

Krishnanunni C G

PhD scholar (Dept of Aerospace Engineering)

University of Texas at Austin, USA

[Google Scholar](#)

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EDUCATION

University of Texas at Austin, USA	2021-Present
Ph.D. in Engineering Mechanics	

Indian Institute of Technology Madras, India	2017-2019
MS in Structural Engineering	

National Institute of Technology Calicut, India	2013-2017
B. Tech in Civil Engineering	

FELLOWSHIPS, SCHOLARSHIPS, AND AWARDS

- **Travel Award** by the United States Association for Computational Mechanics (USACM), United States National Congress on Computational Mechanics, Albuquerque, USA. 2023
- **Travel Award** by the Society for Industrial and Applied Mathematics (SIAM), Annual Meeting of the SIAM Texas-Louisiana Section, Houston, USA. 2022
- **Best MS Thesis award**, Indian Institute of Technology Madras. 2020
- **Best Major B. Tech project award**, National Institute of Technology, Calicut, India. 2017
- **Summer research fellowship**, Department of mathematics, IISc, Indian Academy of Science. 2015

RECENT JOURNAL PUBLICATIONS

- **C. G. Krishnanunni.**, Tan Bui-Thanh. Layerwise sparsifying training and sequential learning strategy for neural architecture adaptation. ([Link](#))
- Albert Orwa Akuno., L. Leticia Ramirez-Ramirez., Chahak Mehta., **C. G. Krishnanunni.**, Tan Bui-Thanh., Jose Arturo Montoya (2022). Multi-patch epidemic models with partial mobility, residency, and demography. *Submitted to Journal of Mathematical Biology*. ([Link](#))
- Jonathan Wittmer., **C. G. Krishnanunni.**, Hai Van Nguyen., Tan Bui-Thanh (2023). On Unifying Randomized Methods for Inverse Problems. *Inverse Problems (Under review)*. ([Link](#))
- **C. G. Krishnanunni.**, B. N. Rao., (2021). Indirect health monitoring of bridges using Tikhonov regularization scheme and signal averaging technique. *Structural Control and Health Monitoring*. 28(3).
- **C. G. Krishnanunni.**, B. N. Rao., (2019). Decoupled technique for dynamic response of vehicle-pavement systems. *Engineering Structures*. 191, 264-279.

RECENT INVITED TALKS

- **C. G. Krishnanunni.**, Tan Bui-Thanh., (2022). Layerwise sparsifying training and sequential learning strategy for neural architecture adaptation. *SIAM Conference on Uncertainty Quantification*, Atlanta, April 12-15. 2022

RECENT RESEARCH INVESTIGATIONS

- **Developing efficient algorithms for neural architecture adaptation** 2022-Present
Advisor: Prof. Tan Bui-Thanh
 - Research aimed at developing a method for automatically determining neural network architecture for a given data-set.
- **A new look at the Ensemble Kalman filter via duality** 2022-Present
Advisor: Prof. Tan Bui-Thanh
 - Research aimed at analysing EnKF mathematically from a different view point in order to get insights into new convergence improvement strategies.
- **Indirect health monitoring strategy for bridges** 2017-2019
Advisor: Prof. B. N. Rao (MASTER'S THESIS)
 - Research aimed at developing a framework for **damage detection in bridges** based on dynamic response of a passing vehicle where the vehicle acts as a moving sensor.
- **Solving an inverse eigen value problem in structural mechanics** 2017
Advisor: Dr. Sajith A. S and Dr. Mohammed Ameen (BACHELOR'S THESIS)
 - Research aimed at developing a computationally fast and accurate technique to detect and quantify structural damage based on vibrational characteristics.
- **Mathematics of Nonlinear Hyperbolic Waves and Compressible Fluids** 2015
Guide: Prof. Phoolan Prasad, (IISc Bangalore) (RESEARCH FELLOWSHIP)
 - Mathematical review of the properties of nonlinear hyperbolic waves and compressible fluids.

MENTORSHIP

- **Moncrief Summer Internship mentor**
 - Mentored a summer intern on the work titled "Physics informed deep-learning approach enhanced by POD for forecasting solutions to time-dependent PDE's".
- **SIAM-UT Mentorship program**
 - Mentored a student on an applied math project related to machine learning for nonlinear dimension reduction.

PROFESSIONAL EXPERIENCE

- **Teaching Assistant, University of Texas at Austin, USA** 2021-2022
 - Teaching assistant for course, Analytical methods, Mathematical methods in Engineering.
- **Graduate Research Assistant, University of Texas at Austin, USA** 2021-Present
 - Research Assistant to Prof. Tan Bui-Thanh, Institute of Computational Engineering and Sciences.
- **Teaching Assistant, Indian Institute of Technology Madras, Chennai** 2017-2019
 - Teaching assistant for courses: Structural optimization and Finite element analysis.

JOURNAL ROLES

- **Peer Reviewer, Applied Ocean Research, Elsevier.**

SKILLS

Software: ANSYS[®], MATLAB[®], STAAD[®], L^AT_EX[®], AutoCAD[®], ORIGIN[®]

Programming Languages: C++, Java, Python

Linguistics: English, Malayalam, Tamil

REFERENCES

- **Tan Bui-Thanh**
Associate Professor,
Leader of Pho-Ices group
Department of Aerospace Engineering and Engineering Mechanics
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