

Simon Chiche

Inter-University Institute For High Energies

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RESEARCH INTERESTS

- **Radio-detection of ultra-high energy (UHE) astroparticles:** in-air and in-ice cosmic-ray and neutrino cascades, analytical and numerical signal modeling for GRAND and RNO-G reconstruction, background rejection and signal identification, numerical simulations (CoREAS, ZHAireS, FAERIE, Radio Morphing).
- **Multi-messenger astronomy:** GRAND and RNO-G collaboration, neutrino/cosmic-ray discrimination

EMPLOYMENT

2024-2027 Postdoctoral researcher at **Inter-University Institute For High Energies (IIHE)**, Université Libre de Bruxelles (ULB): Deep cosmic-ray search within RNO-G.

EDUCATION

10/2020-10/2023 **PhD Thesis at Institut d'Astrophysique de Paris (IAP):** "Looking for ultra-high energy gamma rays in a radio haystack".
[Supervised by Kumiko Kotera \(IAP\) and Olivier Martineau \(LPNHE\).](#)

2018-2020 **Master in Astronomy & Astrophysics at Sorbonne Université**
[Graduation with high honours, ranked 1st/36.](#)

TEACHING AND MENTORING

Students Mentoring

11/2024-Now PhD thesis, Marine Vilarino: "Search for a diffuse flux of ultra-high energy neutrinos with the Radio Neutrino Observatory in Greenland".

2024 Master 2 internship, Nicolas Moller: "Simulating cosmic-ray air shower radio emission for the Askaryan Radio Array".

2022 Master 2 internship, Marion Guelfand: "Lateral distribution of very inclined air-showers".

2021 Master 1 internship, Valentina Richard Romei: "Semi-analytical modelling of the air-showers radio wavefront".

Classes

2024 Teaching assistant at Université Libre de Bruxelles:

- Astroparticle Physics tutorials for ~ 10 Master students, 6h.

2021-2022 Teaching assistant at Sorbonne Université:

- Special relativity, tutorials for ~ 20 undergraduate students, 44h.
- Optics and Electromagnetism, practical classes for ~ 20 undergraduate students, 56h.
- Computational Physics, classes and tutorials for ~ 10 undergraduate students, 32h, class preparation.

AWARDS AND FELLOWSHIPS

2024 1-year postdoctoral fellowship, Fonds national de la recherche scientifique - FNRS (declined)

2020 PhD fellowship, French Ministry of Higher Education and Research

2015 Award for outstanding academic achievement, Sorbonne Université

COLLABORATION

GRAND (Giant Radio Array for Neutrino Detection): active member of the analysis working group

RNO-G (Radio neutrino observatory in Greenland): Numerical simulations and analysis for deep cosmic-ray search

RESPONSIBILITIES

- 2021-2022 Co-Webmaster of the GRAND collaboration website [\[web\]](#)
- 2021-2022 Organizer of the weekly GRAND group meetings
- 2021 Chair and organizer of the PhD annual workshop at IAP

OUTREACH

- 2024 Masterclass “Particules du cosmos” at IIHE [\[web\]](#)
- 2022 Science fair at IAP [\[web\]](#)
Outreach for the “Astronomy Night” at IAP [\[web\]](#)
Regular conferences for high school students at IAP
- 2020 Presentation of the Astronomy & Astrophysics Master 2 for CurieOsity’s forum at Sorbonne Université
Outreach for undergraduate interns at IAP
Presentation of undergraduate studies for high school students at Lycée Arago, 75012 Paris

TALKS AND SEMINARS

- 09/09/2024 RNO-G collaboration meeting, Uppsala, Sweden
- 19/06/2024 Two contributed talks, ARENA2024, Chicago University, United-States
- 29/05/2024 Contributed talk, Belgian Physical Society, VUB, Brussels, Belgium
- 24/05/2024 Contributed talk, RNO-G online collaboration meeting 2024, online
- 11/03/2024 Contributed talk, Belgian Neutrino meeting, UCLouvain, Louvain-la-Neuve, Belgium
- 20/09/2023 PhD thesis defense, IAP, Paris, France
- 02/08/2023 Contributed talk, ICRC2023, Nagoya University, Nagoya, Japan
- 29/05/2023 Contributed talk, Journées PNHE 2023, IAP, Paris, France
- 12/05/2023 Contributed talk, IAP Phd annual workshop, IAP, Paris, France
- 29/03/2023 Contributed talk, Elbereth Conference, Paris, France
- 2020-2023 Regular contributions to GRAND analysis, monthly and annual collaboration meetings
- 18/10/2022 Seminar, Karlsruhe Institute of Technology (KIT) weekly meeting, KIT, Karlsruhe,
- 07/06/2022 Contributed talk, Acoustic & Radio EeV Neutrino Detection Activities (ARENA),
Santiago de Compostela, Spain
- 29/04/2022 Seminar, PhD weekly seminar, IAP, Paris, France
- 22/04/2022 Contributed talk, IAP PhD annual workshop, IAP, Paris, France
- 21/03/2022 Invited plenary talk, Rencontres de Moriond, La Thuile, Italy
- 08/03/2022 Seminar, Vrije Universiteit Brussels (VUB) weekly meeting, VUB, Brussels, Belgium
- 15/12/2021 Contributed talk, GRAND collaboration meeting, LPNHE, Paris, France
- 26/10/2021 Contributed talk, Saclay symposium, Institut Pascal, Saclay, France
- 17/10/2021 Contributed talk, JRJC conference, La Rochelle, France
- 13/07/2021 Contributed talk, ICRC conference, online
- 28/05/2021 Seminar, PhD weekly seminar, IAP, Paris, France
- 04/05/2021 Contributed talk, IAP Phd annual workshop, IAP, Paris, France
- 09/02/2021 Contributed talk, Elbereth Conference, online
- 07/12/2020 Poster, Cosmic-ray and neutrino in Paris, online
- 28/10/2020 Seminar, High-energy journal club, IAP, Paris, France
- 26/10/2020 Seminar, VUB weekly meeting, VUB, Brussels, Belgium

OTHER SKILLS

Programming skills: C++, Python, Fortran, Mathematica

Softwares: Siril, DS9, LaTeX, Suite Office

Languages: French: native; English: advanced skills; German: intermediate level; Japanese: intermediate level