



Donya Ahmadi

Education:

A PhD student in Physics At Vrije Universiteit Brussel (VUB).

A master student at Sharif University of Technology in Applied Physics, Tehran, IRAN.

Work Experience:

Research Assistant at University of Trento, Italy.



- **As a Master student:**

Doing Research on non-linearity of NaI Scintillator using Monte Carlo method and validation with Experimental data.

- **At university of Trento:**

I did characterization on detector material like MAPbBr₃ and simulated these characteristics with TCAD software.

- **At VUB as a PhD student in CMS group:**

I am doing instrumentation R&D and currently focus on Eco-gas activities at GIF++ and Muography.

My interests are:

- ❖ **Philosophy(Marcus Aurelius, Alan watts, Alain De Botton, ..)**
- ❖ **Stand-up comedy(George Carlin, Jim Jefferies ,..)**

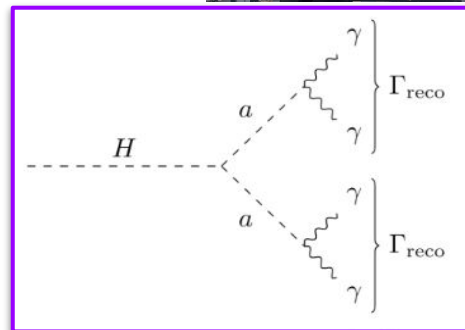
Chirayu Gupta

- Hello, I am a new PhD student at VUB under Prof **Michael Tytgat**.
- I am from **India** . Masters thesis from **IISER Pune**. Collaborated from people at **TIFR Mumbai**.
- This is my first time in Europe



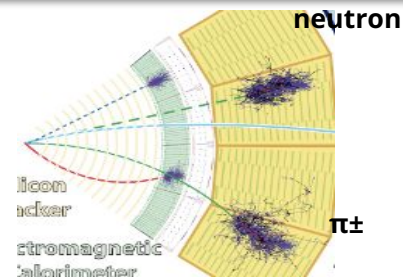
Merged Photons:

- Reconstructing mass of **highly boosted low mass particles** decaying to a pair of photons which are reconstructed as **single photon object** in the CMS electromagnetic calorimeter.
- For example, $H \rightarrow aa$. Where 'a' is an axion like particle



PF charged hadron calibration:

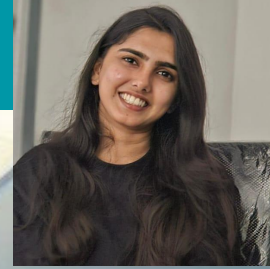
- **Calibrating charged hadrons** showers in CMS calorimeters.
- Essential for precise **reconstruction of jets, missing transverse momentum, tau-jets** etc.



Tools & methodology:

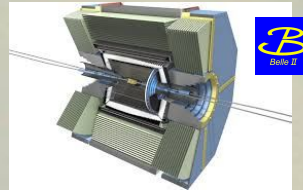
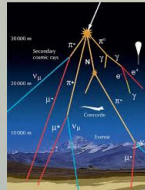
- I developed strategy using **Graph based convolutional neural networks** where **low level detector features** are used as inputs.

SARANYA NANDAKUMAR



- **PhD (VUB)**
Supervisor: Michael Tytgat
H+c analysis for the CMS experiment

- **Junior Research Fellow**
IIT Hyderabad, India

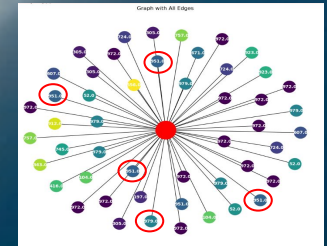
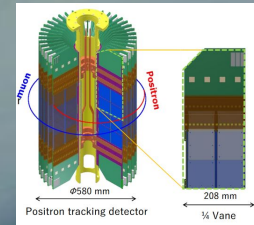


- detection and analysis of cosmic rays
- participate in shift-taking duties for Belle-II experiment and basic analysis.
- continued my M.Sc project

- SOKENDAI Summer student (KEK, Japan)
Project work: Testing of detector component in magnetic field

- **Masters Project: GNN based Track finding for J-PARC muon g-2/EDM experiment**

- **Hobbies:**
Drawing, travelling, dancing



Andrea Parenti, postdoc

◆ Bachelor and master at University of Florence, Italy

◆ PhD at GSSI, L'Aquila Italy

"Spectral measurements of cosmic Li, Be and B nuclei with the DAMPE space mission"

+ R&D activities for HERD (High Energy Radiation Detector)

◆ Since Sept 2024: postdoc with Ioana Mariş
in the cosmic ray group

Gamma-ray searches with IceTop

◆ Outside of uni:



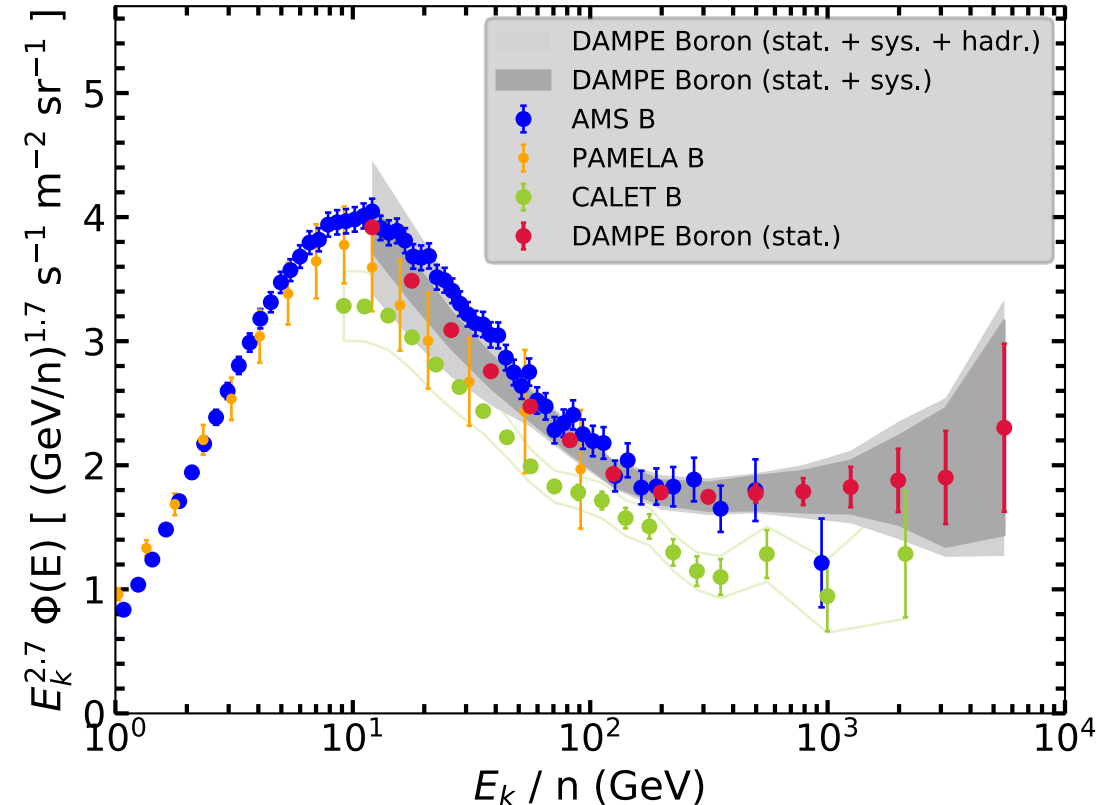
Volleyball



Reading (fantasy, non-fiction, ...)



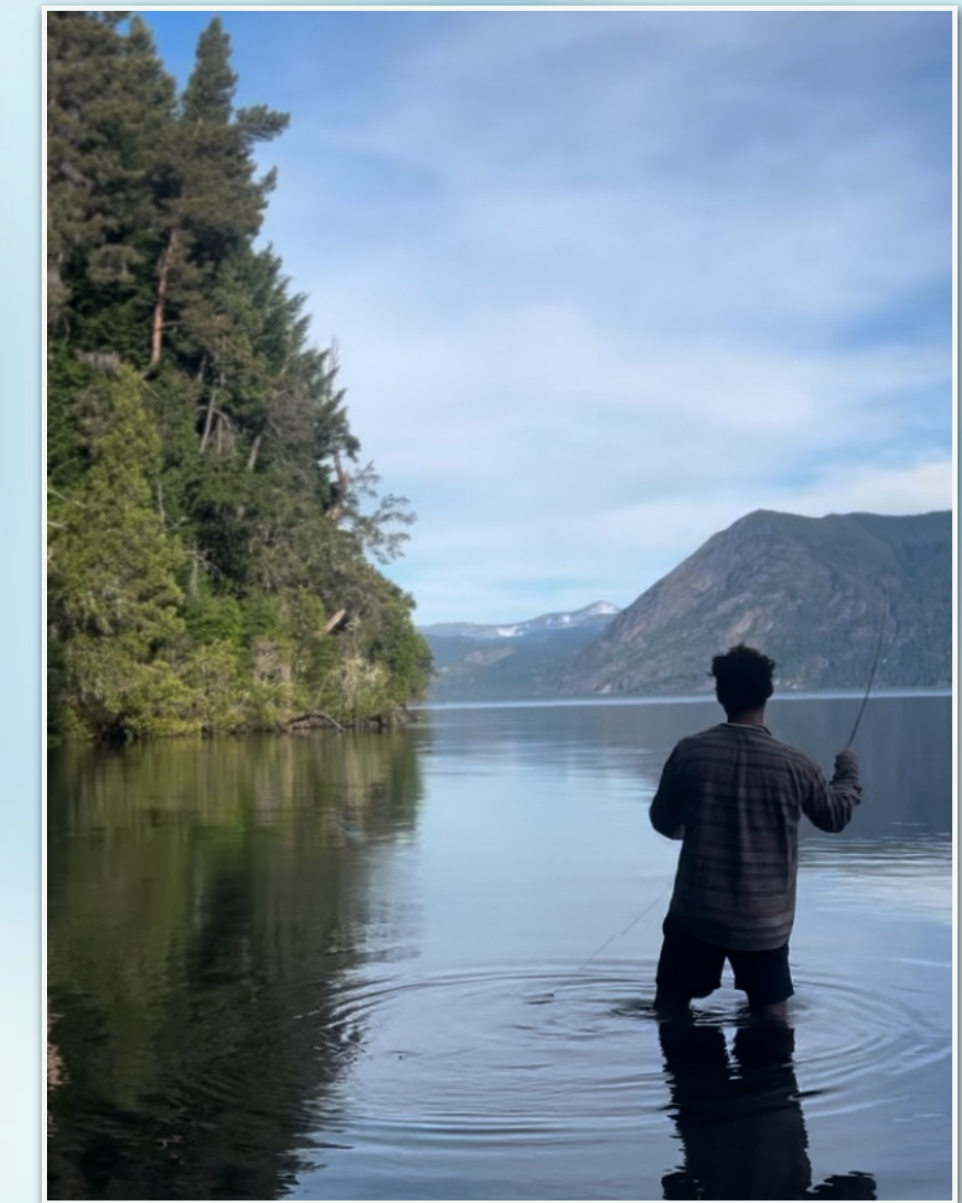
Being in nature



Mateo Fernández Alonso



- **Ph.D at IAFE, Buenos Aires (Arg)**
“Effects of gamma-ray attenuation in the intergalactic medium”
- **Postdoc at Penn State University (US)**
“Probing the mid-infrared background with HAWC”
- **Postdoc at GSSI, L’Aquila (IT)**
“R+D for gamma-ray detection performance of space-borne missions”
- **Since November: postdoc at Ioana Maris group @ IIHE**
“Explore prospects of $> \text{PeV}$ photon detection exploiting Pierre Auger infrastructure”



Also.. I enjoy:

Biking

Hiking

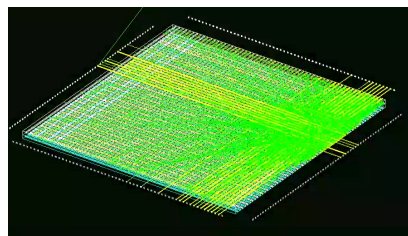
Fly fishing

Concerts

and a lot more...



- Working under the guidance of Professor Michael Tytgat, In ScIDEP (**A *Scintillator Imaging Detector for the Egyptian Pyramids***) group.



- Worked on : Cosmic muon imaging (muography)
- Detector simulation (G4-based)
 - Design, testing, assembly of detectors
 - Reconstruction algorithms

Outside work, I enjoy:

- Football, fitness, and badminton
- Board games and hiking





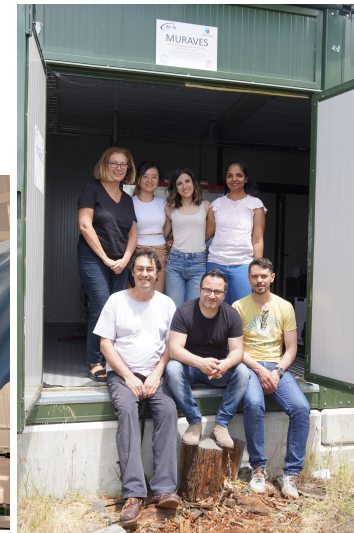
- Master Thesis: about detector instrumental in ATLAS at University of Freiburg, Germany.
- Now working under the supervision of **Professor Michael Tytgat**, in **CMS GEM & Muography**.

Working on:

- Production of CMS GEM detector.
- Data analysis in MURAVES (MUon RAdiography of Mt. VESuvius).
- GEM-like detector R&D.

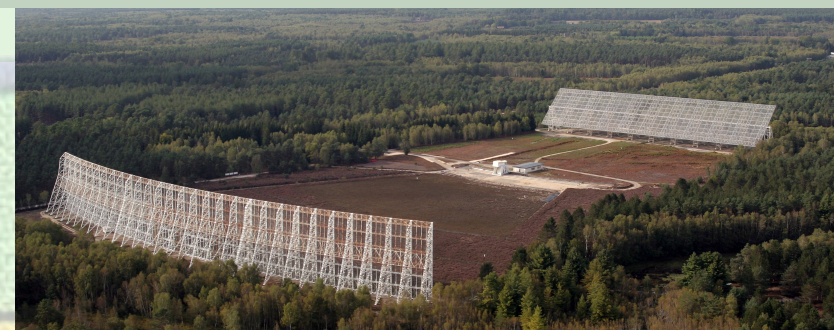
Hobbies:

- Salsa
- Gourmet



TIEPOLO WYBOUW

Nançay Radiotelescope, FR

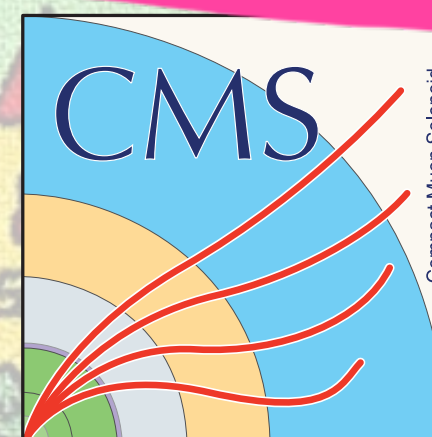


Bachelor Thesis
Pulsar Emission Geometry

LOFAR



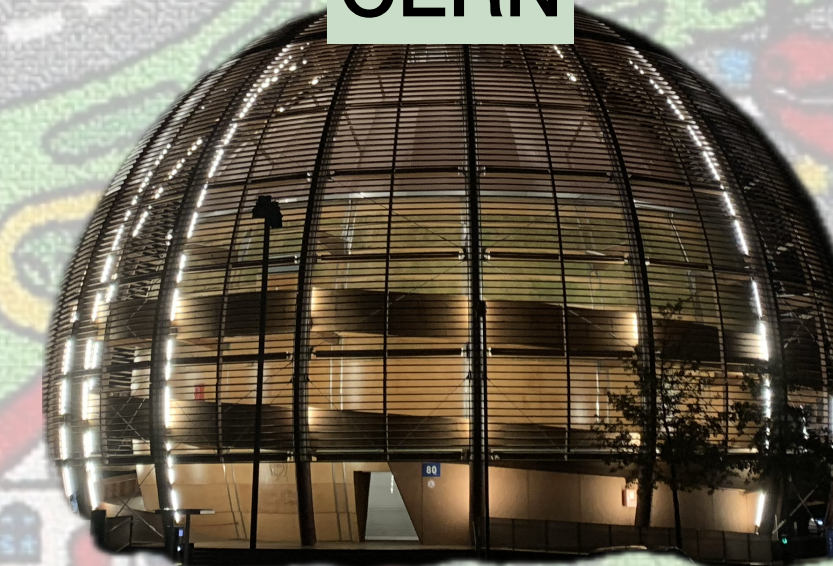
Master Thesis
Air Shower Geometry



PhD: Exotically Charged Particles

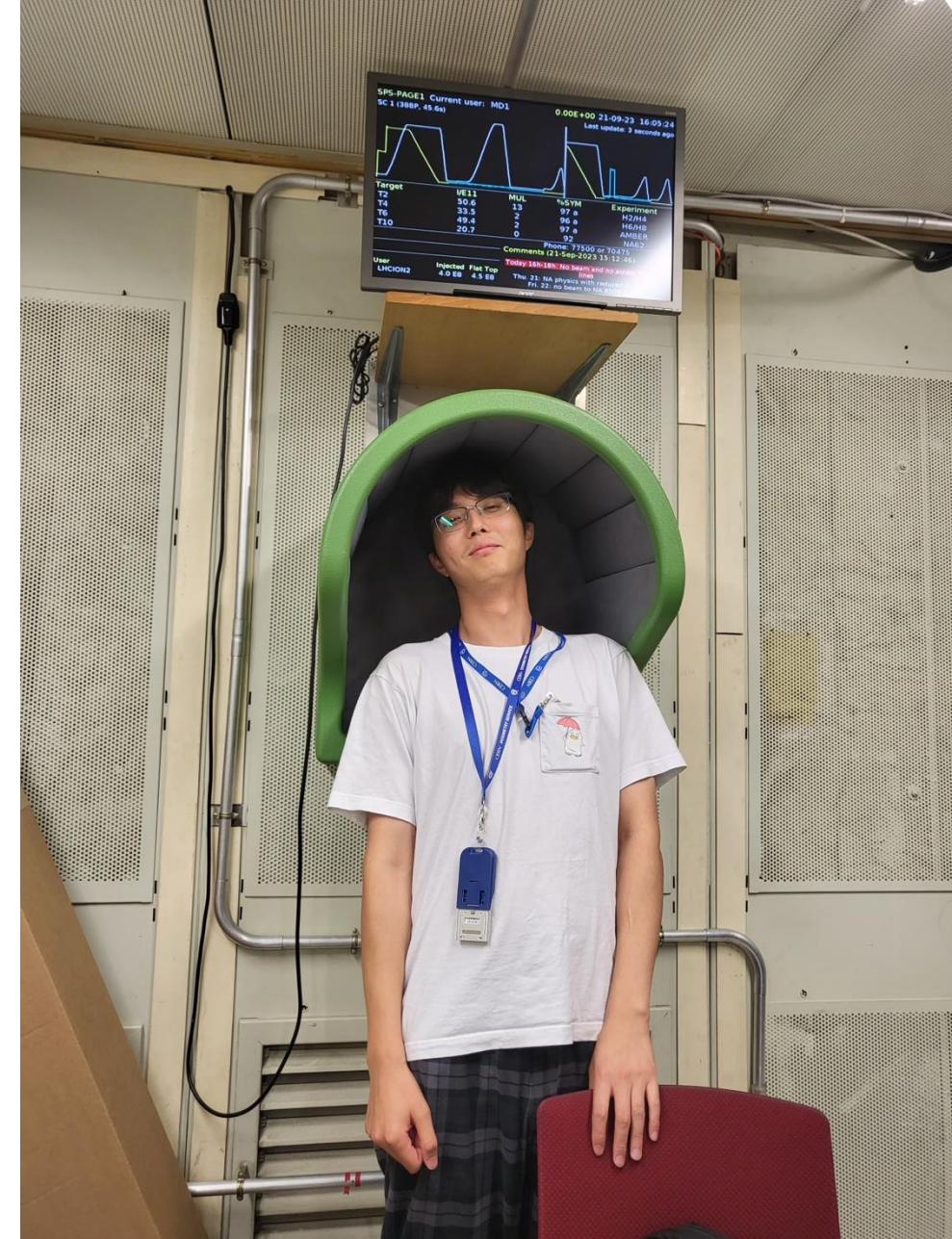


CERN



Newcomer: Kai Kang

- Joint Ph.D. VUB & Ugent
 - With Prof. Steven Lowette
 - Higgs-charm coupling: rare Higgs-decay in CMS
- Past:
 - Bachelor: uOttawa
 - Nothing related to HEP (graphene)
 - Master: EPFL
 - LHCb SciFi Tracker testbeam & analysis
 - Measure $\Lambda_b^0 \rightarrow pK^-\tau^+\tau^-$ branching ratio
- Hobby:
 - History / languages
 - Traveling / hiking
 - Cooking



Introducing: Muhammad Aamir Shahzad

Background:

- I am from Pakistan.
- I did my undergraduate and master's studies in Pakistan.
- Completed Ph.D. in CMS from Institute of High Energy Physics (IHEP), Beijing, China.

Ph.D. focus:

- Main work was on low-mass Higgs to di-photon search with full Run 2 data.
- I also contributed to differential cross-section and STXS analysis with full Run 2 dataset, in the di-photon final state.

Joined IIHE/ULB:

- Started a postdoctoral position at IIHE/ULB in early 2024.
- I am working under Laurent Thomas supervision.
- Our group is mainly involved in Higgs to invisible (VBF/Monojet) analyses in collaboration with Boston university.

Current focus:

- I am currently working on deriving the scale factors for electron and photon identification at high pt for tight working point.
- SF's are crucial and applied to MC to match data in a better way.
- Later on, I will be deriving the SF's for muon and also HEEP ID.
- These studies will be used in our Higgs to invisible analysis as well as beneficial for other analyses.

Hobbies:

- Reading history books, traveling, playing video games.

About Me

- Arjun Chaliyath
- MS in Aerospace Eng. University of Pisa – Italy
- Lived in Italy for 4 years
- In Brussels for 4 years
- Worked for ESA and other private companies
- Very happy to be part of the CMS family – working on the tracker upgrade

- Hobbies, Passions

DIY

Fishing

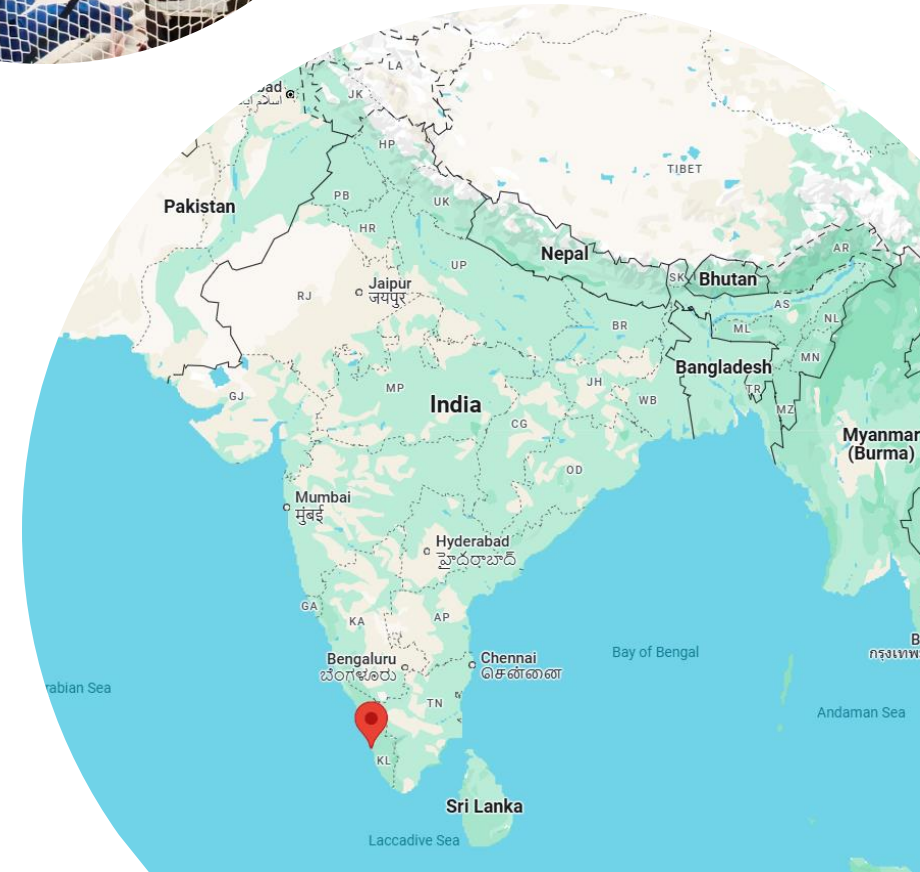
Science

Research

Parties, Festivals

Cooking

Travels



Louise Lallement Arnaud



Research:

- PhD student in the IceCube group
- Supervisor: Juanan
- Analyse IceCube-Upgrade data in search of fractional charge particles
- Collaboration with MilliQan



Background:

- Master's degree at the Université Grenoble Alpes (France)
- Master's thesis with the IceCube group in Münster (Germany)
- Tested deep learning techniques for IceCube-Gen2



Hobbies:

- Cooking & baking
- Crafts
- Board games
- Postcards

Simon Chiche - Postdoctoral researcher at IIHE

Originally from Paris

PhD on the Giant Radio Array for neutrino Detection

RNO-G working group: Advised by Dr. Simona Toscano

Work interests:

- Radio detection of ultra-high energy neutrinos
- Multi-messenger astronomy

3-years contract (started in December 2024)

Office G.1.59



Hobbies:

- Learning about science
- Basketball
- Japanese culture

Nice to meet you all!

Isha Loudon

- Started as a PhD student with RET experiment (Oct 2024)
- Thesis title: “*Exploring radar echoes from high-energy particle cascades with RET-CR*”



RADAR ECHO TELESCOPE

Previously:

- MSc at Radboud University (NL), investigating signal properties of radar echoes in RET-CR (2022-2024)
- BSc at University of Bristol (UK) (2019-2022)



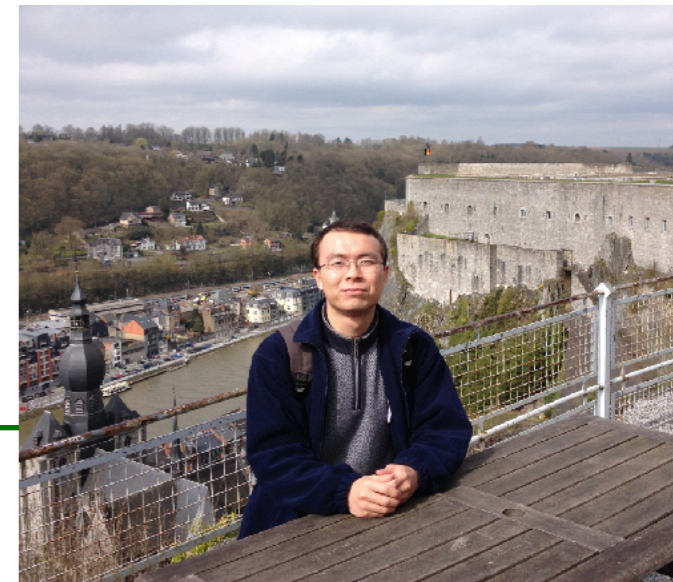
Elise Van den Bossche

- Joint PhD between VUB and University of Maastricht
- part of GW group at VUB
- Currently working on:
 - Commissioning for ETpathfinder
- Previous work:
 - Development of local control system of ETpathfinder
- Hobbies:
 - Playing in an orchestra
 - Painting



Feng Zhang (NOT REALLY a new comer;)

- Postdoc of **Pascal Vanlaer** Team
- CMS outer tracker upgrade
- L3 Convener of LHC Higgs Exotic Decay Working Group



- 11 years in CMS:
 - 2013: Entered CMS - Peking University
 - 2014 - 2017: Joint graduate - PKU & **ULB** (supervised by **Laurent Favart**)
 - 2017 - 2024: Postdoc & Assistant Project Scientist - University of California Davis
 - 2022 - 2023: LHC Physics Center Distinguished Research Fellow - Fermilab

- 2017 – 2022 (Based @ CERN):

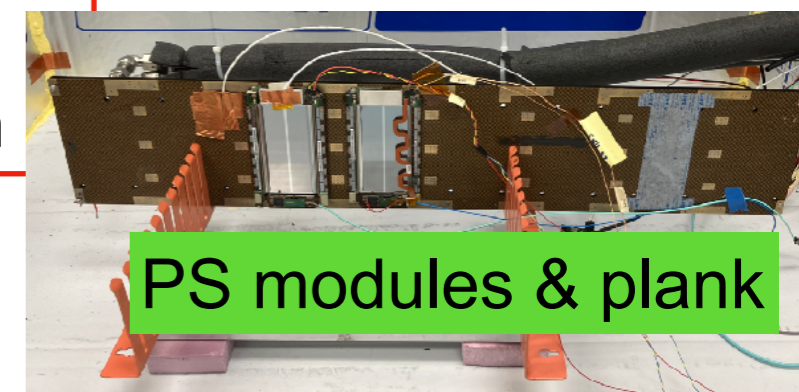
- Phase-1 pixel detector operation, refurbishment, new software development, radiation damage study
- HL-LHC CMS Outer Tracker 2S module prototype, qualification, test stand & software design



2S module & Designed cold box

- 2022 - 2024 (Based @ Fermilab):

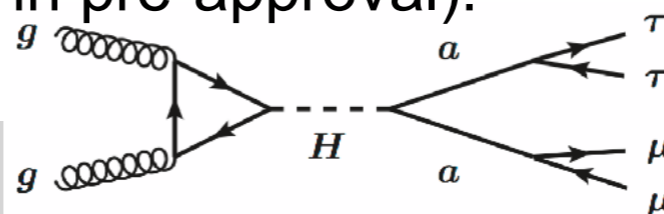
- HL-LHC CMS Outer Tracker Barrel PS flat section integration



PS modules & plank

- Physics analysis (one published, one in pre-approval):

- Designed neural net for boosted τ :
 $M(H): 125-1000$ GeV, $M(a): 3.6-50$ GeV



- Hobbies (not inclusive): read, swim, boxing, dance, ice-skate, ski, cycle, tennis, kayak, sing

Amina Khatun (from May 2024 in IIHE)

Joined **JUNO** group (group leader: **Barbara Clerbaux**)

- **Research focus:** Neutrino oscillation phenomenology, data analysis, beyond SM physics phenomenology.
 - **Currently working in the atmospheric neutrino analysis in JUNO**
 - **To validate JUNO-atmospheric neutrino data by observing neutrino oscillation with few months JUNO data**
 - **Testing capabilities of JUNO atmospheric neutrino data to determine neutrino mass ordering, developing the fitter for this**
 - **JUNO Detector performance check with neutron calibration**



2020-2024: I was a postdoctoral fellow in Comenius University, Slovakia, working in JUNO, KM3NeT, BAIKAL-GVD

Hobbies: biking, hiking, cooking, watching movies

JANNES LOONEN

- ▶ Bachelor in physics and astronomy @ VUB: 2019 – 2022
 - ▶ BSc: *Investigation of the temporal characteristics of GRBs* (Nick and Krijn)
- ▶ Master in physics and astronomy @ VUB: 2022-2024
 - ▶ MSc: *Investigation of the radar signal properties of neutrino-induced particle cascades in ice using MARES* (Nick and Krijn)
- ▶ Started PhD within the RET collaboration: 2024-
 - ▶ *The science case of the Radar Echo Telescope for Neutrinos: reconstruction and detector design*
 - ▶ Continue signal properties study
 - ▶ Reconstruction + triggering
 - ▶ Detector design
- ▶ Hobbies: gardening, speedcubing,...



RADAR ECHO TELESCOPE



Isabelle De Bruyn

Bachelor & Master in Physics – Ghent University, BE

2013 – 2018 PhD at VUB, with Steven Lowette Search for Dark Matter in the Monojet and Trackless Jets Final States with the CMS Detector at the LHC
+ working on the CMS Tracker

2018 – 2021 Postdoc at University of Wisconsin – Madison, based at CERN

2021 – 2024 Scientist at University of Wisconsin – Madison, based at CERN



Co-coordinating the CMS CSC upgrade during Long Shutdown 2
Commissioning and operating the CSC detector during Run 3
CMS Muon Upgrade Coordinator

Since **June 2024**: Postdoc at ULB, with Gilles De Lentdecker

Working on the CMS GEM detector (mostly development of the Detector Control System)



Current hobbies:

- kids :)
- still busy with the aftermath of moving & house renovation
- shaping our garden (vegetable garden next spring?)

Hobbies on hold:

- viola (violin), piano
- cross country skiing

VITAL DE HENAU

Working in the astro-particle group
Investigating double bump air showers with SKA
Both BA and MA done at the VUB

Hobbies/fun facts:

- Basketball
- Running
- Reading (words and pictures)
- NOT addicted to coffee
- Favourite colour #11D0EE

