

Physics and Photonics Science

The Physics & Photonics Science department at National Institute of Technology Hamirpur was established in 2009 as Department of Physics. There are 11 faculty members in the department, including Guest faculty. National Institute of Technology Hamirpur is situated in the land of Gods i.e. Himachal Pradesh. The campus sits in the lap of scenic beauty and the snow-clad mountains of Dhauladhar range are vividly visible from the campus. The Department is providing world-class undergraduate and postgraduate education, as well as research facilities for doctoral program in diverse areas of fundamental and applied Physics. The department is one of the few places offering a B.Tech. academic degree, in Engineering Physics from 2020. This unique course blends the best of contemporary physics and technology, to create professionals who are equally equipped with both science and technology. Department is equipped with latest world class equipments available to facilitate the fundamental understanding of different concepts to UG and PG students and to give them more exposure of experimentation.

The department also offers 2-year M.Sc. program in Physics and Ph. D. program in various specialized areas of research in experimental and theoretical Physics. At present, there are eight full time research scholars pursuing Ph. D. degree and more than 20 Ph.D. degrees have been awarded so far. The faculty members of the department have grants under different research projects sponsored by external agencies.

Mr. Uttam Kumar, who is in the third year of his B.Tech. in Engineering Physics, took part in the three-stage International Astronomy and Astrophysics Competition of 2022. In the final round, people from all over the world were tested on their knowledge of Astronomy and Astrophysics, from the most basic to the most in-depth. In this competition, Mr. Uttam Kumar was in the top 7% of all the people who took part, which earned him the Silver Honour. Ms. Preeti Sharma, Mr. Ankush Verma and Mr. Ashmit Gupta received invitation for attending a wonderful interactive session by **Professor William D. Phillips**, USA, Nobel laureate in Physics whose work in Laser Cooling and Trapping of Atoms has changed the world through their applications in Atomic Clocks, Time Measurements, GPS, Ultra-cold Atom Quantum Simulations, and Quantum Computing from Womanium Team. The Womanium Foundation's WOMANIUM Global Quantum Computing and Entrepreneurship Program was attended by Mr.

Ashmit Gupta and Ms. Preeti Sharma, second-year B.Tech. (Engineering Physics) students. They successfully completed a QBronze Quantum Computing and Programming Module and received a diploma certificate. Mr. Ashmit Gupta received a scholarship from this foundation in order to take part in this big event. Mr. Yash Upadhyay, a third-year B.Tech. (Engineering Physics) student, was chosen from among thousands of applications from around the world to attend the prestigious Qalypso School on "Quantum Computation & Open Quantum Systems," which will be conducted in Gozo, Malta, from September 5 to 9, 2022. Mr. Yash Upadhyay and Soumya Ranjan participated in the IBM Quantum Challenge Fall 2021. It contained exercises related to Quantum Computing's different industry applications using Qiskit's application modules: Finance, Nature, Machine Learning and optimization. Mr. Upadhyay has achieved an Advanced digital Badge in IBM Quantum Challenge fall 2021. Students are doing internship/projects with research Institute and science societies.

Within a very short span of time, the department has made an impression of excellence in the field of academics and research. Our M.Sc. program started in 2017 and the graduated students have secured exceptionally good rankings/scores in competitive examinations like GATE, JEST, etc. and have been selected for Ph.D. programs at different Institutions like National University of Ireland Galway, Raja Raman Centre for Advanced Technology (RRCAT), Indore, Indian Institute of Technology Madras, Jawaharlal Nehru University- New Delhi, Indian Institute of Technology Dhanbad, Indian Institute of Technology Kharagpur, Indian Institute of Technology (BHU) Varanasi, Indian Institute of Science Education and Research Bhopal, NIT Jalandhar and NIT Kurukshetra, NIT Durgapur, Indian Institute of Technology Delhi, and Tata Institute of Fundamental Research Mumbai .

The department is actively involved in organizing activities like, Conferences, Workshops, Symposium, DST sponsored SERC School, Seminars, Short-term Courses etc. and planning to organize many more of such events in the near future. The department is proactive and would like to attract talented students.

Recent Achievements:

M.Sc. (Physics) student, Mr. Sri Ram G., has been appointed as a Scientific Officer (C), at the Bhabha Atomic Research Centre. And On the basis of the results of the National Level- Combined Graduate Level Examination, 2020, another M.Sc.

(Physics) student Mr. Praveen Kumar of the Department has been appointed as Inspector of GST & Central Excise.



Mr. Yash, M.Sc. Physics student of the Department of Physics and Photonics Science at the National Institute of Technology Hamirpur has been selected for a PhD programme in experimental quantum computing at the Chatterjee Group (TCG) Centres for Research and Education in Science and Technology (TCG CREST). TCG CREST has been designated as a Scientific and Industrial Research Organisation by the Government of India's Department of Scientific and Industrial Research. Mr. Deepak from the M.Sc. (Physics) programme has been admitted to the DOCTOR OF PHILOSOPHY (Ph. D.) programme in OPTICS AND PHOTONICS at the Indian Institute of Technology Delhi. Mr. Amod, Mr. Sri Ram G., were selected into the Ph. D. programme at the Indian Institute of Technology Madras. Furthermore, Ms. Mansi Talwar was admitted to the Ph.D. programme at the Centre of High Energy Physics, Indian Institute of Science (IISc) Bangalore.



Mr. Ashutosh Prajapati, Ms. Chhavi Choudhary, Mr. Aryan Verma, Mr. Himanshu, Mr. Prashant Dhiman, Mr. Udit Chauhan, Mr. Shivansh Sharma, Sai Vignesh Kallimakula, Ayush Sahu, Mr. Md. Taushif Ali, Mr. Vaibhav Sharma, Uttam Kumar, Mr. Parinay Rana, Mr. Yash Upadhyay, Mr. Kartik Attry, Ms. Gurmehar Kaur of B.Tech. (Engineering Physics) 3rd year got internships at Newage Instruments and Materials Pvt. Ltd.- Gurgaon, Osaw Industrial Products Pvt. Ltd. in Ambala Cantt., Central University of Himachal Pradesh-Dharmshala, Defense Metallurgical Research Laboratory – Hyderabad, Variable Energy Cyclotron Centre- Kolkata, Bhabha Atomic Research Centre, Mumbai, Indian Institute of Technology- Roorkee, Indian Institute of Technology-Mandi, Central Scientific Instruments Organization-Chandigarh. Mr. Girish Gaurav Sharma and

Mr. Abhinav Jaiswal, both B.Tech. (Engineering Physics) 2nd-year students received internship offers from Central Scientific Instruments organization Chandigarh and IIT-Mandi.



Mr. Vikash Kumar Prasad, Mr. Dheeraj Kumar Singh, Ms. Rinku Boora and Ms. Anjali Yadav of the M.Sc. (Physics) programme received placement offers from BYJU'S, Physicswallah, Minerva Study Circle, ALLEN Career Institute Pvt. Limited and Prime Axis Classes through the Institute Placement Cell.



First-year students Mr. Denesh K., Mr. Mehendra Sinwar, Mr. Harshpreet Singh, Mr. Aravindhakshan S. and Ms. Memansa Thapa of M.Sc. (Physics) got the offer for summer internships at Physical Research Laboratory Ahmedabad, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, School of Physical Sciences, NISER- Bhubaneswar, Indian Institute of Space Science and Technology, Thiruvananthapuram, Indian Institute of Technology Mandi.



Mr. Ishant Kumar, Ms. Leelavati, Ms. Jyoti, Dr. Arvind Kumar, and Mr. Naveen Kumar Ph.D. Scholar were selected for the position of Assistant Professor in Physics, Class-I Gazetted (college cadre) in the Department of Higher Education, H.P., based on the written cum Personality Test recently conducted by the Himachal Pradesh Public Service Commission-Shimla.



Ms. Mansi, a student in the Master of Science in Physics programme, achieved the 88th place overall in India on the National Level Graduate Aptitude Test in Engineering (GATE-2023). Ms. Divya Rani, Ms. Ritu, Mr. Sri Ram G, Mr. Mohit Saini, Mr. Satish Singh Kaintura, Mr. Rupam Roy, and Mr. Rohit Singh, along with B.Tech. (Engineering Physics) students Mr. Vaibhav Sharma and Mr. Uttam Kumar, were also recognized for qualifying and achieving good ranks in National

Level examinations (GATE-2023).

