# RTC INSTITUTE OF TECHNOLOGY

Anandi, Ormanjhi, Ranchi – 835219, Jharkhand
Approved by AICTE, New Delhi & Govt. of Jharkhand and Affiliated to Jharkhand University of Technology, Ranchi
(ISO 9001:2015 CERTIFIED)

## Department of Science & Humanities

**Dr. Rahul Mandal**
**Assistant Professor (S & H)**
**B.Sc., M.Sc., Ph.D.**
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## Brief Profile:

I, Dr. Rahul Mandal, Assistant Professor of Department of Science & Humanities have about 1 years' experience in teaching and research. Throughout my research journey, I have worked extensively on holographic imaging configurations, laser speckle metrology and photopolymer recording materials, which is published in several reputed international journals. Passionate about teaching and research, I aim to deliver a dynamic and engaging learning environment with critical thinking and innovation to the students. I am committed to motivate teaching with interactive methodologies and driving collaborative research in optics.

## Other Roles:

Working as Examination coordinator for the Department of Science & Humanities.

## Areas of Interest:

Optical Engineering, Holography & Holographic Optical Elements (HOEs), Optical Instrumentation, Optical System Design.

## Subjects taught:

Engineering Physics (For B. Tech), Engineering Physics (For Diploma), Electromagnetic Field Theory.

## Publications:

**(i) Journals & Conference Proceedings**

1. **R. Mandal,** A. Ghosh, and A.K. Nirala, "Speckle photography and double aperture speckle interferometry using both sides of a suitably designed hololens imaging configuration", **Laser Physics**, 2023, v. **33**, n. 8, pp. 086202. DOI: 10.1088/1555-6611/acd7de
2. **R. Mandal,** and A. Ghosh, "Measurement of in-plane displacement using two identical hololenses," **Journal of Optics India**, 2025. DOI: https://doi.org/10.1007/s12596-025-02831-3
3. **R. Mandal,** and A. Ghosh, "Designing of double aperture speckle interferometer using second order image plane of suitably recorded two identical hololenses for in-plane displacement measurement," **Journal of Modern Optics**, 2026.
DOI: https://doi.org/10.1080/09500340.2026.2613307
4. **R. Mandal,** Yashwinder, Abhijit Ghosh, and A.K. Nirala, "Laser speckle photography and speckle interferometry using holographic imaging configurations," **Brazilian Journal of Physics**, 2026, v. 56, n. 112. DOI: https://doi.org/10.1007/s13538-026-02024-8

**(ii) International Conference**

1. **R. Mandal,** M. Mandal, A. Ghosh, and A.K. Nirala, "Double aperture speckle interferometer using single hololens imaging configuration", Presented in International Conference on Optics, Photonics & Quantum Optics (COPAQ 2022), held at Indian Institute of Technology Roorkee, India. https://iitr.ac.in/copaq2022/img/COPaQ2022Proceeding.pdf
2. **R. Mandal,** A. Ghosh, "Holographic concentrators recorded on photopolymer film for photovoltaic application," Presented in International conference on Optics, Photonics and Quantum information (OPTIQ 2023), held at Cochin University of Science of Technology, India. https://osiindia.org/ann_conf_docs/1703752474.pdf

3. **R. Mandal,** and A. Ghosh, "Designing of photovoltaic concentrators using multiplexed holographic lenses recorded in photopolymer film", Presented in 4th International conference on Condensed Matter and Applied Physics (ICC 2023), held at Engineering College Bikaner, India. https://doi.org/10.1063/5.0225217

4. **R. Mandal,** Yashwinder, A. Ghosh, "Holographic concentrator designing using multiplexed recording method for tracking wide angular range of illumination," Presented in 1st International conference on Emerging Trends in Optical Technologies (ETOT-I), held at SRM University AP, during 02-04 January, 2025.

## Awards & Achievements:

1. Awarded NATIONAL FELLOWSHIP FOR SCHEDULED CASTE STUDENTS for qualifying CSIR UGC test for eligibility of Assistant Professor 2020
2. Qualified State Eligibility Test in West Bengal for eligibility of Assistant Professor 2022
3. Qualified CSIR UGC test for eligibility of Assistant Professor 2020
4. Qualified Gate 2019