

**Jérôme MARGUERON, Dr. Habil.**

CURRICULUM VITAE

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Centre National de la Recherche Scientifique (CNRS/IN2P3, France).

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**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.

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**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

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**Professional Experience**

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

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**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.

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## 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 organizer:** 4 conferences, 12 workshops, 2 schools.

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

80 articles in refereed journals (2 "very well-known paper", 11 "well-known papers", 44 "known papers"), 4 book chapters, 33 articles in proceedings, 6 articles in journals for the general public. +2500 citations, h-index: 30 (INSPIRE), about 25 citations per paper.

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

### 5 Recent publications related to the project:

1. Multimessenger and multiphysics Bayesian inference for the GW170817 binary neutron star merger, H. Güven, K. Bozkurt, E. Khan, J. Margueron, Phys. Rev. C 102, 015805 (2020).
  2. New constraints on the nuclear equation of state from the thermal emission of neutron stars in quiescent low-mass X-ray binaries, N. Baillot d'Etivaux, S. Guillot, J. Margueron, N.A. Webb, M. Catelan, and A. Reisenegger, Astrophys. J. 887, 48 (2019).
  3. 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**, +130 cit.
  4. Nuclear pasta in hot dense matter and its implications for neutrino scattering, A. Roggero, J. Margueron, L. F. Roberts, S. Reddy, Phys. Rev. C 97, 045804 (2018)
  5. The equation of state for dense nucleonic matter from a meta-modeling I. Foundational aspects,, J. Margueron, R. Hoffmann Casali, F. Gulminelli, Phys. Rev. C 97, 025805 (2018) and Phys. Rev. C 97, 025806 (2018) +60 cit.
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## PhD students and Postdoctoral Advisees

Rahul SOMASUNDARAM (PhD 2019-2022) UCBL Excellence grant

Dr. Guilherme GRAMS, CNRS-IN2P3 Post-doc (2019-2021)

Dr. Nicolas BAILLOT D'ESTIVAUX (PhD 2015-2018 & Post-doc IP2I 2018-2019)

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

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

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

Dr. Panagiota PAPAKONSTANTINO (post-doc 2011-2013), permanent position IBS, Daejeon, Korea

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

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

Lyon, Sep. 21<sup>st</sup> 2020