Krishnan S
DOB: 07/04/1989
Gokulam, 5th street, Venkateswara Colony
Ambikapuram Palakkad, Kerala, India
Pincode- 678011
Contact: ksiyer1@gmail.com, Mob: +91-7754856698

Education

- Ph.D., Mechanical Engineering, 2022, CPI :8.29
  Indian Institute of Technology Kanpur, India
  Thesis: *Indentation of Geometrically Exact Beams*
  Advisors: Prof. Ishan Sharma, IIT Kanpur and Prof. Sovan Lal Das, IIT Palakkad
- M.Tech., Engineering Design, 2013, CPI :9.73
  Amrita Viswavidhyapeetham, Coimbatore,Tamil Nadu, India
  Thesis: *Modeling the Tribological Characteristics of Polymer Coated Systems*
  Advisor: Dr. Ajith Ramesh
- B.Tech., Mechanical Engineering, 2010, Marks: 77.11%
  University of Calicut, Kerala, India

Research Interests

- Continuum Mechanics, Mechanics of slender bodies, Contact and Impact problems of soft materials, Non-linear Finite Element methods, Biomechanics.

Work Experience

- December 2025 - Present: Assistant Professor, Mechanical Engineering, Maulana Azad National Institute of Technology Bhopal, India
- October 2023 - December 2025: Postdoctoral Fellow, Indian Institute of Technology Gandhinagar, India.
  - Investigating problems in mechanics of thin bodies
- October 2022- October 2023: Research Associate, Indian Institute of Technology Palakkad, India
  - Investigating effect of adhesion in Giant Unilamelar Vesicles (GUVs) through experiments and computations.

Publications - Journals

1. **Krishnan Suryananarayanan**, Ishan Sharma, and Sovan Lal Das: **Indentation of Geometrically Exact Beams**. International Journal of Solids and Structures, **254-255**, 111905, 2022, `https://doi.org/10.1016/j.ijsolstr.2022.111905`.
2. **Krishnan Suryananarayanan**, Thiruvelu Bhuvana, Ishan Sharma, and Sovan Lal Das: **Indentation of Geometrically Exact Adhesive Beams**. International Journal of Solids and Structures, **279**, 112348, 2023, `https://doi.org/10.1016/j.ijsolstr.2023.112348`.
3. Harmeet Singh, **Krishnan Suryananarayanan** and Epifanio G. Virga: **Work and Activation in a Nematic Polymer Network Ribbon**. Journal of Elasticity, **157**(3), 1-24, 2025, `https://doi.org/10.1007/s10659-025-10137-5`
4. **Krishnan Suryananarayanan**, Andrew B. Croll, Harmeet Singh: **Adhesive Tape Loop**, Journal of the Mechanics and Physics of Solids (In review).
5. **Krishnan Suryananarayanan**, Harmeet Singh: **A theory of locally impenetrable elastic tubes**, Journal of the Mechanics and Physics of Solids (Submitted).

Conferences

1. **Krishnan Suryananarayanan**, Sovan Lal Das, Ishan Sharma: **Indentation of adhesive beams** (poster). Compflu2016, December 2016, Hyderabad, India.
2. **Krishnan Suryananarayanan**, Sovan Lal Das, Ishan Sharma: **Contact mechanics of adhesive beams** (poster). SMYIM 2016, 4th Soft Matter Young Investigators Meeting, December 2016, Goa, India.
3. **Krishnan Suryananarayanan**, Sovan Lal Das, Ishan Sharma: **Indentation of thin adhesive beams** (talk). ESMC 2018, 10th European Solid Mechanics Conference, July 2018, Bologna, Italy.
4. **Krishnan Suryananarayanan**, Andrew B. Croll, Harmeet Singh: **Stability of Adhesive Tape Loops** (talk). INCAM 2024, 6th Indian Conference on Applied Mechanics, July 2024, Warangal, India.
5. **Krishnan Suryananarayanan**, Andrew B. Croll, Harmeet Singh: **Stability of Adhesive Tape Loops** (talk). ICTAM 2024, 26th International Congress on Theoretical and Applied Mechanics, August 2024, Daegu, Korea.
6. **Krishnan Suryananarayanan**, Harmeet Singh: **Local Impenetrability in slender structures of finite thickness** (talk). ESMC 2025, 12th European Solid Mechanics Conference, July 2025, Lyon, France.
7. Harmeet Singh **Krishnan Suryanarayanan**, Anup K. Pathak, and Parthkumar A. Patel. "Contact problems in elastic rods." In 2nd International Conference on Highly Flexible Slender Structures 2025, (p. 112). `https://pure-oai.bham.ac.uk/ws/portalfiles/portal/281379686/HFSS2025.pdf#page=114`

Graduate Courses

Finite Element Method, Metal Forming, Mechanics of Biological Membranes, Theory of Elasticity, Continuum Mechanics, Applied Dynamics and Vibration.

Software Skills

- Technical - Matlab, ABAQUS, Mathematica, Maple, Ansys.
- Others - MS office, Latex, Libreoffice, Ipe.

Teaching and Research Experience

- Teaching Assistant at IIT Kanpur: Mathematical Methods in Engineering, Finite Element Methods in Engineering Mechanics, Introduction to Solid Mechanics, Metal Forming, Dynamics, Theory of Elasticty.
- Teaching Assistant at IIT Gandhinagar: Non-linear Continuum Mechanics.
- Mentored one M.Tech student and 2 B.Tech students in their respective thesis and projects.

Awards and Recognition

- Young Scientist Support Grant to attend ICTAM2024 conference in Daegu, Korea.
- The work on Nematic materials titled 'Work and Activation in a Nematic Polymer Network Ribbon' was highlighted by the institute IIT Gandhinagar on their social media platforms. Link: `https://www.linkedin.com/feed/update/urn:li:activity:7267877464658366465/`.
- The work on 'Stability of adhesive tape loops' was highlighted by the institute IIT Gandhinagar on their social media platforms. Link: `https://www.linkedin.com/feed/update/urn:li:activity:7348984843151536130/`.