

IIT Mandi Physicists Recognized with Fundamental Physics Breakthrough Prize for Contributions to CERN Experiments

Dr. Prabhakar Palni and Dr. Amal Sarkar from the School of Physical Sciences, IIT Mandi, along with their international team, have been named laureates of the prestigious *Fundamental Physics Breakthrough Prize 2025* for their collective contributions. They are honored for their significant contributions to the ATLAS, ALICE, and CMS experiments at the Large Hadron Collider (LHC), CERN, which advanced our understanding of fundamental particle physics during the experiments' second run, spanning from 2015 to 2024.

The Breakthrough Prize celebrates the pioneering achievements of international scientists who have deepened humanity's knowledge of the universe. This year's prize includes a \$3 million award, which has been donated to the CERN & Society Foundation. The funds will be used to provide grants for doctoral and summer students, enabling them to gain research experience at CERN. These opportunities aim to empower young scientists by giving them direct access to cutting-edge facilities and knowledge, which they can then bring back to their home countries.



The Experimental Particle Physics Group at IIT Mandi's School of Physical Sciences was established by Dr. Amal Sarkar and Dr. Prabhakar Palni. In 2024, they formally joined the CMS (Compact Muon Solenoid) collaboration, one of the major experiments at the LHC, CERN. The group's active participation marks a significant milestone for Indian institutions in global high-energy physics research.

Their active involvement in CERN's large-scale experiments highlights IIT Mandi's expanding presence in global scientific collaborations and reflects the institute's strong commitment to advancing cutting-edge research in fundamental physics. This achievement highlights IIT Mandi's research strength and India's contribution to the international high-energy physics community.

Breakthrough Prize award: <https://breakthroughprize.org/Laureates/1>

Press release on India's contribution at the LHC:

<https://www.pib.gov.in/PressReleaseDetailm.aspx?PRID=2131339>