

Jérôme MARGUERON, Dr. Habil.

CURRICULUM VITAE

Address :

Groupe Physique Théorique,
Institut de Physique des 2 infinis (IP2I), Lyon,
Domaine scientifique de la Doua, Université Lyon 1,
4 rue Enrico Fermi, F-69622 Villeurbanne – France
<https://www.ipnl.in2p3.fr/perso/margueron>

Phone: +33 4 72 43 13 09 (office)
Phone: +33 6 60 35 45 95 (mob.)
Email : j.margueron@ipnl.in2p3.fr

Affiliation : Institut National de Physique Nucléaire et de Physique des Particules,
Centre National de la Recherche Scientifique (CNRS/IN2P3, France).

ORCID: [0000-0001-8743-3092](https://orcid.org/0000-0001-8743-3092) / **ResearcherID:** [F-4888-2019](https://publons.com/researcher/F-4888-2019)

Research Interests

Gravitational waves: Compact star mergers, tidal deformability, multi-physics and multi-messenger Bayesian analyses, hydrodynamics and HPC.

Neutron stars, supernovae, kilonovae: meta-modelling for the equation of state at zero and finite temperature, constraints from experimental nuclear physics and from astrophysics, neutrino interaction in dense medium, response functions, neutron star crust properties (superfluidity, specific heat), band theory, cooling of neutron stars.

Structure of exotic nuclei and reaction mechanisms: pairing correlations effects in ground and excited states (Hartree-Fock-Bogoliubov), pairing re-entrance, bubble nuclei, super-heavy nuclei, break-up of halo nuclei, non-perturbative eikonal approximation.

Education

Habilitation thesis on “Microscopic modelling for Astrophysics”, University Paris-Sud XI, 2012

PhD thesis on “Neutrino propagation in dense matter”, University Paris-Sud XI, under the supervision of Nguyen Van Giai, 2001

Master in Theoretical Physics, Ecole Normale Supérieure de Lyon, 1998

Magister in fundamental physics, Paris-Sud University, Orsay, 1998

BAC Lyceum Paul Gauguin, Tahiti, 1991

Professional Experience

CNRS researcher DR2 , Institut de Physique Nucléaire de Lyon, France	05/2019 – present
Visiting scientist , Institute for Nuclear Theory (INT), Seattle, USA	07/2016 – 08/2018
CNRS researcher CR1 , Institut de Physique Nucléaire de Lyon, France	03/2013 – 04/2019
CNRS researcher CR1 , Institut de Physique Nucléaire d'Orsay, France	11/2008 – 02/2013
Visiting Professor , University of Aizu-Wakamatsu, Japan	07/2007 – 12/2007
CNRS researcher CR2 , Institut de Physique Nucléaire d'Orsay, France	11/2004 – 10/2008
Postdoctoral Fellow , Tübingen University, Germany	11/2003 – 10/2004
Postdoctoral Fellow , Grand Accélérateur d'Ions Lourds (GANIL), France	11/2001 – 10/2003

Honors and Awards

Editor of the European Physical Journal A : Hadron and Nuclei	2020-2022
Director of the GdR RESANET	2018-2023
Awarded for the PES (price for excellent research), CNRS,	2010-2014.
Review Editor, frontier in physics,	2018-present.

Synergistic Activities

PI: CNRS GdR RESANET (2018-2023), Nuclear Physics Working Group Leader NewCompstar COST Action (2013-2016), President of the Nuclear Physics Division of the French Society of Physics (2012-2016)

Service: Member of the scientific council of the IN2P3 International Joliot-Curie School (2014-present), Member of the scientific council of the Russbach school on Astro-nuclear physics (2012-present), Member of the Managing Committee of NewCompstar COST Action (2013-2017), Member of the scientific council of ESNT, Saclay, France (2011-2016), Member of the Board Committee of ESF-COMPSTAR (2007-2013), Member of the Scientific Committee of IPN Orsay (2007-2011), Member of the Editorial Board of the French Society of Physics "Reflets de la Physique" (2006-2012)

Referee: European Physical Journal A, Foundations of Physics, Nuclear Physics A, The Open Nuclear & Particle Physics Journal, Physical Review C, Physical Review Letters, Physics Letters B, Progress in Nuclear Physics and Particle Physics.

Main organiser: 4 conferences, 12 workshops, 2 schools.

Publications: <https://labs.inspirehep.net/authors/1025679>

76 articles in refereed journals (1 "very well-known paper", 10 "well-known papers", 42 "known papers), 4 book chapters, 33 articles in proceedings, 6 articles in journals for the general public. +2000 citations, h-index: 29 (INSPIRE), about 25 citations per paper.

90 talks in workshops and conferences (30 of which as invited speaker).

Recent publications:

1. Critical examination of constraints on the equation of state of dense matter obtained from GW170817, I. Tews, J. M., S. Reddy, Phys. Rev. C 98, 045804 (2018) **Editor's suggestion**, +80 cit.
2. Nuclear pasta in hot dense matter and its implications for neutrino scattering, A. Roggero, J. M., L. F. Roberts, S. Reddy, Phys. Rev. C 97, 045804 (2018)
3. The equation of state for dense nucleonic matter from a meta-modeling I. Foundational aspects,, J. M., R. Hoffmann Casali, F. Gulminelli, Phys. Rev. C 97, 025805 (2018) and Phys. Rev. C 97, 025806 (2018) +50 cit.
4. Magicity of neutron rich isotopes within relativistic self-consistent approaches, J. Li, J. M., W. Long, N. Van Giai, Phys. Lett. B 753, 97 (2016)
5. Heat capacity of low density neutron matter : from quantum to classical regimes, A. Pastore, N. Chamel, and J. M., Mon. Not. R. Astron. Soc. 448, 1887 (2015)
6. Constraining the Nuclear Equation of State at Subsaturation Densities, E. Khan, J.M., I. Vidana, Phys. Rev. Lett. 109, 092501 (2012) +70 cit.
7. Core-crust transition in neutron stars: predictivity of density developments, C. Ducoin, J.M., C. Providencia, I. Vidana, Phys. Rev. C 83, 045810 (2011) +100 cit.

PhD students and Postdoctoral advisees

Rahul SOMASUNDARAM (PhD 2019-2022) UCBL Excellence grant

Guilherme GRAMS, IN2P3 Post-doc (2019-2021)

Nicolas BAILLOT D'ESTIVAX (PhD 2015-2018 & Post-doc IP2I 2018-2019)

Qiang ZHAO (PhD 2015-2018), CSC fellow, co-supervision with W. Long (Lanzhou Univ., China)

Jiajie LI (PhD 2012-2015), Post-doc at Frankfurt University, Germany

Rudiney CASALI (post-doc 2013-2015), Ass. professor Jaraguá do Sul, Brazil

Panagiota PAPAKONSTANTINOU (post-doc 2011-2013), permanent position IBS, Daejon, Korea

Elisabeth MASSOT (post-doc 2009-2011), high school teacher, France

Anthea Francesca FANTINA (PhD 2007-2010), CNRS researcher, France

Lyon, Feb. 5th 2020