

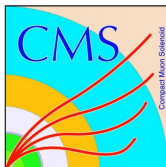


David Lange

Research Staff
Department of Physics
Princeton University
David.Lange@cern.ch

My research:

Software integration, analysis techniques,
event reconstruction performance optimization,
CMS experiment and DIANA project



My expertise is:

- Event generation, detector simulation, event reconstruction techniques in HEP

A problem I'm grappling with:

- Leveraging scientific python for HEP

Something I find very interesting is:

- The vast, but unknown to expert application developers, resource usage of analysis applications in HEP (or at least CMS)

I want to know more about:

- Synergies of HEP techniques with academic+industry community developed tools and applications





Peter Elmer

*Senior Research Physicist, Princeton University
Executive Director and Lead PI for the Institute for Research
and Innovation in Software for High Energy Physics (IRIS-HEP)*
Peter.Elmer@cern.ch

My research:

The CMS Experiment at CERN, as well as the R&D to prepare the software and computing systems required to operate and produce scientific results from the HL-LHC and other HEP experiments in the next decade.



My expertise is:

High Energy Physics (HEP) software and computing, large software/computing projects

A problem I'm grappling with:

Recognizing echo chamber effects in our thinking and organizations, and finding ways to create more dynamic and sustainable research software collaborations (e.g. HSF-India!) to address our challenges.

Something I find very interesting is:

HEP software challenges in the next 10 years...

I want to know more about:

Places where HEP problems overlap with the larger research community; ideas & prior experience which show how we might collaborate on those problems.

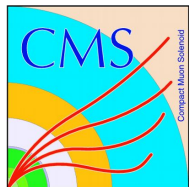




Jim Pivarski

Research Scientist at Princeton

My research: Growing the Pythonic HEP ecosystem, particularly as lead developer of Uproot and Awkward Array



My expertise is: Python, vertical scaling, array-oriented programming

A software and computing problem I'm grappling with: involving more people in scientific Python, both as users and developers, bridging Awkward Array with everything, including ROOT and RDataFrame, generalizing its applicability beyond HEP

Something I find very interesting is: Julia, portable GPU programming, Arrow, Parquet, Zarr

I want to know more about: what everyone else is working on/thinking about... the direction of HEP analysis software today





Charis Kleio Koraka

Postdoc

University of Wisconsin-Madison

charis.kleio.koraka@cern.ch

My research: *Higgs/top precision measurements, searches for BSM signatures such as VLLs, electron reconstruction using GPUs, extending the use of GPUs in offline software*

My expertise is: physics analysis, high-level trigger, GPU programming

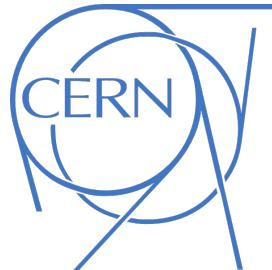
A software and computing problem I'm grappling with: Interfacing Alpaka with CMSSW, properly configuring GPU jobs to run on GPU nodes distributed around the world

Something I find very interesting is: Re-writing the cms software in a parallel way and looking for hints of new physics with innovative techniques.

I want to know more about: Portability libraries, how to perform low level optimization, new ML concepts



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

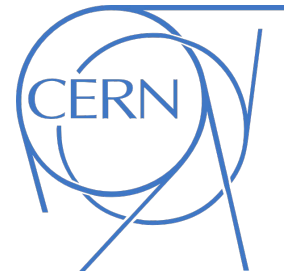




Sunanda Banerjee

Experimental high energy physicist working on the CMS experiment, associated with IACS, Kolkata and University of Wisconsin, Madison.

My research: *my primary research focus is to test the Standard Model using collision data from the CMS experiment.*



My expertise is: detector physics

A software and computing problem I'm grappling with: modeling the current and future detectors to be used in high energy physics experiment

Something I find very interesting is: how little we know. Data always bring us surprises

I want to know more about: heterogeneous computing and its role in detector simulation



Rafael Coelho Lopes de Sa

Assistant Professor
University of Massachusetts Amherst

My research: Higgs Physics, Silicon Tracker Mechanics, Simulation Based Inference, Distributed Computing. ATLAS experiment, previously CMS and D0 experiments.



My expertise is: Higgs physics

A software and computing problem I'm grappling with: simulation-based inference

Something I find very interesting is: thinking about the next big discovery in particle physics

I want to know more about: how to use ML methods to make better use of the LHC data





Verena Martinez Outschoorn

Associate Professor
University of Massachusetts Amherst

My research: Searches for new physics with the Higgs boson, muon electronics, new reconstruction techniques, using ML for reconstruction and analysis, new analysis techniques and infrastructure

My expertise is: physics at the LHC, trigger and DAQ electronics, data processing and analysis

A software and computing problem I'm grappling with: addressing the software and computing challenges for the HL-LHC

Something I find very interesting is: finding new physics!

I want to know more about: new technologies and what we can do with them in the future, I also always want to learn about new developments inside and outside particle physics for data analysis and processing





Gordon Watts

*Professor of Physics
University of Washington, Seattle.*

My research: Hidden Sector models with unique long-lived particle signatures. Machine Learning techniques and tools, and analysis software.

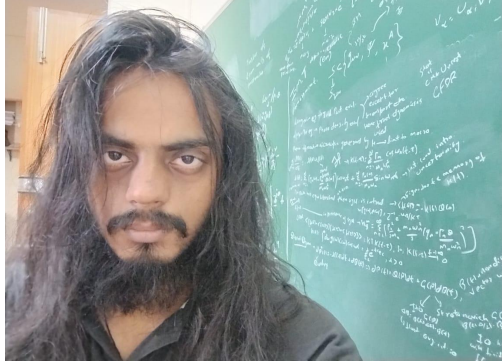
My expertise is: Physics at the LHC, Software & Computing, Machine Learning

A software and computing problem I'm grappling with: Make it fast to analyze HL-LHC sized datasets for physics!

Something I find very interesting is: How is GPT-4+ going to change how we access physics at the HL-LHC?

I want to know more about: I'm fascinated by the low level interaction between python and C++ and how we can make that "easy" and "automatic".





Aadarsh Singh

PhD student, Indian Institute of Science.

My research: *My current research focus is BSM model building and my mentor is Prof. Sudhir Vempati*



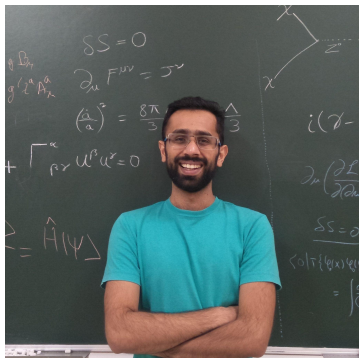
My expertise is: Neutrino Physics

A software and computing problem I'm grappling with: Neutrino BSM Feynrule model files in Mathematica, computing their mass, mixing and pheno signatures. Madgraph+Pythia+Delphes to see the experimental signature of the model.(Theor. + Computation)

Something I find very interesting is: Collapse models, QML, Blender (Physics animation), Web-Designing (react, next.js etc), Dṛg-Dṛśya-Viveka (Metaphysics etc)

I want to know more about: ML with sufficient knowledge to move forward to QML.





Abhijeet Singh

PhD student, Indian Institute of Science. Interest: Astroparticle Physics and Cosmology

My research: *My primary research focus is Dark Matter and my mentor is Dr. Ranjan Laha.*



My expertise is: Primordial Black Holes

A software and computing problem I'm grappling with: Computing the change in IGM temperature due to exotic energy injection.

Something I find very interesting is: Nature of Dark Matter

I want to know more about: Machine Learning and its applications to Astroparticle Physics





Abhishek Dubey

abhishek1@iisc.ac.in

*Integrated PhD
Indian Institute of Science, Bangalore*

My research: Astro-Particle Physics,
Cosmology and Dark Matter

Research Advisor: Ranjan Laha

My expertise is: whatever

**A software and computing problem I'm
grappling with:** whatever keeps you awake at
night

Something I find very interesting is: what I
dream about

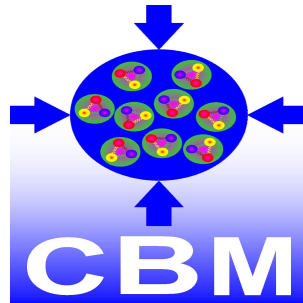
I want to know more about: what I want to
learn about at this workshop and in the future



Abhishek Kumar Sharma

Research Scholar at Aligarh Muslim University.

My research: *Working on the Simulation for CBM experiment at FAIR accelerator.*



My expertise is: C++, Root, Machine Learning, Geant4, UrQMD, Pluto, Pythia

A software and computing problem I'm grappling with: Working of the CBMroot environment perfectly fine when it starts to run.

Something I find very interesting is: Machine Learning, Python Scientific computing, Data Science, Hadronic Physics

I want to know more about: GPU computing with Cuda, Machine Learning, OpenMP, OpenCL and Deep Learning Algorithms,





Abhishek Seal

B. Tech in Computer Science & Engineering

abhishekseal.91@gmail.com

My research: *Presently working in WLCG project in VECC, Kolkata, India and involved in the development of software framework of CBM Experiment with Dr. Vikas Singhal. Worked in the parallelization of Garfield++(CERN) software using OpenMP.*

My expertise is: C++, Python, ROOT, OpenMP, Heterogeneous Computing, HPC

A software and computing problem I'm grappling with: Embedding python compiler inside C++ framework, so that we can run python codes with C++.

Something I find very interesting is: How Deep Learning algorithms work.

I want to know more about: GPU computing with Cuda, ML techniques , Deep Learning Algorithms.





Alka Singh

*Ph.D Student
Aligarh Muslim University, Aligarh*

My research: *my primary research is focused on neutrinos and my mentor is Dr. Huma Haider*

My expertise is: Fortran and C++

A software and computing problem I'm grappling with: Understanding and using Lhapdf for theoretical calculations involving parton distribution function.

Something I find very interesting is: Nature of Neutrinos and its role in early universe.

I want to know more about: Python, Root, Machine learning, simulation techniques, Modern C++ techniques





Aman Dobhal

PhD student
Shiv Nadar Institute of Eminence.

My research: Aspects of Dark matter production in the early universe. And my mentor is Arindam Chatterjee and Kenji Nishiwaki.

SHIV NADAR

INSTITUTION OF EMINENCE DEEMED TO BE

UNIVERSITY

DELHI NCR

My expertise is: **Cosmic Inflation.**

A software and computing problem I'm grappling with: **Power spectra for Inflationary fields.**

Something I find very interesting is: **Dark Matter and Dark Energy.**

I want to know more about: **Python for problem solving in Astro particle physics.**





Aman Gupta

PhD student
@Saha Institute of Nuclear Physics, Kolkata

My research: My primary research lies in the field of High Energy Particle and Astroparticle physics with main focus on Neutrino Phenomenology and its possible connection to the origin of Dark Matter.



My expertise is: Python, Matplotlib, C++, ROOT

A software and computing problem I'm grappling with: computing the neutrino spectra from astrophysical objects involving new physics interactions

Something I find very interesting is: New feasible ideas solving experimental anomalies and tensions

I want to know more about:

- Machine learning for astrophysical data
- Other simulations such as GENIE, CORSIKA



Amir Subba

*PhD scholar, High Energy Physics
IISER Kolkata.*

My research: Effective field theory. Polarizations and spin correlations of weak boson and top quark. Light flavor tagging.

Supervisor: Ritesh Singh.

My expertise is: QFT, Particle physics, ML, physics analysis, HEP softwares like Pythia, Delphes, Madgraph, Root.

A software and computing problem I'm grappling with: GNN for light flavor tagging

Something I find very interesting is: New physics.

I want to know more about: state of the art ML for various HEP problems. Various techniques to debug the issues in flavor tagging. Develop tagger to assist in probing New Physics.





Anuj Kumar Upadhyay

DST-INSPIRE SRF at Aligarh
Muslim University, Aligarh and
Institute of Physics Bhubaneswar

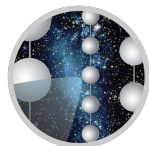
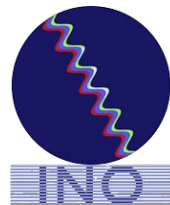
My research: I am working on standard and non-standard properties of neutrinos with atmospheric neutrinos. At present, I am working in the IceCube collaboration and analysing low-energy data sample collected by DeepCore detector. I am also working on simulation studies using ICAL MC data.

My expertise is: C++, Python, Neutrino Oscillations, ROOT, PISA

A software and computing problem I'm grappling with: Reconstructing neutrino energy and its direction precisely and differentiate different neutrino flavor

Something I find very interesting is: Theoretical prediction and experimental verification of various phenomenon in particle physics like discovery of Higgs boson, J/psi particle, neutrino non-zero mass, and many more

I want to know more about: Application of neural network and machine learning techniques to reconstruct the MC data for an experiment like IceCube



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सत्यमेव जयते

Department of
Science &
Technology,
Government of
India



Add a photo of
yourself here

Anupama Pathak

*My professional role, institution, and
general areas of interest.*

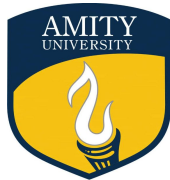
My research: *my primary research
focus is XXXX and my mentor is YYY
(if relevant)*

My expertise is: *whatever*

**A software and computing problem I'm
grappling with:** *whatever keeps you awake at
night*

Something I find very interesting is: *what I
dream about*

I want to know more about: *what I want to
learn about at this workshop and in the future*



**AMITY
UNIVERSITY**



Ayush Singhal

ayush.singhal@niser.ac.in

Int. Masters(Physics) student at NISER and working on Lattice QCD.

My research: My primary research focus is applying ML techniques in Lattice QCD under the mentorship of Prof. Subhasis Basak at NISER.



My expertise is: Python, Machine Learning, Lattice QCD, Futures Trading

A software and computing problem I'm grappling with: Solving the low temperature problem in LQCD

Something I find very interesting is: How to use parallel computation effectively and use gpus in Lattice QCD simulations

I want to know more about: To know about all the effective ways in which one can make best and most optimised use of the computing resources in Scientific calculations.



Biswaranjan Meher

*Integrated Master's Student,
School of Physical Sciences,
National Institute of Science Education and
Research (NISER), Bhubaneswar*

My research: *My primary research interest is doing simulations of the high energy astroparticles like cosmic muons, neutrinos etc. and studying the various important properties like energy profile, and various physical phenomena caused by them.*



My expertise is: Python programming, PyROOT, Redpitaya FPGA, CORSIKA (trying to learn).

A software and computing problem I'm grappling with: Calculating the alpha-gamma coincidence counts using redpitaya FPGA and plotting the heat map of the coincidence pulse.

Something I find very interesting is: Reconstruction of tracks and simulations in HEP

I want to know more about: Simulation techniques using software interfaces like GEANT4 and CORSIKA, and how to use ML to analyze the complex data..

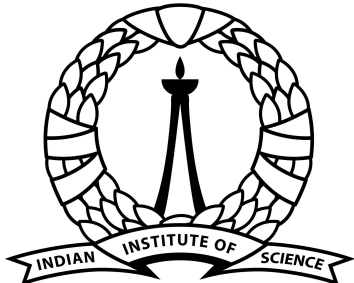




Brijesh Kanodia

Integrated PhD Student , IISc Bangalore.

My research: *My primary research focus is Dark Matter Indirect detection from space based telescope and my mentor is Prof. Sudhir Kumar Vempati and Prof. Rajeev Kumar Jain*



भारतीय विज्ञान संस्थान

My expertise is: Theoretical Astroparticle Physics: Dark Matter Indirect Detection

A software and computing problem I'm grappling with: Learning DRAGON-2, to know more of background and signal in cosmic data. And generate skymaps

Something I find very interesting is: Dark Matter, Finance, Stock Market, Coding exercises in python

I want to know more about:

- a) Using ML as an anomaly detection, separating background and signals from large chunk of data, etc.
- b) Deep Learning, Finance, Statistics.

Add a photo of
yourself here

Chitranshi Bakshi

*Ph.D student ,
SINP Kolkata*

My research: *my primary research
focus is High energy Gamma ray
astronomy under Prof. Pratik
Majumdar.*

My expertise is:

**A software and computing problem I'm
grappling with:**

Something I find very interesting is:

**I want to know more about: Hadronic
counterparts of the high energy and very
high energy gamma-ray sources. Mainly
multi messenger astronomy.**





Debashis Pachhar

Senior Research Fellow, Physical Research Laboratory (PRL), Ahmedabad, Gujarat.

My research: My primary research focus is on neutrino Phenomenology, leptogenesis and neutrino oscillations and my mentor is Prof. Srubabati Goswami.



My expertise is: Expert in BSM phenomenologies especially related Neutrino Physics.

A software and computing problem I'm grappling with: Exploring BSM scenarios containing LeptoQuarks and sterile neutrinos and how it can lead to interesting phenomenologies.

Something I find very interesting is: Simulating new physics model signatures in colliders like HL-LHC, FCC and also in future neutrino oscillation experiments.

I want to know more about: Learning techniques of data analysis with python programming and Machine Learning and also basics of Geant4



Deep Jyoti Das

Integrated PhD. student at Center for High Energy Physics, Indian Institute of Science, Bengaluru.

My research: *My area of research includes Axion-Like-Particles, Gamma Rays, Cosmic Rays etc. I am working under the mentorship of Dr. Ranjan Laha at the Center for High Energy Physics, Indian Institute of Science.*



My expertise is: **Axion-Like-Particles**

A software and computing problem I'm grappling with: **I am looking at the absorption of High Energy Gamma Rays on various radiation fields.**

Something I find very interesting is: **Dark Matter**

I want to know more about: **Machine-learning, simulations to solve more and more problems.**





Dharmender

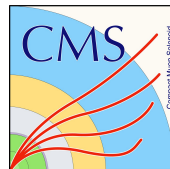
*Early PhD Student
University of Bristol
dharmendergaur80538@gmail.com*

My research:

- *Searches for New Physics with the CMS experiment at the LHC.*
- *Developing algorithms for the HL-LHC trigger system.*
- *Mentors:*
 - ◆ *Dr. Bibhuti Parida (Current)*
 - ◆ *Dr. Sudarshan Paramesvaran (PhD)*
 - ◆ *Dr. Tom Williams (PhD)*



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University of
BRISTOL

My expertise is: *MC Event Generators and Detector Simulation. Data Analysis tools: ROOT and Rivet.*

A software and computing problem I'm grappling with: *higher level abstraction using modern tools such as Vivado HLS.*

Something I find very interesting is: *how the experimental confirmation of Dark Matter and other BSM phenomenon would affect the laws of Science.*

I want to know more about: *FPGA firmware development with advanced ML techniques.*



Dileshwar Netam

*Integrated M.Sc. Student,
Center for Basic Sciences,
Pt. Ravishankar Shukla University Raipur*

My research: *I'm interested to research & learn about the concept of high energy particle physics. J/psi particle.*



My expertise is: Python, C++ ,ROOT(Basic knowledge),

A software and computing problem I'm grappling with: MC simulation and handling real data

Something I find very interesting is:

Properties and significance of J/psi meson through theoretical and computational investigations & relation into the subatomic world & the underlying forces that govern it.

I want to know more about: i want to learn techniques of data analysis by the help of scientific python programming and C++, also basics of Grant4.



Dipanwita Mondal

*Ph.D. Student
NISER, Bhubaneswar.*

My research: My primary research focuses on the Direct Detection of Dark Matter.



My expertise is: Python, PyROOT.

A software and computing problem I'm grappling with: GEANT-4 simulation.

Something I find very interesting is: the recent development in detectors to search for rare events.

I want to know more about: Simulation techniques, Machine learning and GPU based programmings.



Diptarko Choudhury

diptarko.choudhury@niser.ac.in

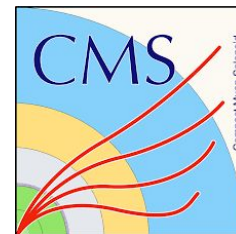
I am an Integrated Masters (Physics and Computer Science) at NISER. I am working on applying unsupervised and self-supervised ML techniques on CMS data for building physics aware neural networks under Dr. Sergei V. Gleyzer (CMS) and trying to model Lattice QCD structures using fast simulation and ML techniques under Dr. Subhashis Basak (NISER).

My expertise is: Machine Learning, scientific python and its application in high energy physics.

A software and computing problem I'm grappling with: Discovering and leveraging the hidden symmetries within a complex dataset to build physics informed neural networks that are robust to symmetry transformations.

Something I find very interesting is: Using Unsupervised and Self-supervised machine learning techniques to gain insights from unlabelled data.

I want to know more about: CUDA programming and ways to parallelize and speed up codes.





Dipthi S

PhD Student and Teaching Assistant,
VIT Chennai,
dipthi.s2022@vitstudent.ac.in

My research:

My primary research focus is on sterile neutrinos. I am studying sterile neutrinos as a possible candidate for dark matter and the nature of my work is theoretical/Computational

Supervisor: Dr. Suprabh Prakash



My institution

My expertise is: Mathematica, Python, Gnuplot, Heasoft-Heasarc

A software and computing problem I'm grappling with: Processing the Open data of ATLAS to understand and simulate the production of neutrinos and their interaction using ML and further use the results to parameterize the production of sterile neutrinos.

Something I find very interesting is:

Physics: Astrophysics, The Cosmos and its evolution, Particle Physics

Computing: GPU Programming, Simulating real time events

I want to know more about: GPU Programming and how to use it in HEP.



LSND
MiniBoone

Relevant Logos for me



Divyajyoti Pandey

*Ph.D Student
National Institute of Science and
Educational Research, Bhubaneswar*

My research: *my primary research
focus is XXXX and my mentor is YYY
(if relevant)*



My expertise is: C,C++,Root

**A software and computing problem I'm
grappling with:** whatever keeps you awake at
night

Something I find very interesting is: what I
dream about

I want to know more about: Advanced
C++,Simulation Techniques,GPU,Machine
Learning



Gopal Garg

DST - Inspire JRF
@ Aligarh Muslim University
& Institute of Physics, India

My research:

- Neutrino Physics (pheno & experimental)
- Prof. Md. Sajjad Athar & Dr. Sanjib Kumar Agarwalla
- IceCube experiment @ South Pole to study the standard and non-standard properties of neutrinos as well as to explore the several BSM scenarios
- Neutrino cross-section related studies

My expertise is:

- ❑ Neutrino oscillations phenomenology, GLOBES, PISA, and scientific python

A software and computing problem I'm grappling with:

- ❑ MC simulation and handling real data

Something I find very interesting is:

- ❑ Role of neutrinos for a better understanding of our Earth and the universe

I want to know more about:

- ❑ Simulation techniques, advanced python & C++, ROOT, and parallel programming
- ❑ How to handle real experimental data
- ❑ Theoretical HEP, QED



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सत्यमेव जयते



Habib Ahammad Mondal

I am a senior research fellow at Saha Institute of Nuclear Physics, Kolkata .

My research: *my primary research focus is origin of Very High Energy Gamma-rays and X-rays from Blazars and my mentor is Prof. Pratik Majumdar.*

My expertise is: Analysis and modelling of data from extragalactic sources in gamma-ray and X-ray regime.

A software and computing problem I'm grappling with: currently working on the software development for the calibration of Cherenkov Telescope Array (CTA)

Something I find very interesting is: Calibration of gamma-ray and X-ray telescopes

I want to know more about: simulation techniques for Imaging Atmospheric Cherenkov Telescopes (IACTs)





Hemalata Nayak

*M.SC completed, Central University of Karnataka
Going to start PhD at William & Mary from Jan, 2024
navakhemalata9@gmail.com*

My research: *My primary research focus lies in developing AI and ML techniques to improve data analysis pipelines and contribute to the advancement of HEP*

My expertise is: Geant4, root, Python, C++,
Machine learning (basic)

A software and computing problem I'm grappling with: Developing and finding out the optimal neural network models in different framework

Something I find very interesting is:
Simulation with ML, use of scientific Python,
GPU programming

I want to know more about: recent developed frameworks like Pytorch, Kubernet





Himanshu Maurya

I am phd scholar at university of Hyderabad recently joined under the supervision of Dr. Bhawna Gomber.

My research: *My primary research is in the field of CMS and dark matter i.e. in dark sector*



My expertise is: python,c++

A software and computing problem I'm grappling with: python and c++

Something I find very interesting is: thinking of new big discovery .

I want to know more about: python, c++, machine learning.





Ishwar Netam

iknetam75@gmail.com

*Integrated Msc Student at **Center For Basic Sciences** ,Pt Ravishankar shukla University Raipur.*

My research: *My focus area of interest includes High Energy Physics ,Dark Matter and Dark Energy,Astroparticle and Data Analyzing Tools.*



My expertise is: Theoretical High Energy Physics,Python ,Fortran,C

A software and computing problem I'm grappling with: Simulation Techniques in Physics.

Something I find very interesting is:To understand the fundamental nature of the universe and wants to bridging the gap between astrophysics and particle physics.

I want to know more about: Machine Learning ,Simulation Techniques.



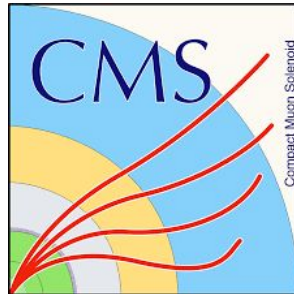
Jyotiska Panda

Integrated BS-MS Student

IISER Kolkata

jyotiska.panda@cern.ch

My research: I am currently involved in dark matter search in events with Missing Transverse Momentum in CMS experiment. My mentor is Prof. Satyaki Bhattacharya. Additionally I am interested in developing novel calorimeters for both HEP & non-HEP applications.

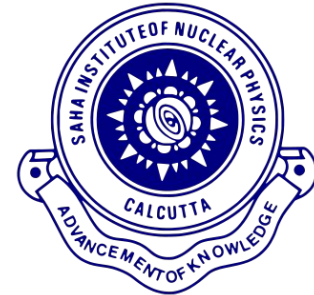


My expertise is: HEP computing and Physics Analysis, Detector Development, GEANT4 Simulation.

A software and computing problem I'm grappling with: Understanding the theory behind various BSM processes.

Something I find very interesting is: Expanding technological development in HEP experiments to other applications.

I want to know more about: Using Machine Learning techniques more effectively in collider event selections.





Kiranjyoti Swain

*PhD scholar
BIT Mesra, Ranchi
swainkiranjyoti@gmail.com*

My research: *my primary research focus is on Higgs particle and my mentor is Dr. Ram Krishna Dewanjee.*



My expertise is: on experiments associated with HEP, especially in Higgs particle.

A software and computing problem I'm grappling with: Scientific Python and C++ programming problems

Something I find very interesting is: New physics search in HEP.

I want to know more about: Deep in HEP experiments, and software and computing associated with it.

Any other logos relevant for you



Kritika Rushiya

*Ph.D. Research Scholar, Jawaharlal Nehru
University*

My research: My research is focus on
“Phenomenology of neutrino oscillation physics
within and beyond the Standard Model” *and my
mentor is Dr. Poonam Mehta*



My expertise is: Programming language like
C, C++, Fortran, Python, Scilab

A software and computing problem I'm
grappling with: **Madgraph, Globes, ROOT,
Geant4**

Something I find very interesting is:
**HEP(High Energy Physics), Theoretical
astrophysics**

I want to know more about: **Detector
simulation geant root, Neutrino interactions
using genie and gibbu, Neutrino oscillation
simulation using globes, Geant4.**





Kuldeep Kumar Pal

*Ph.D. Student at NISER working in
CMS Collaboration*

My research: *Searching for
vector-like quarks in CMS data and
contributing in Phase-2 Outer Tracker
upgrade efforts.*

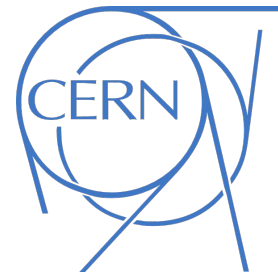


My expertise is: linux, bash, git, root,

**A software and computing problem I'm
grappling with:** flashgg, HiggsDNA, flask,
postgreSQL

Something I find very interesting is: Cluster
computing setup,

I want to know more about: CMSSW, BSD,
linux,





Laltu Gazi

*PhD Research scholar at Saha
Institute of Nuclear Physics*

My research: CMS experiment at
LHC



My expertise is: Data analysis

**A software and computing problem I'm
grappling with:** Python, root.

Something I find very interesting is:
developing python

I want to know more about: Geant4 and array
oriented programming



Manasa Ranjan Sahoo

Integrated phd student at NISER

manasaranjan.sahoo@niser.ac.in

My research: my primary research focus is about standard model , top quark and my mentor is Dr. Proloy Mal



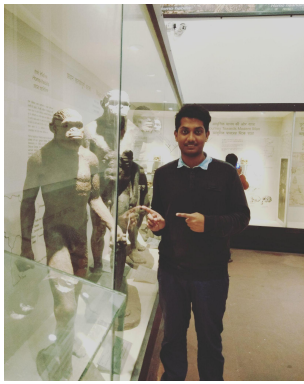
My expertise is: Scientific computation,linux

A software and computing problem I'm grappling with: **whatever keeps you awake at night**

Something I find very interesting is: **How chaotic process are not random**

I want to know more about: **How high energy physics will evolve with Quantum computation**





MD Emanuel Hoque

Junior Research Fellow @ Saha Institute of Nuclear Physics.

My research: *Gravitational Wave Astronomy w/ LVK, Cosmology (on lower spectrum), Astrophysics (on audible to high spectrum, Continuous GW). Compact stars. Fast/Deep Physics in Multi-Messenger astronomy.*

My expertise is: Gravitational Physics and Cosmology, to certain extend Python and C++

A software and computing problem I'm grappling with: Fast/Deep physics based on ML/NN; Systematic code boosting for sampling large parameter space.

Something I find very interesting is: Fast/Deep Physics in Multi-Messenger astronomical scenarios, Compact stars as probes of rich matter and particle physics.

I want to know more about: Machine Learning techniques that are already a foundation in HEP or ongoing, to build a framework of astronomical inferential system and to explore the area of deep/fast physics.





Md Samsul Islam

*Research Associate
Aligarh Muslim University*

My research: *my primary research focus is Heavy Flavour physics in Experiment and Phenomenology.*

My expertise is: physics data analysis in ALICE @CERN, Phenomenology, C++

A software and computing problem I'm grappling with: Advanced C++ for HEP software

Something I find very interesting is: Physics at LHC.

I want to know more about: Python, ML application in HEP experiment, simulation.





Nehal Khosla

nehal.khosla@niser.ac.in

*Integrated Master's Student,
School of Physical Sciences,
NISER Bhubaneswar*

My research: *I am currently working on parameter prediction of QGP using model-to-data comparison and Bayesian predictive analysis as an extension of my summer project, under Dr. Satyajit Jena at IISER Mohali.*

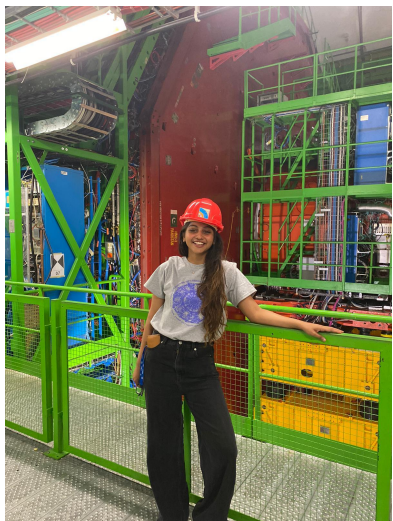
My expertise is: Computational physics analysis (primarily using Python and CROOT)

A software and computing problem I'm grappling with: Use of MCMC algorithms on collision data from RHIC models to acquire a posterior distribution for QGP parameters.

Something I find very interesting is: The increasing scope of application of ML in physics.

I want to know more about: Use of ML in physics analysis, and ongoing and upcoming research in HEP.





Nivedaa Dhandapani

nd19ms023@iiserkol.ac.in

I am a final year master's student at IISER Kolkata, looking for PhD positions for Fall 2024.

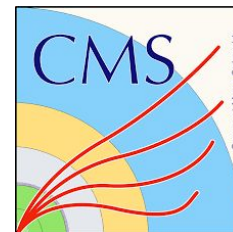
My research: I am building a track reconstruction algorithm for the L1 trigger to handle the huge volume of data expected after the HL upgrade. I also plan to implement it on FPGAs.

My expertise is: Physics analysis (ROOT RDataFrame), algorithm building (python), Simulation (Madgraph).

A software and computing problem I'm grappling with: combining links to form track and parallelizing the process while eliminating false tracks that arise as a result of reconstruction.

Something I find very interesting is: implementing ML in particle physics and optimisation of algorithms to run on GPUs and FPGAs.

I want to know more about: coding in HLS that can be run on an FPGA.





Priya Mishra

<mailto:mishpriya99@gmail.com>

Phd Scholar at University of Hyderabad.

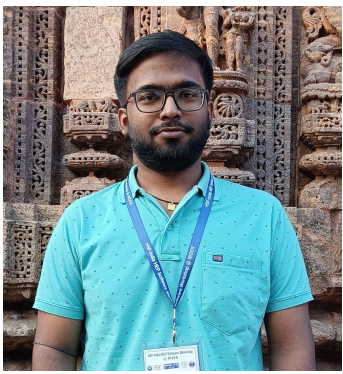
My research: focussed towards neutrino phenomenology and want to work on detector simulations and event generators.

My expertise is: Neutrino Phenomenology and mass modelling, LFV, muon's anomalous magnetic moment.

Something I find very interesting is: matter-antimatter asymmetry.

I want to know more about: GEANT4 and event generators (GENIE).





Pabitra Ranjan Giri

*Integrated Master's student
School of Physical Sciences,
National Institute of Science Education
and Research(NISER)*

My research: *My primary research
interest is simulation of heavy ion
collision events and event reconstruction
to verify experimental data.*



My expertise is: ROOT, Scientific Python,
Machine learning, Geant4, FPGA Verilog.

**A software and computing problem I'm
grappling with:** Serial interfacing FPGA to PC
directly through USB port.

Something I find very interesting is: 3D
information to 2D information conversion in
black holes and Grand Unification Theory.

I want to know more about: Efficient simulation
techniques using GEANT4 and automation of
ROOT analysis techniques within GEANT4
code.



Papia Panda

Research Fellow at University of Hyderabad. My general research topic is on “Neutrino mass model building and simulation on future long-baseline neutrino experiments”.

My research: *Currently I am working on the simulation of Supernova neutrinos to determine neutrino oscillation parameters in DUNE, T2HK and P2SO.*

My research supervisor is: Prof. Rukmani Mohanta.



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National Needs, Global Standards
हेदराबाद विश्वविद्यालय
UNIVERSITY OF HYDERABAD



सत्यमेव जयते

Prime Minister's Research
Fellowship scheme for Ph.D.
students

My expertise is: Neutrino mass model building, GLoBES, Python, C+, Mathematica, SNOwGLoBES.

A software and computing problem I'm grappling with: I am sticking on a GLoBES program since last 3 months on simulation of neutrino oscillation parameter determination.



Something I find very interesting is: Neutrinos are really super-exciting particle.

I want to know more about: From this workshop, I have learnt about Machine Learning, GPU programming and GEANT4 simulation in detail. Looking forward to attend such type of program later also.



Pratyush Panda

pandapratyush057@gmail.com

Currently pursuing M.Sc in Physics at IIT,Hyderabad.

My research: *my primary research focus is based data analysis related to CMS Experiment,primarily focused on error component analysis in the electronic component of HGCal(High Granularity Calorimeter) and my mentor is Dr. Saranya Samik Ghosh.*

My expertise is: Python, Root, C++

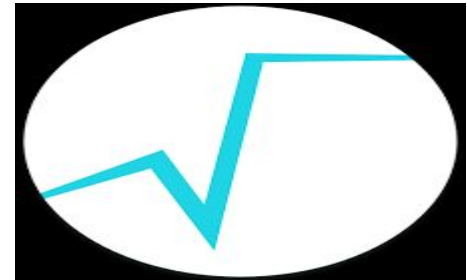
A software and computing problem I'm grappling with: Creating arrays of histograms of various parameters and finding the right function fit to each one of them.

Something I find very interesting is: Learning Machine learning algorithms and its implementations related to HEP

I want to know more about: More analysis techniques in machine learning and dive further its correlation with parallel computing



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Indian Institute of Technology Hyderabad





Prayag Ranjan Sahu

Integrated Master's student,
School of Chemical Sciences,
National Institute of Science Education
and Research (NISER)

My research: Accelerating classical
trajectory simulations of molecules using
machine learning methods



My expertise is: HD-NNP (High Dimensional
Neural Network Potentials)

A problem I'm grappling with: Thermal
denitrogenation of 1-pyrazoline favours
singly-inverted products. Why?

Something I find very interesting (currently):
SoulsGym, an OpenAI gym extension for
training reinforcement learning agents to beat
bosses from the video game *Dark Souls III*.

I want to know more about: The *depths* in
machine learning. Also the *widths* in terms of
how different fields utilize ML to their aid.





Preet B. **P**ati

Project Student at NISER Bhubaneswar.

My research:

My current project is focused on observing elliptic flow in **pp** collisions using PYTHIA.

My expertise is: Event generation in PYTHIA

A software and computing problem I'm grappling with: Geant4 simulations

Something I find very interesting is: Machine learning techniques for HEP

I want to know more about: Applications of Quantum Machine Learning in HEP analysis





Priyanka Sadangi

*Research Scholar
National Institute of Science Education and Research,
Bhubaneswar*

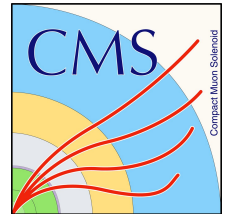
My research: *I specialize in flavor physics, specifically focusing on studying CP-violation in certain particle decay modes. My primary research goal is to study different properties of B and D mesons. Prof. Sanjay Kumar Swain is my mentor in this field.*

My expertise is: Study of B meson properties using CMS data.

A software and computing problem I'm grappling with: Machine learning for anomaly detection

Something I find very interesting is: GPUs massive parallelism

I want to know more about: Optimization Techniques for GPU Programming





Rahul Kumar Agrawal

Ph.D Students at NISER

rahulkumar.agrawal@niser.ac.in

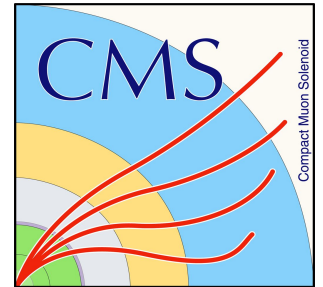
My Research :- I'm studying the Higgs to Gamma Gamma Channel to find fresh insights in the Higgs domain, contributing to our understanding of fundamental particles and their interactions.

My expertise is: Data analysis of Higgs particle decays into diphoton events.

A software and computing problem I'm grappling with: HiggsDNA (Higgs To Diphoton nanoAOD) and Scientific Python

Something I find very interesting is: understanding how machines work and thinking about what the future might look like with advanced technology.

I want to know more about: ML and use of AI in HEP.





Rajiv Gupta

rajiv.ehep@bhu.ac.in

*Department of Physics
Institute of Science
Banaras Hindu University*

My research: Device simulation of radiation hard Silicon and 4H-SiC sensors, Gain enhancement study of GEM detectors, study of exclusive event like DVCS. I'm working under the supervision of Dr. Ajay Kumar who is part of CMS collaboration.

My expertise is: Device simulation, Ansys and Garfield simulations, ROOT analysis.

A software and computing problem I'm grappling with: Simulation of 4H-SiC sensors and gain enhancement study by varying various geometrical and concentration parameters using SILVACO.

Something I find very interesting is: EIC Physics processes, radiation hardness study of LGADs, Exploring Machine learning to incorporate in HEP analysis.

I want to know more about: Machine Learning algorithms, Detector simulations using GEANT4, EIC physics processes.





Raseeb Haroon

Masters Student
Amity University, Noida
raseeb.haroon1@s.amity.edu

Recently completed my Master's degree in Applied Physics and currently looking for a PhD position within the LHC experiment.

My research: My primary research focus is [Semi visible Jets](#) with the goal of direct detection of dark matter and my mentor is Dr. Debarati Roy.



My expertise is: *MC Event Generation: Pythia + MadGraph5 and Data Analysis with ROOT and [Rivet](#).*

A software and computing problem I'm grappling with:

Using unsupervised learning to measure sensitivity of jet observables to detect dark matter.



Something I find very interesting is:
Advent of incredibly efficient tools like AI.

I want to know more about: *Handling of data by Machines at the lower level.*



Ria Kataria

riaktr21@gmail.com

Final year Master's student at Amity University, Noida.

I am actively seeking a PhD position for the upcoming academic year.

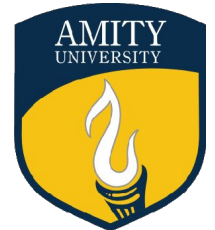
My research: I am currently working in the field of Cosmic Rays, investigating muons at the GRAPES-3 experiment, Ooty; under the supervision of Dr. Bibhuti Parida and Dr. Pravata K. Mohanty.

My expertise is: Simulation and data analysis using GEANT-4 and root framework, astroparticle physics, detectors for cosmic ray muons.

A software and computing problem I'm grappling with: Seamlessly integrating CORSIKA and GEANT4 for air shower simulation to accurately calculate final states of the shower particles.

Something I find very interesting is: BSM physics and dark matter searches. The role of cosmic rays in understanding dark matter.

I want to know more about: Using ML in the study of astroparticle physics and implementing heterogeneous computing in simulation techniques.



Sadashiv Sahoo

*Research Scholar,
India-based Neutrino Observatory,
Institute of Physics, Bhubaneswar
Homi Bhabha National Institute, Mumbai
Tata Institute of Fundamental Research, Mumbai*

My research: *I do BSM physics searches using Iron-Calorimeter detector simulations at India-based Neutrino Observatory.*

My expertise is: Neutrino Oscillation Physics

A computing problem I'm grappling with: Reconstructing atmospheric neutrino events and associated variables.

Something I find very interesting is: MeV scale Neutrinos

I want to know more about: TMVA, ML, DL using C++





Sandeep Pradhan

PhD

NISER Bhubaneswar,

<mailto:sandipradhan255@gmail.com>

My research: *Top quark physics at CMS.*



My expertise is:

Particle physics , Physics related to neutrinos, Python , C++.

A software and computing problem I'm grappling with:

Learning AI and ML.

Something I find very interesting is:
AI and ML

I want to know more about: **AI , ML and how to use them to solve the real problems .**



Sabiar Shaikh

*Post-Doctoral Fellow at NISER,
Bhubaneswar.*

Email: sabiarshaikh@gmail.com

My research: *My primary research
area is Finite temperature field
theory, Lattice Gauge Theory.*



My expertise is: Fortran, Python, C,
Mathematica.

**A software and computing problem I'm
grappling with:** Monte Carlo Simulation in High
Energy Physics (HEP).

Something I find very interesting is:
Application of GPU programming and Machine
Learning in HEP.

I want to know more about: Machine Learning,
GPU programming, Advanced C++.

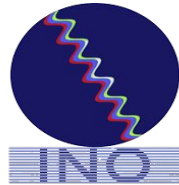


Sabila Parveen

Ph.D. Research Scholar, Jawaharlal Nehru University.

sabilaafzal514572@gmail.com

My research: *My primary research based on the role of neutrinos in theoretical astroparticle physics and cosmology, phenomenology of neutrino oscillations within and beyond the Standard Model (Sterile neutrinos, Decoherence, Non-hermitian physics etc.)*



My expertise is: *Simulations based on various ongoing and proposed long baseline experiments (T2K, T2HK, DUNE, P2O etc.), Fortran, C++, GNU, Mathematica, Veusz, GLOBES.*

A software and computing problem I'm grappling with: *Learning Python specially for Machine Learning technique.*

Something I find very interesting is: *Analysing data and extract the various new physics aspects (such as, searching for CP violating phase, order of mass hierarchy and the octant of θ_{23} are still unknown in three flavor neutrino oscillation physics) and many more which are beyond Standard Model.*

I want to know more about: *I want to learn about the Machine Learning techniques for data analysis and extract new physics based on various long baseline experiments.*



Sai Krishna Podem

*M.Sc Physics student (final year),
IIT Hyderabad.*

My research: *my primary research
focus is “**Particle identification with
CMS Data using ML**” and
my mentor is **Dr.Saranya Samik Ghosh***



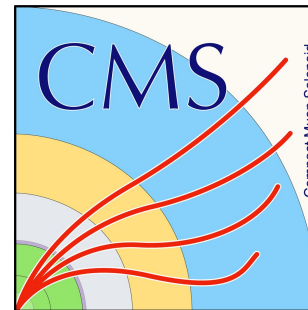
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Indian Institute of Technology Hyderabad

My expertise is: `root,c++`

**A software and computing problem I'm
grappling with:** `Particle Identification
techniques, writing EDAnalysers in cmssw`

Something I find very interesting is:
application of ML Techniques in HEP analysis

I want to know more about: ML techniques
that can implemented to HEP analysis





Sajag Kumar

Integrated masters student in physical sciences, NISER Bhubaneswar, theoretical and computational condensed matter physics.

My research: *Aspects of thermalisation in classical spin systems.*

My expertise is: Numerical simulations with Python.

A software and computing problem I'm grappling with: Exact dynamics of large quantum spin systems.

Something I find very interesting is: The applications of machine learning in physical sciences.

I want to know more about: The interplay of hardware and software in making better machine learning models.





Sambit Kumar Pusty

**Research Scholar, University of
Hyderabad, Hyderabad, Telangana.**

My research: I am working on neutrino
oscillation in future long baseline experiments
DUNE, P2SO, T2HK etc.

My research mentor is: Rukmani Mohanta

My expertise is: GLoBES, C, C++,
Mathematica, Python

**A software and computing problem I'm
grappling with:** I am sticking on a GLoBES
program since last 2 months on simulation.

Something I find very interesting is:
Neutrinos are very interesting particles.

I want to know more about: GEANT4, GPU
programming, detector simulations



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UNIVERSITY OF HYDERABAD



Sarjeeta Gami

PhD student at NISER working in CMS Collaboration

My research: My main research focuses on search for Pentaquark using cms data also working with MODE collaboration to improve utility function for SWGO experiment using ML techniques.

My expertise is: Root, C++ and python, CNN, RNN, git.

A software and computing problem I'm grappling with: CMSSW,

Something I find very interesting is: Implementation of ML in CMS and looks for some new exotic particles like tetraquarks and pentaquarks.

I want to know more about: GPU and parallel programming, Advance ML techniques for LHC data analysis.





Satya Ranjan Nayak

PhD scholar
Banaras Hindu University
satyanayak@bhu.ac.in

My research: *My primary research focus is on heavy ion collision and QGP and my mentor is Prof. Bhartendu Kumar Singh.*



My expertise is: Phenomenology, MC event generators, ROOT

A software and computing problem I'm grappling with: Machine learning.

Something I find very interesting is: Anisotropic flow, isobar collisions, Chiral magnetic effect in heavy ion collisions

I want to know more about: I want to learn more about machine learning and apply it to my research work.





Shashank Mishra

*Ph.D. Research Scholar, Central University of
South Bihar
DST SRF : IIFC for NOvA Experiment.*

Fields of Interest : Neutrino Oscillation, Lorentz
Invariance Violation, Detector designing and
DAQ, Cross-section analysis,

Supervisor : Prof. Venktesh Singh

My expertise is: GLoBES and Neutrino
oscillations, Gaseous detectors: designing and
characterization.

**A software and computing problem I'm
grappling with:** GLoBES, LABview, Garfield,
Geant4, Genie.

Something I find very interesting is: Machine
learning in analysis studies.

I want to know more about: More depthness in
understanding ML to use for simulations and
Particle identification.





Shivangi Singh

Bachelor's Student, Amity University, Noida

shivangi.singh14@s.amity.edu

My research:

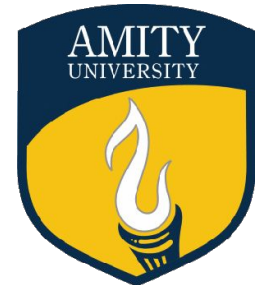
My primary research focus is to study jet formation, performance of jet observables in different pileup scenarios and perform pileup removal techniques. My mentor is Dr. Bibhuti Parida.

My expertise is: Jet Reconstruction, Jet Substructure Techniques using Pythia, ROOT and FastJet

A software and computing problem I'm grappling with: Performing jet analysis using ML

Something I find very interesting is: Role of Jets in searching for physics beyond standard model (BSM).

I want to know more about: Explore how Neural Network and Machine Learning techniques can optimize jet identification and background rejection.





Shubhabrata Dutta

Junior Research Fellow
Saha Institute of Nuclear Physics
Kolkata-700064, India
shubhabrata.sinp@gmail.com

My research: *Non destructive evaluation of object using Muon Scattering Tomography. R&D on MPGDs characteristic and its readout electronics using FPGA based DAQ.*
Currently working under [**Prof. Nayana Majumdar.**](#)



My expertise is:

- **Simulation of detector based on ionization mechanism.**
- **Garfield++, CRY, C ++, Python.**

Software and computing problem I'm grappling with:

- **Geant4, ROOT, neBEM.**
- **COMSOL Multiphysics.**
- **VHDL and Verilog for FPGA based programming**

Something I find very interesting is:

- **UPROOT,PyROOT, Programming with Cuda.**

I want to know more about:

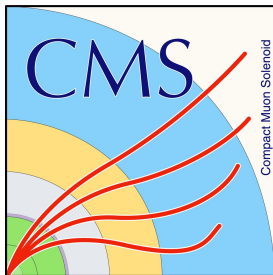
- **GPU Programming and Parallelization.**



Sneha Shuchi

*PhD student at NISER with CMS
collaboration*

My research: *My research focuses
on the charge asymmetry of the top
quark pair.*



My expertise is: **ROOT, git**

A software and computing problem I'm
grappling with: **Unfolding with Combine Tool**

Something I find very interesting is: **Parallel
Programming and GPUs.**

I want to know more about: **ML techniques in
data analysis.**



Souvik Das

Integrated BS-MS

Indian Institute Science Education
and Research Kolkata

sd19ms164@iiserkol.ac.in

Supervisor: Dr. Arindam Das, Hokkaido University, Japan

My research: Theory and Phenomenology in
Cosmic, collider frontier, Beyond Standard Model
Physics: dark matter, neutrino mass



My expertise is: Analytical and numerical solution using FORSEE, Madgraph and Darkcast in $U(1)_X$ extension of standard model

A software and computing problem I'm grappling with: Simulation of beam dump and astrophysical experiments to find out constraints of beyond standard models

Something I find very interesting is: Using gravitational wave experiments for the detection of new fundamental physics beyond the standard model

I want to know more about: The advent of machine learning techniques in understanding fundamental ideas in physics



HOKKAIDO
UNIVERSITY



Subhasis Parhi

Ph.D. Research Scholar, Central University of South Bihar

Fields of Interest : Detector designing, Data analysis and Extra-Dimensional neutrino cross-section analysis.

Supervisor : Prof. Venkatesh Singh



My expertise is: Geant4 Simulation, HPGe Data Analysis

A software and computing problem I'm grappling with: Extra-dimensional neutrino cross-section calculation (more than five).

Something I find very interesting is: Involving neutrinos how can we make signal transmission.

I want to know more about: More depthness in Geant4 simulation basically tracking.





Sunidhi Saxena

Ph.D Student, Department of Physics, Banaras Hindu University, Interested in CMS experiment

sunidhisaxena@bhu.ac.in

My research: I'm studying vector boson scattering which is one of the tool for measuring validity and accuracy of electroweak symmetry breaking and higgs coupling. I'm working under the supervision of Dr. Ajay Kumar who is part of CMS collaboration and our collaborator is R. K. Sharma from CERN.



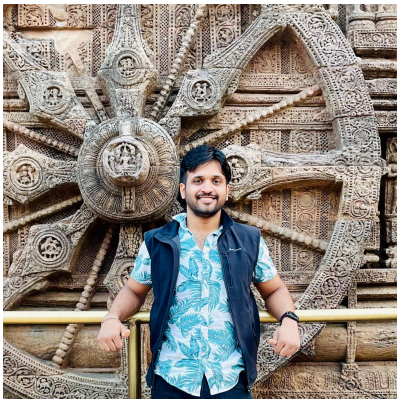
My expertise is: Event generation using MadGraph5, Detector response simulation, C++ programming language, CERN Root

A software and computing problem I'm grappling with: Madgraph event generator, Delphes detector simulator

Something I find very interesting is: To search new physics beyond the standard model.

I want to know more about: I want to learn ML in detail because that will be helpful in order to discriminate signal and background and want to learn flavour tagging.

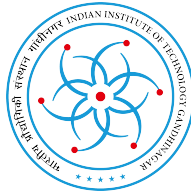




Supriya Pan

PostDoc, Physical Research Laboratory (Ahmedabad), Neutrino Physics and HEP phenomenology

My research: *Looking into exotic physics signatures like sterile neutrino, non-standard interactions, Lorentz invariance violations, etc in neutrino oscillation experiments and my mentor is Prof. Srubabati Goswami.*



My expertise is: Analytical formulation, phenomenological aspects of neutrino oscillation, numerical analysis using GLoBES and in house code for DUNE, T2HK, P2O .

A software and computing problem I'm grappling with: Learning event generation, simulation tools.

Something I find very interesting is: How the ML can be implemented in neutrino experiments.

I want to know more about: I'm keen to learn ML, scientific python in this workshop. I am interested to know more about simulation and data analysis in the neutrino experiments and want to work in the field of high energy physics phenomenologically, numerical analysis, and data analysis in the related experiments.



Tanay Dey

Ph.D from INO (VECC), Senior Project Associate at NISER in the CMS group

tanay.dey@niser.ac.in

tanay.jop@gmail.com

My research: *Detector Development for high-energy physics, Simulation of gaseous Detector Physics, Development of simulation software such as Garfield++, Analysis of cosmic ray track reconstruction, DAQ development with FPGA, and Silicon Detector Testing.*



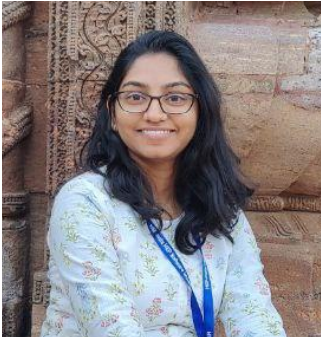
My expertise is: C++, Python, Parallel computation in OpenMP, Comsol, Elmer, Garfield++, Geant4. Cosmic track Reconstruction etc.

A software and computing problem I'm grappling with: I am involved in the development of the Garfield++ package, where I have incorporated parallel avalanche simulation with dynamic space-charge effects. I have also worked on a reconstruction algorithm to analyze cosmic tracks.

Something I find very interesting is: Parallel computation with GPU's, ML based analysis, night sky watch and astrophotography.

I want to know more about: Mathematical development of ML algorithm, QML, Heterogeneous computing, Development of HEP softwares, Dark Matter physics





Thallapalli Tejaswini

*PhD Scholar, Indian Institute of
Technology Delhi.*

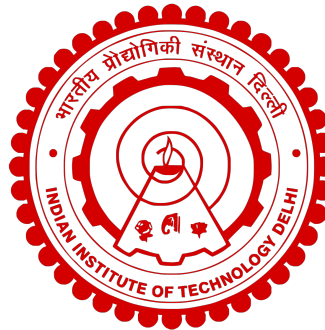
My research: *my primary research
focus is Deep Learning in HEP and
my mentor is Prof. Abhishek Iyer*

My expertise is: Machine Learning Tools,
CERN ROOT, FastJet, Delphes.

**A software and computing problem I'm
grappling with:** Signal and background jets
discrimination using ML

Something I find very interesting is: Quantum
Machine Learning

I want to know more about: How to use QML
and ML techniques more efficiently in Jet
physics





Tribeni Mishra

*Ph.D. scholar
National Institute of Science Education and
Research, India*

My research:

my primary research focus is searches for SUSY and HCal performance studies with CMS Run 2 data and my mentor is Sanjay Kumar Swain, NISER



My expertise is:

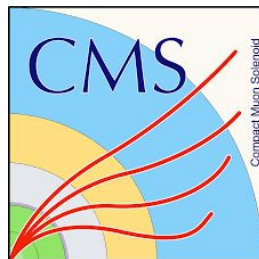
SUSY analysis using CMS data

A software and computing problem I'm grappling with: Machine learning

Something I find very interesting is: GPU and CUDA programming

I want to know more about:

I found this workshop to be quite enlightening. As I am exploring opportunities for a postdoctoral position, I am eager to establish connections and foster collaborations with the experts I had the privilege of meeting during this event.





Vatsal Sinha

My research: Beyond standard model physics

My expertise is: Linux,Python,Root

Something I find very interesting is: Mixing of masses of neutrino

I want to know more about: How various computational techniques can be integrated into current research techniques to look for traces of new physical processes in high energy physics.



Vikash Kumar



4th Year Integrated M.Sc. Student,
School of Biological Sciences,
NISER, Bhubaneswar.

My research: My current research focuses on investigating molecular interactions in proteins using MD simulations & My mentor is [Prof. Chandan Goswami](#).

My expertise is: MD Simulations.

A software and computing problem I'm grappling with: Using ML to increase accuracy and decrease simulation time.

Something I find very interesting is: Integrating Biology, Chemistry, Physics and CS to investigate the dynamics of proteins.

I want to know more about: ML integration in MD to find intermediate states in between our defined step sizes, so to increase the step-size without harming the accuracy of our simulations.





Dhiren Panda

**Research Scholar, University of
Hyderabad, Hyderabad, Telangana.**

**My research: Exploring flavour
anomalies in physics beyond the
Standard Model.**

**My mentor is Prof. Rukmani
Mohanta.**



**My expertise is: Flavour Physics & CP
violation**

**A software and computing problem I'm
grappling with: Obtaining new physics
constraints using Flavio (Python package)**

**Something I find very interesting is:
Exploring flavour anomalies and delving into
new physics beyond the Standard Model**

I want to know more about:

- **Machine learning, scientific python and C++**
- **Collider physics**

P M R F
Prime Minister's Research Fellowship



Ministry of Human Resource Development
Government of India



Abhijeet Kishore

PhD Scholar, IIT Kanpur, India
akishore@iitk.ac.in

My research: Lattice QCD with Minimally Doubled Fermions. My mentors are Prof. Dipankar Chakrabarti (IIT Kanpur) and Prof. Subhasish Basak (NISER).

My expertise is: milc_qcd code, C, python

A computing problem I'm grappling with: Investigating index theorem with minimally doubled fermions in 4-dim under SU(3) gauge field

Something I find very interesting is: GPU programming and machine learning

I want to know more about: I want to learn parallel programming, GPU programming and machine learning.

