material Structures and Systems, Bangalore. Eds. B. Dattaguru, S. Gopalkrishnan and V. K. Aatre, *IUTAM Book Series*, Vol: 19. *Springer Publication*, ISBN: 978-90-481-3770-1.

Sponsored Projects

3. **Title:** Effect of Interfacial Gaps in FRP Strengthened Structural Components: An Experimental/Numerical Study **Sponsors:** DST, TSDP, New Delhi, India. **Role:** Principal Investigator. , 2016-19. **Value:** 13.849 million INR.
2. **Title:** An Integrated Computational And Experimental Approach To Structural Design For Ballistic Impacts And Blasts. **Sponsors:** DRDO, New Delhi, India. **Role:** Co-Principal Investigator. 2014-2018. **Value:** 15.558 million INR.

1. **Title:** Arterial Properties from Stimulated Acoustical Emission. **Sponsors:** NIH-NIBIB National Institute of Biomedical Imaging and Bioengineering, USA and Mayo Clinic, College of Medicine, MN, USA. **Role:** Post Doctoral Fellow. 2010-2011.

Research Supervisions

Ph.D

Rajesh Kumar "Detection of Imperfections in Thin Shell Structures - An Inverse Problem Approach", Ongoing from January 2012. (Jointly with Prof. L. S. Ramachandra).

Shyamal Guchhait "Inverse Problems Associated with Mechanics", Ongoing from July 2012.

M.Tech

Completed - 9 Ongoing - 2

Course Taken

1. Mechanics (UG).
2. Civil Engineering Drawing and Estimations (UG).
3. Concrete Laboratory (UG)
4. Shell Structures (PG).
5. Structures Laboratory I (PG).
6. Numerical Methods for Structural Engineering (PG).