

PRIYANKA SAINI

#105, Metallurgy Annex Building, National Institute of Technology Rourkela, India



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Research Profile
[Priyanka_Google_Scholar](#)

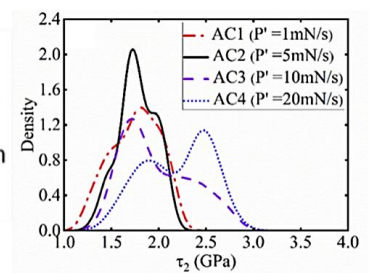
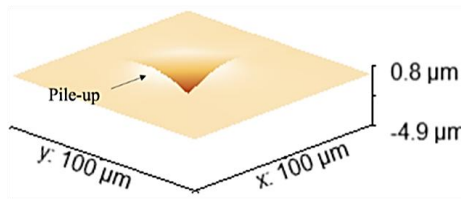
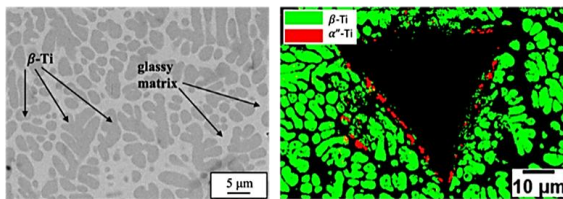
SOCIALS (LinkedIn)
[Priyanka_linkedIn](#)

Orcid ID: 0009-0004-1753-7821

Date of Birth: 16-10-1997

Research Interests

- Mechanical behavior of advanced materials at multiscale (micro- to macro-) covering wide range of temperatures
- Structure-property correlations in **bulk metallic glasses, composites, aluminium alloys**, high entropy alloys, coatings, additive manufacturing metals, and alloys
- Special emphasis on **fracture** and micromechanical behavior, such as **nanoindentation** of materials
- **Statistical modeling**



Structure-Property Correlation

Statistical modeling

Academic Career

National Institute of Technology, Rourkela
Assistant Professor Grade-II, [Metallurgical and Materials Engineering Department](#)

8th July 2024- present

Indian Institute of Technology Delhi, India
Early Post-doctoral Researcher, [Department of Materials Science and Engineering](#)

29th Dec, 2023 – 28th March, 2024

- Supervisor: [Prof. Lakshmi Narayan Ramasubramanian](#)
- Project topic: Fracture studies of 3-D printed Ti-6Al-4V hollow honeycomb structures integrated with zinc

Indian Institute of Technology Delhi, India
Ph.D., [Department of Materials Science and Engineering](#)

20th July, 2019 – 29th Dec, 2023

- Thesis Topic: Understanding plasticity in bulk metallic glass and its composites using the indentation technique
- Supervisor: [Prof. Lakshmi Narayan Ramasubramanian](#)
- Laboratory: Laboratory for multi-scale mechanical behavior of materials
- CGPA: 9.167/10, Credits: 27, **Coursework:**
 - Fracture mechanics
 - Mathematical and computational methods in materials
 - Applied elasticity
 - Mechanical behaviour of materials
 - Phase transformation
 - Structure and characterization of materials
 - Thermodynamics of materials
 - Special topics in materials
 - Research writing

Defence Metallurgical Research Laboratory Hyderabad, India
B.Tech. Research Internship, Forming Technology Division

18th Dec 2017 – 13th Feb 2018

- Title: Multi-axial forging of nickel-base superalloy to refine the grain size
- Supervisor: [Dr. Balasundar Hanganovan](#)

- CGPA: 8.788/10 (Secured 2nd rank in department)
- Thesis Title: Cyclic oxidation of INCONEL 718 at high temperatures

List of Publications

1. **Priyanka Saini**, Yakai Zhao, Biao Li, Long Zhang, Upadrasta Ramamurty, R.L. Narayan, [Temperature dependence of pressure sensitivity in metallic glass composites](#), *Journal of Materials Science & Technology*, 181 (2024), 165-175 (**IF: 14.3, Q1**)
2. **Priyanka Saini**, R. L. Narayan, [On simultaneous enhancement in local yield strength and plasticity of short-term annealed bulk metallic glasses](#), *Journal of Alloys and Compounds*, 898 (2022), 162960 (**IF: 6.3, Q1**)
3. **Priyanka Saini**, Shankha Nag, Jae-il Jang, In-Chul Choi, Upadrasta Ramamurty, R. L. Narayan, [A statistical analysis of the second ‘pop-in’ behaviour of the spherical-tip nanoindentation of Zr-based bulk metallic glasses](#), *Materialia*, 31 (2023), 101862 (IF: 3.4, Q2)
4. **Priyanka Saini**, Shafaq Ashraf Lone, Yashwant Mehta, Zahida, Cyclic oxidation of IN 718 at high temperatures, *Journal of Material Science and Mechanical Engineering*, 6 (2019), 227-232
5. Dheeraj Kumar Saini, **Priyanka Saini**, Pradeep Kumar Jha, [Investigation of processing parameters, dendritic coherency point, and microstructural evolution in continuous cast in-situ Al-Mg₂Si composite sheets](#), *Journal of Manufacturing Processes*, 149 (2025), 258-275 (**IF: 6.8, Q1**)
6. Abhilasha Jain, Yogesh Prabhu, Dmitry Gunderov, R. Lakshmi Narayan, **Priyanka Saini**, S. Vincent, Priya Sudha, Ashutosh D. Bagde, Jatin Bhatt, [Structural characterization, biocorrosion and in-vitro investigation on Zr₆₂Cu₂₂Al₁₀Fe₅Dy₁ metallic glass for bio-implant applications](#), *Journal of Non-Crystalline Solids*, 598 (2022), 121928 (IF: 3.5, Q2)
7. Yogesh Prabhu, Abhilasha Jain, R. L. Narayan, **Priyanka Saini**, S. Vincent, E. S. Park, Jatin Bhatt, [Crystallization Kinetics and Nanoindentation Studies of Cu₄₆Zr₄₀Ti_{8.5}Al_{5.5} Glassy Alloy](#), *Journal of Non-Crystalline Solids*, 625 (2024), 122753 (IF: 3.5, Q2)
8. Debarati Bhattacharyya, **Priyanka Saini**, R.L. Narayan, Vijay Baheti, A comparative study on the creep behaviour of ozone-treated jute fabric/epoxy composites filled with ozonized and pulverized plant fibres, *Journal of Composite Materials* (Accepted) (IF: 2.4, Q2)

Conference Oral Presentations

1. **Nanoyantrika**, Thiruvananthapuram, India, 20-22 Sep 2025
2. **SICE** (Structural Integrity Conference and Exhibition), Nagpur, India, 22 - 24 Oct 2024
3. **IIW7** (Seventh International Indentation Workshop), Hyderabad, India, 17 - 21 Dec 2023
4. **ASATM** (Advances in Structural Alloys and Their Manufacturing), Singapore, 10 - 13 Jan 2023
5. **TMS** (The Minerals, Metals and Materials Society) Annual Meeting and Exhibition, USA, 27 Feb - 3 Mar 2022
6. **ICAMMC** (International Conference on Advanced Materials and Mechanical Characterization), India, 2- 4 Dec 2021
7. 75th Annual Technical Meeting of the **IIM** (Indian Institute of Metals), India, 13 - 15 Nov 2021

Training & Courses

1. Hands-on training: Nano Indenter, FESEM, EDS, and EBSD from Dec 2020 to July 2021 at IIT Delhi
2. Short-term course on “Electron Microscopy in Materials Science” organized by the Department of Materials Science and Engineering, Indian Institute of Technology Delhi from 3rd – 9th January 2024
3. Short-term course on “Research Communication Workshop” organized by Indian Institute of Technology Delhi from 18th – 22nd March 2024

Instrument Proficiency

- **Nano/Micro Indentation**
- Fracture Testing
- FE-SEM: Field emission Scanning **Electron Microscopy**
- EDS: Electron Dispersive Spectroscopy
- EBSD: Electron Back Scatter Diffraction
- Tensile/Compression
- Optical microscopy
- Electro-polishing, electro-etching
- DSC: Differential Scanning Calorimetry
- AFM: Atomic Force Microscopy
- LPBF: Laser Powder Bed Fusion

Awards & Academic Merits

- Awarded **Prime Minister's Research Fellowship (PMRF)** for pursuing doctoral degree at IIT Delhi, 2021
- Awarded a **merit certificate** from NIT Srinagar for securing 2nd position in B. Tech, Metallurgical and Materials Engineering Department, 2019
- Won the **best oral presentation award** at the Structural Integrity Conference and Exhibition (SICE), 2024
- Secured 1st position in the **3-minute thesis** competition conducted by TRYST IIT Delhi, 2023
- Secured 2nd position in the **SARANSH thesis competition** conducted by INYAS, 2022
- Secured 1st position in **3-minute thesis** conducted by INAE-SERB youth conclave at IIT Jodhpur, 2022
- Won the **best oral presentation award** at the International Conference on Advanced Materials and Mechanical Characterization (ICAMMC), 2021
- Won the **best scanning electron microscopy metallography award** at the 75th Annual Technical Meeting of the Indian Institute of Metals, 2021
- Awarded a **merit certificate** from K.V. No.2 Jammu Cantt. for securing a 10 CGPA in 10th class, 2013

References

1. **Prof. Lakshmi Narayan Ramasubramanian**
Assistant Professor, Department of Materials Science and Engineering
Indian Institute of Technology Delhi, New Delhi- 110016, India
Email: rlnarayan@mse.iitd.ac.in, Phone: +91-8860996485
2. **Prof. Jae-il Jang**
Professor, School of Materials Science and Engineering,
Hanyang University, Seoul- 04763, Korea
Email: jijang@hanyang.ac.kr, Phone: +82-2-2220-0402
3. **Dr. Yakai Zhao**
Senior Scientist, Institute of Materials Research and Engineering (IMRE)
Agency for Science, Technology and Research (A*STAR), 138634, Singapore
Email: zhao_yakai@imre.a-star.edu.sg, Phone: +65-8306-2285

Declaration: I certify that the foregoing information is correct and complete to the best of my knowledge and belief, and nothing has been concealed/distorted. If at any time I am found to have concealed/distorted any material information, my appointment shall be liable to be summarily terminated without notice/compensation.

Place: NIT Rourkela



Signature of the candidate