Shereena O A

Updated December 31, 2021

Email: shereena.oa@gmail.com
Phone: +919940185580
DOB: $08^{th}Feb1987$
Citizenship: India

Research interests

Uncertainty quantification, Bayesian inference, Parameter Estimation, Structural Identification, Inverse problems, Optimization, Nonlinear Dynamics.

Education

PhD in Structural Engineering CGPA: 8.00/10 [Jan 2014 – Sep 2021]
[Indian Institute of Technology Madras]

M.Tech in Structural Engineering CGPA: 8.90/10 [2011 – 2013]
[Malaviya National Institute of Technology Jaipur]

B.Tech in Civil Engineering Cumulative : 68% [2004 – 2008]
[University of Calicut]

Journal Publications

Pavement condition assessment through jointly estimated road roughness and vehicle parameters
O A Shereena, B N Rao (2019).
Structural Monitoring and Maintenance, 6 (4), 317-346.

Combined Road Roughness and Vehicle Parameter Estimation Based on a Minimum Variance Unbiased Estimator
O A Shereena, B N Rao (2020).
International Journal of Structural Stability and Dynamics, 20 (01), 2050013.

Damage parameters and Input force estimation for simple frame structures subjected to unknown excitations
O A Shereena, B N Rao (2021).
Journal of structural engineering (Madras), 48(2), 118-130.

Simultaneous state-input-stiffness estimation for nonlinear oscillators
O A Shereena, C G Krishnanunni , and B N Rao.
International Journal of Structural Stability and Dynamics (Under Review).

Book Chapters

Inverse Problems in Vehicle-Bridge Interaction Dynamics with Application to Bridge Health Monitoring
Shereena O. A, C. G Krishnanunni, G Sai Kumar, B. N. Rao
Modeling and Computation in Vibration Problems: Soft computing and uncertainty, IOP Publishing Ltd. December 2021.

Conference Publications

Performance Comparison of Discrete Kalman Filter and Dynamic Programming Technique for Pavement Roughness Identification
O A Shereena, C G Krishnanunni, and B N Rao (2020).
Advances in Multidisciplinary Analysis and Optimization, Springer, Singapore, 121-130.

HDMR Based Bayesian Structural System Identification
O A Shereena and B N Rao (2019).
Recent Advances in Structural Engineering, Vol. 1, Springer, Singapore, 453-464.

Conferences

Performance Comparison of Discrete Kalman Filter and Dynamic Programming Technique for Pavement Roughness Identification
March 2019
National Conference on Multidisciplinary Design, Analysis and Optimization (NCMDAO), M S Ramaiah Institute of Technology, Bangalore, India

Dynamic System Identification using HDMR-Bayesian Technique
September 2017
World Congress on Advances in Structural Engineering and Mechanics (ASEM), KINTEX, Ilsan, Seoul, Korea

HDMR Based Bayesian Structural System Identification December 2016
Structural Engineering Convention (SEC), Structural Engineering Research centre, Chennai, India.

Research experience

Development of robust data assimilation techniques for nonlinear dynamical systems
Mentors: Professor B N Rao (IIT Madras) 2015 – 2018
Funded by BRNS (Board of Research in Nuclear Sciences, India). Implemented Kalman Filter based algorithms to predict the dynamic dispersion of radiation, using MATLAB.

Teaching experience

Teaching assistant, Department of Civil Engineering (IIT Madras)
CE5620: Structural Dynamics Jun-Dec 2017, 2018
CE5610: Finite Element Analysis Jan-May 2017, 2018
CE3060: Basic Reinforced Concrete Design Jun-Dec 2019
CE6730: Structural Optimization Jan-May 2020
Responsibilities included conducting term examinations, the test evaluation and grading etc.

Industry experience

Kunnel Projects Pvt. Ltd Planning Division (Head Office) Cochin, Kerala
Billing Engineer Dec 2011 - Jun 2013
Cost control and Planning, Estimation and Bidding, Quantity survey and Billing, Quality control, and ISO documentation.

Skills	**Programming** Proficient in: MATLAB. Familiar with: Python, C++, R. **Languages** English (Fluent), Malayalam (Native), Hindi (Upper-Intermediate), Spanish (Intermediate).
Other interests	Writing, Reading, Sketching, Learning new languages.
Reviewer for	MethodsX, Journal of the Franklin Institute, International Journal for Structural Stability and Dynamics

I hereby declare that every information of the document is correct and accurate to the best of my knowledge and beliefs.

Place: Thrissur, Kerala
Date: 31-12-2021.

Shereena O A