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Kevin Jose

Education

2019-2023 **Doctor of Philosophy**, University of Southampton
Dissertation title: Spatial variability of the dynamic response in periodic and non-homogeneous elastic media.

2012-2017 **BT–MT Dual Degree**, Indian Institute of Technology Kanpur
Dissertation title: Vibration of circular membranes backed by taut strings.

Industrial and Research Experience

2023- **University of Cambridge**, *Cambridge*, UK
Research Assistant

- Researching application of auto-encoders for sparse coding and multi-modal learning in material science. (PyTorch, Pandas)

2019-2022 **University of Southampton**, *Southampton*, UK
Marie Skłodowska-Curie Fellow

- Demonstrated the existence of a new class of scattering phenomenon in flexural elastic waves in non-uniform elastic plates and cylinders using analysis, finite difference methods and finite element simulations. Numerical simulations were conducted on high performance clusters. (ANSYS, MATLAB, Python, HPCs, Mathematica).
- Showed the existence of a Poisson ratio dependence on the persistence length of a 'fold' in thin elastic sheets using analytical approaches and finite element simulations (MATLAB, ANSYS).
- Developed and analysed an elasto-thermal metamaterial with a negative Poisson ratio. Wrote a custom slicer (MATLAB) to produce G-code for manufacture using rapid prototyping techniques (3D printing).

2020-2021 **Vestas aircoil**, *Lem*, Denmark
Visiting PhD student

- Investigated the modal vibration properties of heat exchangers using analytical and computational approaches (ANSYS). Developed a simplified analytical model which was packaged a GUI tool (Tkinter) for deployment in the R&D department.

2018-2019 **Boston Consulting Group**, *Gurgaon*, India
Associate

- Worked on a profit turnaround case for a large steel manufacturer. Conducted time-motion studies for insights into process bottlenecks. Developed a computational/visualization tool (Python) to analyze the performance of one of the manufacturing plants. This tool was later deployed at the plant for use in maintenance planning and execution.

2017-2018 **New York University Tandon School of Engineering**, *Brooklyn*, USA
School of Engineering Fellow and graduate researcher

- Conducted research into enhancing the actuation of ionic polymer metal composites (MATLAB, electronics).
- Designed and fabricated electronic circuitry and enclosures for actuators based on macro-fiber composites for use in tactile stimulation (3D printing, electronics).

May-Jul '16 **Singapore University of Technology & Design**, *Upper Changi*, Singapore
Visiting Student

May-Jul '15 **Whirlpool Global Technology & Engineering Center**, *Pune*, India
Summer Intern

Refereed Journal Publications

2023 **Jose K.**, Ferguson N., and Bhaskar A. "Branched flows of flexural elastic waves in non-uniform cylindrical shells". *PLoS ONE* 18.5 (2023): e0286420

2022 **Jose, K.**, Ferguson N., and Bhaskar A. "Branching flows of flexural waves in non-uniform elastic plates" *(Nature) Communications Physics* 5: 152.

2021 Bhaskar A., and **Jose K.** "How far does a fold go?" *Extreme Mechanics Letters* 45: 101261.

2018 **Jose, K.**, Chatterjee, A., and Gupta, A. "Acoustics of idakkā: An Indian snare drum with definite pitch" *The Journal of the Acoustical Society of America* 143.5: 3184-3194.

2018 Boldini A.*, **Jose K.***, Cha Y., and Porfiri M. "Enhancing the deformation range of ionic polymer metal composites through electrostatic actuation" *Applied Physics Letters* 112.26: 261903 (*Co-first authors).

Awards, Fellowships & Scholastic Achievements

2019 **Marie Sklodowska-Curie Fellowship**, *University of Southampton*

2018 **Best PhD Qualifying Exam**, *NYU Tandon School of Engineering*

2015 **Best Intern Award**, *Whirlpool Global Technology & Engineering Center*

2012 **IIT-Joint Entrance Exam All India Rank 792**
out of ∼0.47 million candidates (99.8 percentile).

2012 **KVPY Fellowship**, *Government of India & Indian Institute of Science*
National fellowship for students interested in research careers. (Declined)

Research Talks (Selected)

2023 **Open Databases Integration for Materials Design (Workshop)**, *EPFL*

2022 **11th European Solid Mechanics Conference**, *NUI Galway*

2022 **Elasticity Day**, *University College London*

2022 **18th European Mechanics of Materials Conference**, *University of Oxford*

2022 **ISVR Research Seminar**, *University of Southampton*

2021 **EUROMECH Colloquium 626**, *Keele University*, Online

2021 **Elasticity Day**, *Isaac Newton Institute, University of Cambridge*, Online

Professional Service

Aug '20 **Reviewer** for The European Physical Journal Plus (Springer)

Sep '21 **Organizer** of the InDEStruct Workshop (∼70 attendees.)