Jean Cazalis

PhD in mathematical physics

06 46 61 42 67
cazalis@ceremade.dauphine.fr
www.ceremade.dauphine.fr/~cazalis/
www.linkedin.com/in/jean-cazalis-61375a244/
11/12/1993

Researcher in quantum mechanics.

SKILLS Research project management

Written (scientific articles) and oral (talks, teaching) communication

Bibliographic watch

→ Mobile and available immediately.

DOCTORAL RESEARCH

"Nonlinear quantum systems at dissociation: the example of graphene" tel-03726340

My thesis is the first work where it is shown that continuous models taking into account the interactions between electrons predict the appearance of relativistic electrons in graphene, explaining some of the spectacular electronic properties of this material.

[2] Jean Cazalis. Dirac cones for a mean-field model of graphene. ArXiv e-prints. 2022. Submitted. (arXiv:2207.09893)

[1] Jean Cazalis. The diatomic Hartree model at dissociation. 2022 *Nonlinearity* **35** 2633. (doi:10.1088/1361-6544/ac665a) (arXiv:2109.14940)

EDUCATION

2018 – 2022 **Doctor of Sciences Degree**
Mathematical physics
Université Paris-Dauphine

2017 – 2018 **Master of Research Degree**
AWARDED WITH HIGHEST HONOUR
Applied Mathematics
Major : control, optimization, variational calculus
Sorbonne Université

2016 – 2017 **Master of Education Degree**
AWARDED WITH HIGH HONOURS
Mathematics
Université Paris-Saclay (ENS Cachan)

2017 **Agrégation de mathématiques**
ADMITTED (RANK 38/457)
Competitive examination for civil service in the French public education system
Université Paris-Saclay (ENS Cachan)

2014 – 2015 **Bachelor's Degree**
Mathematics
École Normale Supérieure (ENS) de Cachan

RESEARCH INTERNSHIPS

2018
École Polytechnique Fédérale de Lausanne
Master internship
Report : « Null controllability for the heat equation via backstepping approach ».

2016
Université de Bordeaux
Master internship
Report : « Inverse problems and parsimony ».

2015
École Normale Supérieure de Cachan
Bachelor internship
Report : « Construction and analysis of molecular dynamical signatures in molecular dynamics simulation ».

TEACHING

2018 – 2021
Université Paris-Dauphine
Tutorial assistant
Tutorial classes in probability, analysis and optimization.
Practical works on computer using Python in numerical analysis and optimization.

2017 – 2018
Colleur
Examiner for weekly oral interrogations in small groups: first year (lycée Saint-Louis) and second year (lycée Michelet).

TECHNICAL SKILLS

NOVICE MUPAD, Matlab, Scilab, OCaml, Maple

PROFICIENT Unix, Microsoft Windows, Mathematica, Microsoft Excel

EXPERT Python, LaTeX

LANGUAGES French – mother tongue
English – fluent

ACTIVITIES AND INTERESTS

2022 – ... Volunteer for *The Shifters* association

2019 – 2021 Co-organizer of the CEREMADE young researchers' seminar

2015 President of the ENS Cachan rugby association

SPORTS Climbing (bouldering and rope), road biking, rugby

CULTURE Cinema, literature, electronic music