INDIAN INSTITUTE OF TECHNOLOGY PATNA

Masters in Science(M.Sc)

Department of Physics

(2019-2021)

Master's Of Science(M.Sc.) in Physics

Duration : 2 years

Project Duration: 1 year

Batch Strength: 17

Projects floated by faculties include Theoretical Physics topics with research topics from Particle Physics, Statistical Physics, Bose - Einstein Condensate etc. Experimental Physics topics like Quantum Optics, Optical Fibers, Scanning Probe Microscopy, Condensed matter etc. Computational Physics topics on 2d structures, Scattering, Condensed Matter etc. which provide an overall development of a budding physicist by making the student familiar with Technical work, Research oriented study, Practical knowledge and industry focused approach to problems. The project work also helps the students contemplate over how the knowledge of science will help the society progress .

CURRICULUM

SEMESTER I

1) MATHEMATICAL PHYSICS
2) CLASSICAL MECHANICS
3) QUANTUM MECHANICS I
4) NUMERICAL TECHNIQUES
5) ELECTRONICS
6) ELECTRONICS LABORATORY

SEMESTER II

1) QUANTUM MECHANICS II
2) STATISTICAL PHYSICS
3) APPLIED OPTICS
4) ELECTRODYNAMICS
5) COMPUTATIONAL PHYSICS
6) GENERAL PHYSICS LABORATORY

SEMESTER III

1) Atomic and Molecular Physics
2) Solid State Physics
3) Particle Physics
4) Measurement Techniques

SEMESTER IV

Elective Subjects

- Quantum Optics & Quantum Information.
- Nanoscience.
- Physics of Ultracold Atoms
- Biophotonics.
- Introduction to Medical Physics.
- Magnetic Materials and Applications.
- Materials for Engineering Applications.

MATCHLESS MENTORS

"What sets The Physics Department of IIT Patna apart from all other institutions is its distinctive pedagogy. It's a unique blend of theoretical knowledge transfer and practical approaches, thus enabling physicists to build a solid foundation while acquiring sufficient skills to comprehend optimal implementation of the same.
Our faculty are considered to be the best in their fields. We also have the best group of Research Scholars, Research Scientists and staff members."

HOD PHYSICS

DR. VENKATA R. DANTHAM
ASSOCIATE PROFFESOR
PHD- IIT MADRAS

FACULTY ADVISOR

DR. JOBIN JOSE
ASSISTANT PROFFESSOR
PHD- IIT MADRAS

FACULTY PROFILE

• Ajay D. Thakur
Associate Professor
PhD – TIFR

• Alpana Nayak
Assistant Professor
PhD – RRI, Banglore

• Arghya Choudhury
Assistant Professor
PhD – IISER Kolkata

• A.K Thakur
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• Ayash Kanto Mukherjee
Assistant Professor
PhD – IISC Bangalore

• Manas Kumar Sarangi
Assistant Professor
PhD - Saha Institute of Nuclear Physics, Kolkata

• Prashant Kumar
Ramanujan Faculty
PhD – University of Hyderabad

• Soumya Jyoti Ray
Assistant Professor
PhD – University of St. Andrews , UK

• Utpal Roy
Associate Professor
PhD – PRL, Ahmedabad

• Manoranjan Kar
Associate Professor and Associate Dean (Student Affairs)
PhD – IIT Guwahati

• Naveen Kumar Nishchal
Associate Professor
PhD – IIT Delhi

• Neha Kiritkumar Shah
Assistant Professor
PhD – IIT Bombay

• Prakash Parida
Assistant Professor
PhD – JNCASR

• Raghavan K Easwaran
Assistant Professor
PhD – University of Paris

WHY RECRUIT FROM US?

The degree course gives a firm foundation in Physics both in Theoretical as well as Practical with an emphasis on improving coding skills and reasoning formally. With the help of ongoing projects we are able to apply it in real world. We are capable to pursue careers in both academics and industry.

The students are encouraged to tackle theoretical as well as Industrial problems transforming them into motivated individuals who can be great asset for any organization, be it academic, R&D, software, analytics or finance.

CONTACT US:

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