



Professional Summary

Nuclear physicist with over 3 decades of experience in low-energy nuclear structure physics. Internationally recognized for leadership in large γ -ray spectrometer collaborations (AGATA, GRETA/GRETINA), advanced data analysis methods, and experimental programs at major accelerator facilities (ATLAS at Argonne, LNL, GANIL, LBNL).

Over the past five years, my work has focused on γ -ray tracking developments and on the structure of heavy and superheavy nuclei at ATLAS. I led key optimizations of tracking algorithms and contributed to the introduction of AI/ML approaches. In parallel, I played a central role in challenging experiments on transfermium and superheavy nuclei, targeting shell effects, deformation, and fission barriers.

Key words: Nuclear structure at high spin, Shape coexistence, superdeformation, hyperdeformation, Superheavy nuclei, Gamma-ray tracking detector systems, Experimental nuclear spectroscopy, AI/ML

Education

Habilitation à Diriger des Recherches (HDR), 2006, Université Paris-Sud, Orsay, France

Topic: Nuclear structure: superdeformation, hyperdeformation, and superheavy nuclei

Ph.D. in Nuclear Physics, 1991, Université Paris-Sud, Orsay, France

Dissertation: Shape coexistence in ^{187}Au

DEA (M.Sc.-level) in Nuclear Reactors, 1988 INSTN, Saclay, France

DEA in Nuclear Physics, 1987, USTHB, Algiers, Algeria

M.Sc. in Physics, 1986, USTHB, Algiers, Algeria

Professional Appointments

2024. Senior Research Scientist (DRCE1) IJCLab, CNRS-IN2P3, France

2019. Senior Research Scientist, First Class (DR1) IJCLab, CNRS-IN2P3, Orsay, France

2011. Senior Research Scientist, Second Class (DR2) CSNSM, CNRS-IN2P3, France

1996. Research Scientist, First Class (CR1) CSNSM, CNRS-IN2P3, Orsay, France)

1992. Research Scientist, Second Class (CR2) IPNO, CNRS-IN2P3, Orsay, France

Leadership and Collaborative Activities

2020-present Scientific Lead for the AGATA project at IJCLab, Orsay

2009-2021 Member of the AGATA EU Management Board

2009-2017 Chair, European DAQ Working Group, AGATA Collaboration

2017-2021 Chair, European Data Flow, Data Analysis and Tracking WG AGATA

2018-2023 Co-Director, CNRS GDR RESANET

2019-present Co-Chair, AGATA-GRETA Joint Collaboration Meetings

2021-2021 Chair, CNRS Low-Energy Nuclear Physics Schools (PhyNuBE 2021)

2003-2009 Head of the CNRS-Bulgaria collaboration under the EGIDE program

2004-2008 Coordinator of the IN2P3-JINR 04-63 collaboration (2004-2008)

2003-2004 Principal Investigator of the GABRIELA project, Dubna

2002-2009 Group Leader, Nuclear Structure Group, CSNSM Orsay

Mentoring and Teaching

Mentoring Supervised 6 PhD students (advisor or co-advisor)

Mentored 7 postdoctoral researchers

Supervised 20+ undergraduate and graduate interns (L3, M1, M2)

Served on 25 PhD thesis committees (referee, examiner, or President)

Teaching

1995–1998: Nuclear Physics lectures and tutorials, DEUST E3, Orsay, France

Nov. 2009: AGATA project overview, M2-MIP, Orsay, France

Dec. 2010: Concepts of spherical and deformed nuclei, Master Énergie, INSTN, France

Oct. 2018: Invited lecturer, Gamma-Ray Tracking School, Oak Ridge National Lab, USA

Mar. 2019: “AGATA and GRETA: exploring high-sensitivity regions,” PhD/Master course, École Doctorale Phenix, France

Service to the Scientific Community

Elected Member, Comité National de la Recherche Scientifique (CNRS) (2025–present)

Member, DOE Panel reviewer for nuclear physics and nuclear astrophysics (2023–2025)

Elected Member, IJCLab Laboratory Council (2020–2025)

Member, Commission Consultative de Spécialistes (Sections 29–34), Orsay (2017–2021)

Elected Member, IN2P3 Scientific Council (2000–2004)

Elected Member, CNRS National Committee (2000–2004)

Elected Member, CSNSM Laboratory Council (2001–2006)

Referee for *Physical Review Letters*, *Physical Review C*, *EPJA*, *Nuclear Instruments and Methods*, *Physica Scripta*

Member, French Physical Society (SFP) (since 2000)

Invited Talks and Conference Organization

Conference and workshop organization: **25** (13 as chair or co-chair)

Invited conference and workshop talks: **35**

Invited seminars and major colloquia: **17**

Contributed talks in AGATA-weeks or AGATA-GRETA collaboration meetings: **18**

International Appointments and Extended Research Visits (>3 months)

IReS Strasbourg (France) – EUROGAM II implementation (6 months, 1994)

Lawrence Berkeley National Laboratory – CNRS secondment (MAD), (2011–2012)

Argonne National Laboratory – CNRS secondment and guest researcher (2012–2013)

GANIL (France) – AGATA assembly, commissioning, and operation (2014–2015)

Argonne National Laboratory – Long-term research stay (2022–2024)

Publications

Approximately **220** peer-reviewed publications in *Physical Review Letters*, *Physical Review C*, *Physics Letters B*, *Nuclear Physics A*, *EPJA*, and *Nuclear Instruments and Methods*. (Complete list can be found in Brookhaven National Nuclear Data Center)

Honors and Awards

Chevalier de l'Ordre des Palmes Académiques, France (2009)