

Manjur Alam

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EDUCATION

- Indian Institute of Technology, Kanpur** Kanpur (UP), India
Ph.D., Civil Engineering (Structures) May 2022
- Fields: Stability, Nonlocal, Strain-gradient, Buckling, Postbuckling
 - Thesis: Closed Form Solutions for Post-Critical Instability in Gradient Continua
 - Grade Point Average (CGPA): 8.2/10.0
- Indian Institute of Technology, Kanpur** Kanpur (UP), India
MTech., Civil Engineering (Structures) December 2021
- Fields: Stability, Nonlocal, Strain-Gradient, Buckling, Postbuckling
 - Thesis: Nonlinear Vibration of Nonlocal Strain-Gradient Functionally Graded Beam on Nonlinear Compliant Substrate
 - Grade Point Average (CGPA): 8.2/10.0
- Aliah University (Govt. of West Bengal)** Kolkata (WB), India
BTech., Civil Engineering July 2014
- Grade Point Average (CGPA): 8.6/10.0

PUBLICATIONS

Peer Reviewed Journals

- **Alam M.**, Mishra S. K., Post-Critical Behaviour, and Imperfection Sensitivity of Nonlocal-Strain Gradient, Functionally Graded Piezoelectric, Axially Loaded Cylindrical Shells using Boundary Layer Theory (Accepted: *Journal of Engineering Mechanics, ASCE*)
- Dhanoriya A., **Alam M.**, Mishra S. K., Post-Critical Behavior of Nonlocal Strain Gradient Arches: Formulation and Differential Quadrature Solution, *Journal of Engineering Mechanics* 2023, 149(2), 04022105, <https://doi.org/10.1061/JENMDT.EMENG-6727>
- **Alam M.**, Mishra S. K., A Boundary Layer Solution for the Post-Critical Thermo-Electro-Mechanical Stability of Nonlocal-Strain Gradient Functionally Graded Piezoelectric Cylindrical Shells, *European Journal of Mechanics / A Solids*, 2022, 104836, <https://doi.org/10.1016/j.euromechsol.2022.104836>
- **Alam M.**, Mishra S. K., Nonlinear vibration of nonlocal strain gradient functionally graded beam on nonlinear compliant substrate, *Composite Structures*, Volume 263, 1 2021, 11344. <https://doi.org/10.1016/j.compstruct.2020.113447>
- **Alam M.**, Mishra S. K., Kant T., Scale Dependent Critical External Pressure for Buckling of Spherical Shell based on Nonlocal Strain Gradient Theory, *International Journal of Structural Stability and Dynamics*, Volume 21, No. 01, 2021, 2150003. <https://doi.org/10.1142/S0219455421500036>
- **Alam M.**, Mishra S. K., Thermo-mechanical post-critical analysis of nonlocal orthotropic plates, *Applied Mathematical Modelling*, Volume 79, March 2020, Pages 106-125. <https://doi.org/10.1016/j.apm.2019.10.018>

Book Chapter

- **Alam M.**, Mishra S. K., Buckling of Pressurized Nano-Sized Spherical Shell, *Recent Advances in Computational Mechanics and Simulations, Springer Nature*, Chapter 1.

Conference Proceedings

- **Alam M.**, Mishra S. K., 2022, Thermo-Electro-Mechanical Post-Buckling Behavior of Functionally Graded, Nonlocal Strain-Gradient, Piezoelectric Cylindrical Shells, 8th International Congress on Computational Mechanics and Simulation (ICCMS 2022), 9th to 11th December 2022, Indian Institute of Technology, Indore, India.

- **Alam M.,** Mishra S. K., 2022, Postcritical Instabilities in Nano Arches, 8th International Congress on Computational Mechanics and Simulation (ICCMS 2022), 9th to 11th December 2022, Indian Institute of Technology, Indore, India.
- **Alam M.,** Mishra S. K., 2019, Buckling of Pressurized Nano-sized spherical shell, 7th International Congress on Computational Mechanics and Simulation (ICCMS 2019), 11th to 13th December 2019, Indian Institute of Technology, Mandi, India.
- **Alam M.,** Sunny M. R., Ali J. S., 2014, Assessment of damage in steel structures using artificial neural network, International Conference on Theoretical Applied Computational and Experimental Mechanics (ICTACEM 2014), 29th to 31st December 2014, Indian Institute of Technology, Kharagpur, India.

AWARDS AND HONOURS

Awarded the *Outstanding Ph. D. Thesis Award* for the best thesis in Doctor of Philosophy in the department of Civil Engineering at Indian Institute of Technology Kanpur.

SKILLS AND INTERESTS

Computer: Abaqus, Maple, MATLAB, LAMMPS, Microsoft Office
Languages: Fluent in English, Bengali (native), Hindi
Interests: Travelling, cooking, singing, playing ukulele, playing cricket, reading novels

RESEARCH EXPERIENCE

Department of Civil Engineering, IIT Kanpur Kanpur (UP), India

- Studied the effect of nonlocal and strain-gradient interactions on buckling and post-critical instabilities of plates and shells under the effect of mechanical as well as thermal loads
- Performed experiments in the structural engineering laboratory required for graduate and post-graduate courses

Department of Aerospace Engineering, IIT Kanpur Kanpur (UP), India

- Designed and fabricated laminated composite beams and performed tests in the laboratory to obtain the fracture toughness

Aliah University (Govt. of West Bengal) Kolkata (WB), India

- Worked in the field of structural health monitoring using artificial neural network
- Presented at international conference to 80-100 attendee

LEADERSHIP/TEAMWORK EXPERIENCE

Indian Institute of Technology, Kanpur Kanpur (UP), India

- Mentored and collaborated with master's students
- Worked as a tutor in Solid Mechanics (UG) course having around 30 students for 2 semesters
- Assisted faculties in conducting UG and PG courses ranging in size from 20-300 students. Courses included: Solid Mechanics, Engineering Mechanics, Stability of Structures
- Worked in a group of 4 in structural engineering lab for finding out the bending strength of a prototype concrete beam
- Worked in a group of 4 in aerospace engineering lab to obtain the fracture toughness of laminated composite beams

Aliah University (Govt. of West Bengal) Kolkata (WB), India

- Assisted in teaching 2 UG courses ranging in size from 35-40 students. Courses included: Solid Mechanics, Surveying.
- Organized, executed, and raised fund for 2 annual conferences in a group of 15 (100-150 attendees)

REFERENCES

Prof. Sudib Kumar Mishra
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 Kanpur, Uttar Pradesh: 208016, India
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Prof. Mohammed Rabius Sunny
 Department of Aerospace Engineering
 Indian Institute of Technology Kharagpur
 Kharagpur, West Bengal: 721302, India
 Email: sunny@aero.iitkgp.ac.in

Prof. Rajesh Kitey
Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur, Uttar Pradesh: 208016, India
Email: kitey@iitk.ac.in

Prof. Gideon A. Lyngdoh
Department of Civil Engineering
George Fox University
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