



Johann Cohen-Tanugi

Curriculum Vitae

*Current position: permanent researcher at LPCA, CNRS/IN2P3
and Université de Clermont-Auvergne*

*Civil status: French, born may 15 1972 in Levallois-Perret, married
with two children (age 15 and 19)*

Education

- 2015 **HDR : Habilitation to Direct Research**, Université de Montpellier.
- 1999–2001 **Ph.D**, LPNHE–Ecole Polytechnique et Université de Paris-VII (Denis Diderot).
- 1996–1997 **Master in Physics**, Institut de Physique Nucléaire d'Orsay et Université de Paris-VII (Denis Diderot), Major: Particle Physics, astrophysics and cosmology.
- 1993–1996 **Civil engineering diploma**, Ecole Nationale Supérieure des Mines de Paris, Paris, Major : control of systems and applied mathematics.

Professional Experience

- 2024– **Permanent Researcher CNRS (grade DR2)**, Laboratoire de Physique de Clermont Auvergne (LPCA), UMR6533, CNRS/IN2P3 et Université de Clermont Auvergne.
- 2008–2024 **Permanent Researcher CNRS (grade DR2)**, Laboratoire Univers et Particules de Montpellier (LUPM), UMR5299, CNRS/IN2P3 et Université Montpellier.
- 2004–2008 **post-doctoral researcher**, Stanford Linear Accelerator Center (SLAC), Stanford university, Fermi-LAT experiment.
- 2001–2004 **post-doctoral researcher**, INFN – session de Pise, groupe GLAST.
- 1997–1999 **associate researcher**, Stanford Linear Accelerator Center (SLAC), Stanford university, BABAR collaboration, DIRC group.

Research domain

- 2013– **Observational cosmology**, photometric calibration and redshift estimation, large-scale structures and dark matter probes, supernovae, optical extragalactic transients, LSST DESC collaboration.
- 2001– **High-Energy gamma-ray astronomy**, Dark Matter indirect searches, galactic sources and diffuse emission, gamma-ray bursts, astroparticle physics, Fermi-LAT collaboration.
- 1997–2001 **High-Energy Particle Physics**, CP violation and electroweak sector of the Standard Model, BABAR experiment at SLAC.

Teaching and Advising

- 2025–2028 **Ph.D advisor of Théotime Hallouin**, Stellar Streams and photometric distances with the first data from the Vera C. Rubin Observatory, LPCA.
- 2023–2024 **Unofficial Ph.D advisor of Kelian Sommer (decease of the primary advisor Eric Nuss)**, High precision photometry for the large galaxy surveys ZTF and LSST : characterisation of instrumental and atmospheric transmissions., LUPM.
- 2013–2015 **Ph.D advisor of Thibaut Desgardin**, Low-energy optimization of the Large Area Telescope on board Fermi., LUPM.
- 2010–2013 **Ph.D advisor of Lola Falletti**, Study of the region nearby the non-identified source HESS J1745–303 with the Fermi-LAT instrument, LUPM.

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- 2010–2015 **Propagation and acceleration of cosmic rays**, LUPM, Master course (9h).
- 2008–2011 **Ph.D advisor for Jérémie Méhault**, *Search for association pf supernova remnant and molecular clouds with H.E.S.S. and Fermi-LAT – Optimisation of gamma-ray imaging*, LUPM.

I am also regularly supervising several students in training periods, and college students in lab training.

Committees and responsibilities

- 2021–2025 **Nominated member of the section 01 of the CoNRS**, [web site](#).
- 2021–2024 **Elected to the Scientific Council of the LUPM**.
- 2020–2021 **Coordination of the task force in charge of managing Rubin's alerts for DESC**.
- 2019–2021 **Coordination of the Computing Working group of the Rubin Dark Energy Science collaboration (DESC)**.
- 2014–2024 Main architect of the participation of LUPM to LSST, and coordination of the LUPM LSST group
mai 2015 jury member for the selection process of a permanent teaching assistant, Laboratoire de l'accélérateur linéaire and Université de Paris-Orsay
- 2012–2014 Coordination of the science working group on diffuse gamma rays and molecular clouds, Fermi-LAT collaboration
- 2009–2025 **Ph.D jury member**: Christian Farnier (2009, Montpellier), Romain Cohet (2015, Montpellier), Constantin Payerne (2023, Grenoble), Mathias Regnier (2024, Paris), Joseph Chevalier (président, 2025, Paris-Saclay).

Publications

My publication list can be accessed on the [HAL server](#). Here is a selection of the most recent or significant ones:

1. Photometric redshift estimation for Rubin observatory data preview 1 with redshift assessment infrastructure layers (RAIL), T. Zhang et al., e-Print: 2510.07370 [astro-ph.GA]
2. StarDICE: IV: correcting visible photometry from atmospheric gray extinction using thermal infrared observations, K. Sommer et al., e-Print: 2511.00182 [astro-ph.IM]
3. SNIa Cosmology Analysis Results from Simulated LSST Images: From Difference Imaging to Constraints on Dark Energy, B.O. Sánchez et al. [LSST Dark Energy Science Collaboration], e-Print: 2111.06858 [astro-ph.CO], *Astrophys.J.* 934 (2022) 2, 96
4. The LSST DESC DC2 Simulated Sky Survey, Bela Abolfathi et al. [LSST Dark Energy Science Collaboration], *Astrophys.J.Supp.* 253 (2021) 1, 31
5. Evaluation of probabilistic photometric redshift estimation approaches for LSST, S.J. Schmidt et al. [LSST Dark Energy Science Collaboration], *Mon.Not.Roy.Astron.Soc.* 499 (2020) 2, 1587–1606
6. Dark Matter Science in the Era of LSST, K. Bechtol et al., e-Print: 1903.04425
7. Probing the Fundamental Nature of Dark Matter with the Large Synoptic Survey Telescope, A. Drlica-Wagner et al., e-Print: 1902.01055
8. Dwarf spheroidal J-factors without priors: A likelihood-based analysis for indirect dark matter searches A. Chiappo et al., *Mon.Not.Roy.Astron.Soc.* 466 (2017) 1, 669–676
9. Sensitivity Projections for Dark Matter Searches with the Fermi Large Area Telescope. E. Charles et al. [Fermi-LAT Collaboration]. May 6, 2016. 46 pp. Published in *Phys.Rept.* 636 (2016) 1–46
10. High-energy gamma-ray sources of cosmological origin Pierre Brun, Johann Cohen-Tanugi. 2016. 14 pp. Published in *Comptes Rendus Physique* 17 (2016) 649–662
11. WIMP searches with gamma rays in the Fermi era: challenges, methods and results. Jan Conrad, Johann Cohen-Tanugi, Louis E. Strigari. Mar 21, 2015. 32 pp. Published in *J.Exp.Theor.Phys.* 121 (2015) no.6, 1104–1135, *Zh.Eksp.Teor.Fiz.* 148 (2015) no.6, 1257–1290
12. Searching for Dark Matter Annihilation from Milky Way Dwarf Spheroidal Galaxies with Six Years of Fermi Large Area Telescope Data. M. Ackermann et al. [Fermi-LAT Collaboration], in *Phys.Rev.Lett.* 115 (2015) no.23, 231301
13. Search for Gamma-Ray Emission from DES Dwarf Spheroidal Galaxy Candidates with Fermi-LAT Data. A. Drlica-Wagner et al. [Fermi-LAT and DES Collaborations], in *Astrophys.J.* 809 (2015) no.1, L4
14. Dark matter constraints from observations of 25 Milky Way satellite galaxies with the Fermi Large Area Telescope. M. Ackermann et al. [Fermi-LAT Collaboration], in *Phys.Rev.* D89 (2014) 042001
15. Constraining Dark Matter Models from a Combined Analysis of Milky Way Satellites with the Fermi Large Area Telescope. M. Ackermann [Fermi-LAT Collaboration]. Aug 2011. 5 pp. Published in *Phys.Rev.Lett.* 107 (2011) 241302
16. Observations of Milky Way Dwarf Spheroidal galaxies with the Fermi-LAT detector and constraints on Dark Matter models. A.A. Abdo et al. [Fermi-LAT Collaboration]. Jan 2010. 25 pp. Published in *Astrophys.J.* 712 (2010) 147–158