# Krishnanunni C G

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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 sequenctial 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. *Chaos, Solitons, & Fractals*. [(Link)](#)

- Jonathan Wittmer., **C. G. Krishnanunni.,** Hai Van Nguyen., Tan Bui-Thanh (2023). On Unifying Randomized Methods for Inverse Problems. *Inverse Problems*. [(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 mechanice**          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 ®, LATEX®, 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
  The Oden Institute for Computational Engineering and Sciences
  The University of Texas at Austin
  Austin, USA
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- **B. Nageswara Rao**
  Professor
  Structural Engineering Laboratory
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  Chennai, PIN 600036, India
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- **Phoolan Prasad**
  Professor
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- **Kentaro Yaji**
  Assistant Professor
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