

Ankur Sharma

Date of Birth	2 nd August 1991	Gender	Male
Nationality	Indian	Phone	+33 7 80 82 48 63
Address	Villa Molly, 35 Rue du Colonel Moll 94400, Vitry-Sur-Seine, France	Email	sharma@apc.in2p3.fr ankur2891@gmail.com

Education

April 2020	PhD in Physics - University of Pisa (Italy) Thesis - Analyzing the High Energy Activity of Candidate Neutrino Emitter Blazars to Constrain their Observability through Deep Sea/Ice Cherenkov Telescopes
Feb 2015	Integrated M.Sc. (M.Sc. + B.Sc.) in Applied Physics - Indian Institute of Technology (ISM), Dhanbad Area of study - Applied Physics
Sept 2013 - July 2014	Erasmus Mundus India4EU II Exchange Mobility - University of Porto (Portugal) Area of study - Master Thesis, Astronomy, Cosmology

Employment History

Aug 2025 - Present	AddedEducation Designation - <i>Research Mentor</i> Activities - Remotely mentoring high school students in AI and astrophysics/astronomy research, providing guidance from project design stage to paper writing and submission.
June 2025 - Present	ScaleAI Designation - <i>Subject Expert</i> Activities - Contributing as a freelance problem designer and evaluator for Humanitys Last Exam , an advanced AI benchmark project
June 2023 - Dec 2024	Université Paris Cité (UPC) & Laboratoire Astroparticule et Cosmologie (APC) Designation - <i>Postdoctoral Fellow</i> Activities - Using Machine Learning (ML) approaches to search for hidden information in the existing data and to boost the sensitivity of current astroparticle physics experiments, under the AstrodiIP project <ol style="list-style-type: none">1. Classification of blazars types using source catalogs [supervised ML]2. Adapting and extending self-supervised deep learning models to tag the hadronic contribution in blazar SEDs (simulated with AM³) using a deep neural network.3. Contribution to the JetSeT multi-messenger modeling framework by developing and integrating modules for proton-photon interactions and the resulting secondary cascade evolution.4. Participation in HESS: Neutrino alerts follow-ups; multi-wavelength analysis of peculiar AGN PMN J1603-49045. Participation in KM3NeT: Astrophysics and ML groups; data preparation and physics inputs for graph neural network based background discrimination model at the trigger level
June 2020 - July 2022	Department of Physics & Astronomy, Uppsala University Designation - <i>Postdoctoral Fellow</i> Activities - <ol style="list-style-type: none">1. Real-time alerts shifter; Understanding the discrepancy between angular uncertainties in offline and online reconstruction of IceCube public neutrino alerts; Studies of systematic effects on IceCube's real-time angular uncertainty with simulated muons2. Multi-messenger analysis: A model-independent search for neutrino flares from soft X-ray selected blazars using 10 year IceCube data3. Teaching and student supervision
Dec 2015 - Dec 2016	SPACE India, New Delhi Designation - <i>Astronomy Educator</i> Activities - <ol style="list-style-type: none">1. Designed and delivered astronomy education programs with hands-on telescope use for educational institutions and public outreach2. Coordinated national and international scientific campaigns (Sally Ride EarthKAM, All India Asteroid Search Campaign etc.) for students and conducted large-scale public engagement events

Research Experience

- 2013** [Laboratori Nazionali del Gran Sasso \(LNGS\), Italy](#)
Project Title - Tagging of Radioactive Surface Background with AbSuRD
Position - Summer Internship (May - July 2013)
Experiment - CUORE
Supervisor - Prof. Carlo Bucci (carlo.bucci@lngs.infn.it)
- 2012** [National Institute for Subatomic Physics \(NIKHEF\), Amsterdam \(Netherlands\)](#)
Project Title - Performance study of a new Track Reconstruction mechanism for analysis of GRB alerts
Position - Summer Internship (May - July 2012)
Experiment - ANTARES
Supervisor - Prof. Dorothea Samtleben (dosamt@nikhef.nl)
- 2011 - 12** [Tata Institute for Fundamental Research \(TIFR\), Mumbai \(India\)](#)
Project Title - Feasibility study of Cosmic Muon Tomography using the prototype RPC stack at TIFR
Position - Winter Fellowship (Dec 2011 - Jan 2012)
Experiment - INO
Supervisor - Prof. Naba K. Mondal (nkm@tifr.res.in)
- 2011** [University of Wisconsin-Madison, USA](#)
Project Title - Extensive Air Shower veto with IceTop surface array
Position - Honorary Fellowship (May - July 2011)
Experiment - IceCube
Supervisor - Prof. Francis Halzen (halzen@icecube.wisc.edu)

Core Skills

■ Programming Languages

– C, C++, Python, Bash, SQL (basic)

■ Software

- Analysis and Plotting: *ROOT, GammaPy, Jupyter Notebook, IRAF, Astrometrica*
- Machine Learning: *Scikit-Learn, TensorFlow (Keras), PyTorch [libraries]; Transformers, VAEs, GNNs [architectures]*
- Modeling and simulation: *JetSeT, AM³ [SEDs]; Geant4*
- Data analysis pipelines: *IceTray [IceCube], Jpp [KM3NeT], FermiPy [Fermi], HESS HAP [HESS], HEASoft tools [X-ray]*
- Realtime alert brokers: *Astro-Colibri, GCN, AMON, ATel*
- Code, Documentation: *LaTeX, GitHub*

Supervision

- 2021-22** **Student** - Adithya Sampath (Integrated M.S. in Physics)
Role - Online Internship (6 months)
Project Title - Testing the blazar sky visible to IceCube
- 2022** **Student** - Claudia Rafaela de Sousa Goncalves (M.S. in Space Physics, UU)
Role - Short project (4 months, 10 credits)
Project Title - Exploring the high-energy neutrino and AGN connection with eROSITA AGN catalog

Teaching Experience

- 2022** Uppsala University, Sweden
Position - Co-Tutor for Elementary Particle Physics
- 2018** University of Pisa, Italy
Position - Teaching Assistant for Physics Lab I
- 2015 - 16** SPACE India, New Delhi
Position - Astronomy Educator
- Sept 2015** Jodhpur National University, Jodhpur
Position - Guest Faculty for Neutrino Physics
- 2012 - 14** Sarva Shiksha Abhiyan, Dhanbad
Position - Volunteer Teacher for Govt. Middle schools

Professional Activities

- **Peer Review:** Invited Referee, The Astrophysical Journal (ApJ), 2025
- **Observation Proposals:** Awarded observing time on the HESS Observatory for follow-up observations of PMN J1603-4904, 2024
- **Outreach & Science Communication:** KM3NeT (2017 – 2019); IceCube MasterClass (2021)

Volunteering Experience

2021–22 [Engineers Without Borders \(EWB\), Sweden Chapter](#)

Position - Core Group Member [Food & Production Group]

Responsibilities - Collaborated with an EWB colleague to organize and coordinate a feasibility study on solar cooking as a mainstream food production method in sub-Saharan Africa, partnering with universities in Sweden and Africa, local entrepreneurs, and global solar cooking experts.

2009–14 [Kartavya, Dhanbad Chapter \(80G Certified NGO\)](#)

Position Senior Volunteer & Co-Coordinator

Responsibilities *Co-Coordinator:* Led a team of 150 volunteers managing the education and health of ~ 350 underprivileged children; increased attendance by ~ 30%;

Project RTE: Collaborated with district administration for better targeting of the Right To Education Act; ensured exclusion of malafide beneficiaries so 150 underprivileged students gained admission to prestigious private schools;

Social Welfare: Handled sensitive cases of domestic violence, substance abuse, child marriage, other social maladies;

Community Development: Instituted substance abuse awareness programs, regular health camps, solar lamp distribution, water-supply regulation, and cleanliness drives;

Management: Worked in tandem with schools, local administration, and communities to guarantee smooth, continuous education for slum children

Scholarships

2013 - 14 [Erasmus Mundus INDIA 4EUII Masters Scholarship](#)

2009 - 14 [INSPIRE Scholarship for Higher Education \(Govt. of India\)](#)

Languages

- **Hindi** - Native
- **Italian** - A2

- **English** - C2
- **French** - A2

Important Links

- [Conferences & Workshops](#)
- [Homepage](#)
- [iNSPIRE-hep](#)
- [LinkedIn](#)

Referees

Name Prof. Yvonne Becherini
Institute Université Paris Cité (UPC) and Data Intelligence Institute of Paris (diiP)
Position Professor of Physics at UPC; Chair, diiP
Contact becherini@apc.in2p3.fr
Webpage <https://astrogamma.eu/>

Name Dr. Erin O'Sullivan
Institute Uppsala University, Sweden
Position Associate Professor
Contact erin.osullivan@physics.uu.se
Webpage <https://icecube.wisc.edu/~eosullivan>

Name Dr. Antonio Marinelli
Institute Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Napoli (Italy)
Position Senior Researcher
Contact antonio.marinelli@na.infn.it