

LPENS



LABORATOIRE DE PHYSIQUE
DE L'ÉCOLE NORMALE SUPÉRIEURE

*PhD theses defended
since January 1st 2019*

140 PhD theses defended since the creation of the lab

27 defended in 2019
24 defended in 2020
25 defended in 2021
29 defended in 2022
35 defended in 2023

Team *Nano-Optics*

2019

- **NICOLAS Louis**
High resolution spectroscopy of diamond color center ensembles for quantum optics experiments
PhD supervisor : Gabriel Hétet
Defended on November 19, 2019
<https://tel.archives-ouvertes.fr/tel-03185648>
- **DELORD-CARNAUT Tom**
Spin-mechanics with micro-particles levitating in a Paul trap
PhD supervisor : Gabriel Hétet
Defended on November 26, 2019
<https://tel.archives-ouvertes.fr/tel-03217243v2>
- **HABRANT-CLAUDE Théo**
Contrôle de l'émission dans la bande télécom O de nanotubes de carbone individuels couplés à une micro-cavité fibrée
PhD supervisor : Christophe Voisin
Defended on November 18, 2019
<https://theses.hal.science/tel-03876836>

2021

- **LE GOFF Romaric**
GHz infrared photodetectors based on van der Waals heterostructures
PhD supervisor : Emmanuel Baudin, Bernard Plaçais
Defended on June 21, 2021

2022

- **PELLET-MARY Clément**
Cross-relaxation in dense ensembles of NV centers and application to magnetometry
PhD supervisor : Gabriel Hétet
Defended on December 7, 2022
- **BOREL Antoine**
Contrôle de l'émission optique de centres colorés individuels greffés sur des nanotubes de carbone par une micro-cavité fibrée
PhD supervisor : Christophe Voisin
Defended on October 13, 2022

2023

- **PERDRIAT Maxime**

Angular Control of Levitated Magnetic Particles for Studies of Gyromagnetism at the Micro-Scale

PhD supervisor : Gabriel Hetet

Defended on April 14, 2023

- **AMARA Mohamed-Raouf**

Optical spectroscopy of single perovskite nanocrystals for quantum photonics

PhD supervisor : Carole Diederichs

Defended on January 6, 2023

<https://theses.hal.science/tel-04056841v1>

Team *Mesoscopic Physics*

2019

- **MENSAH Kokoura**
Nucleic acid testing with graphene transistor arrays
PhD supervisor : Ulrich Bockelmann, Bernard Plaçais
Defended on September 13, 2019
<https://pastel.archives-ouvertes.fr/tel-02631689>
- **MONTANARO Alberto**
Study of graphene-based high frequency optoelectronic devices for optoelectronic mixing
PhD supervisor : Bernard Plaçais
Defended on April 1, 2019
<https://tel.archives-ouvertes.fr/tel-02614339>
- **GRAEF Holger**
Dirac fermion optics and plasmonics in graphene microwave devices
PhD supervisor : Bernard Plaçais
Defended on September 19, 2019
<https://tel.archives-ouvertes.fr/tel-02697984>

2021

- **LE GOFF Romaric**
GHz infrared photodetectors based on van der Waals heterostructures
PhD supervisor : Emmanuel Baudin, Bernard Plaçais
Defended on June 21, 2021

2022

- **GOURMELON Alexandre**
Radiofrequency studies of topological edge states on HgTe (Mercure Telluride) quantum wells
PhD supervisor : Bernard Plaçais
Defended on September 19, 2022
- **BARTOLOMEI Hugo**
Collision Experiments in Quantum Hall Conductors
PhD supervisor : Gwendal Fève
Defended on March 29, 2022
<https://theses.hal.science/tel-03828422>

2023

- **SCHMITT Aurélien**
Relativistic electrons under extreme electric fields : transport and optoelectronic signatures

in graphene

PhD supervisor : Emmanuel Baudin, Bernard Plaçais

Defended on September 29, 2023

Team *Hybrid Quantum Circuits*

2019

- **CONTAMIN Laurianne**

Revealing synthetic spin textures with transport and microwave measurements

PhD supervisor : Takis Kontos

Defended on October 2, 2019

<https://tel.archives-ouvertes.fr/tel-02535710v1>

Team *Quantic*

2020

- **LESCANNE Raphael**

Engineering multi-photon dissipation in superconducting circuits for quantum error correction

PhD supervisor : Zaki Leghtas

Defended on February 20, 2020

<https://tel.archives-ouvertes.fr/tel-03164025>

2023

- **BERDOU Camille**

Macroscopic bit-flip times in a two-photon dissipative oscillator

PhD supervisor : Zaki Leghtas

Defended on March 14, 2023

Team *QUAD : Quantum Physics and Devices*

2019

- **ASGHARI Zahra**
High frequency optoelectronic devices in the mid infrared wavelength region
PhD supervisor : Carlo Sirtori
Defended on March 22, 2019
http://theses.md.univ-paris-diderot.fr/ASGHARI_ZahraSadat_va2.pdf
- **COSME Sébastien**
Superradiant infrared emitters
PhD supervisor : Angela Vasanelli
Defended on February 12, 2019
http://theses.md.univ-paris-diderot.fr/COSME_Sebastien_2_complete.pdf
- **CALABRESE Allegra**
Optomechanical terahertz meta-atoms
PhD supervisor : Angela Vasanelli
Defended on December 18, 2019

2021

- **BIGIOLI Azzurra**
Uncooled unipolar receivers for 9 μm wavelength heterodyne detection
PhD supervisor : Carlo Sirtori
Defended on February 2, 2021
<https://theses.hal.science/tel-03696501>

2022

- **HAKY Andrew**
Semiconductor quantum plasmonics
PhD supervisor : Angela Vasanelli
Defended on December 19, 2022

2023

- **BONAZZI Thomas**
Unipolar quantum devices for high-speed mid-IR optoelectronics on InP
PhD supervisor : Angela Vasanelli
Defended on June 12, 2023

- **DANG-HUU Tung**

Light manipulation for enhanced photodetection performance and novel functionalities in colloidal nanocrystal-based infrared sensors

PhD supervisor : Angela Vasanelli

Defended on September 27, 2023

- **DELY Hamza**

High throughput free-space data transmission at room-temperature in the mid-infrared using ultrafast unipolar devices

PhD supervisor : Carlo Sirtori

Defended on March 27, 2023

Team *Condensed Matter Theory*

2023

- **PHILIPPE Alwin**

Theoretical study of electronic states and linear optical properties of superlattices, and thermionic cooling in heterostructures

PhD supervisor : Francesca Carosella

Defended on July 21, 2023

Team *Nano-THz*

2019

- **PISTORE Valentino**
Modelocking of THz quantum cascade lasers: dispersion control and non-linearities
PhD supervisor : Sukhdeep Dhillon
Defended on November 28, 2019
<https://tel.archives-ouvertes.fr/tel-03141220>

2020

- **KRIZMAN Gauthier**
Magneto-optical study of topological phase transitions in $Pb_{1-x}Sn_xSe$ alloys and their heterostructures
PhD supervisor : Yves Guldner
Defended on October 2, 2020
<https://tel.archives-ouvertes.fr/tel-03271063>
- **HUANG Panhui**
graphene-based devices for terahertz technology
PhD supervisor : Juliette Mangeney
Defended on July 16, 2020
<https://theses.hal.science/tel-03593139>
- **MASSABEAU Sylvain**
Optical and electronic properties of graphene quantum dots in the Terahertz spectral range
PhD supervisor : Juliette Mangeney
Defended on November 24, 2020
<https://theses.hal.science/tel-03699753>

2021

- **HAWECKER Jacques**
Terahertz time resolved spectroscopy of Intersubband Polaritons and Spintronic Emitters
PhD supervisor : Sukhdeep Dhillon
Defended on June 30, 2021
<https://tel.archives-ouvertes.fr/tel-03470371>
- **VERGNET Hadrien**
THz wave generation with two lamellar nanostructures: AlGaAs microcavities and PtSe₂ thin films
PhD supervisor : Jérôme Tignon, Emmanuel Baudin, Sukhdeep Dhillon
Defended on December 3, 2021
<https://theses.hal.science/tel-03828521>
- **MESSELOT Simon**
Terahertz Tamm cavities for light-matter coupling with graphene based materials
PhD supervisor : Juliette Mangeney

Defended on December 16, 2021
<https://theses.hal.science/tel-04277116v1>

2022

- **KERJOUAN Romaine**

Synchrotron-like THz emitters based on corrugated graphene

PhD supervisor : Robson Ferreira

Defended on October 6, 2022

- **SONG Chao**

Ultrafast terahertz properties of ultra-thin metallic structures - from terahertz pulses to harmonic generation

PhD supervisor : Sukhdeep Dhillon

Defended on September 27, 2022

2023

- **APRETNA Thibault**

HgTe nanocrystals and graphene quantum dots for THz optoelectronics : intraband absorption, carrier dynamics and coherent THz emission

PhD supervisor : Juliette Mangeney

Defended on March 28, 2023

- **HEMMAT Minoosh**

the Layer-dependent optical properties of two-dimensional PtSe₂ for mid-infrared and terahertz photonics

PhD supervisor : Sukhdeep Dhillon

Defended on November 24, 2023

Team *Physics of Fluctuations, Correlations and Information*

2019

- **GRANET Etienne**
Advanced integrability techniques and analysis for quantum spin chains
PhD supervisor : Jesper Jacobsen
Defended on September 3, 2019
<https://tel.archives-ouvertes.fr/tel-02308192>
- **KRAJENBRINK Alexandre**
Beyond the typical fluctuations: a journey to the large deviations of the Kardar-Parisi-Zhang growth model
PhD supervisor : Pierre Le Doussal
Defended on June 20, 2019
<https://tel.archives-ouvertes.fr/tel-02537219>
- **COUVREUR Romain**
Geometric lattice models and irrational conformal field theories
PhD supervisor : Jesper Jacobsen
Defended on June 25, 2019
<https://tel.archives-ouvertes.fr/tel-02569051>
- **JIN Tony**
From noisy spin chains to quantum exclusion processes: case studies of stochastic open quantum many-body systems
PhD supervisor : Denis Bernard
Defended on September 25, 2019
<https://tel.archives-ouvertes.fr/tel-02879969>

2020

- **ROBERTSON Niall**
Non-compact conformal field theory and lattice models — the open case
PhD supervisor : Jesper Jacobsen
Defended on June 16, 2020
<https://tel.archives-ouvertes.fr/tel-02909756>
- **WALTER Benjamin**
Field Theories for Stochastic Processes
PhD supervisor : Kay Wiese (codirector)
Defended on April 1, 2020
- **LE PRIOL Clément**
Long range interactions in the avalanches of elastic interfaces
PhD supervisor : Pierre Le Doussal
Defended on November 13, 2020
<https://theses.hal.science/tel-03191605>

2021

- **GAUTIÉ Tristan**

Stochastic and quantum dynamics of repulsive particles: from random matrices to trapped fermions

PhD supervisor : Pierre Le Doussal

Defended on November 4, 2021

<https://theses.hal.science/tel-03884840>

2022

- **LAFAY Augustin**

Geometrical lattice models, algebraic spiders and applications to random geometry

PhD supervisor : Jesper Jacobsen

Defended on September 12, 2022

<https://theses.hal.science/tel-03966966v1>

- **TER BURG Cathelijne**

Measurements of the FRG fixed-point function and what we can learn from them

PhD supervisor : Kay Wiese

Defended on March 25, 2022

- **MUKERJEE Gauthier**

The depinning transition of the quenched Kardar-Parisi-Zhang equation

PhD supervisor : Kay Wiese

Defended on December 15, 2022

2023

- **CHERNYAK Dmitry**

Schur-Weyl duality and exact solvability of non-compact quantum lattice models

PhD supervisor : Jesper Jacobsen

Defended on September 22, 2023

- **DIAZ Manuel**

Non-equilibrium theory of resistive switching in strongly correlated quantum materials

PhD supervisor : Denis Bernard

Defended on February 21, 2023

- **GOURAUD Gabriel**

Dynamique hors équilibre et systèmes désordonnés

PhD supervisor : Pierre Ledoussal

Defended on September 21, 2023

Team *Disordered Systems and Applications*

2019

- **GABRIÉ Marylou**
Towards an understanding of neural networks : mean-field incursions
PhD supervisor : Krzakala Florent
Defended on September 20, 2019
<https://tel.archives-ouvertes.fr/tel-02921539>
- **SCALLIET Camille**
Amorphous solids from the glass transition to 1 Kelvin
PhD supervisor : Francesco Zamponi
Defended on September 26, 2019
<https://theses.hal.science/tel-02490838>

2020

- **ROY Félix**
Dynamics of Interacting Species in Ecosystems
PhD supervisor : Giulio Biroli
Defended on November 25, 2020
<https://tel.archives-ouvertes.fr/tel-03105957>
- **SHARMA Dhruv**
Macroeconomic agent-based models : a statistical physics perspective
PhD supervisor : Francesco Zamponi
Defended on November 26, 2020
<https://tel.archives-ouvertes.fr/tel-03199888>
- **BUDZYNSKI Louise**
Algorithmic barriers in random Constraint Satisfaction Problems
PhD supervisor : Guilhem Semerjian
Defended on September 29, 2020
<https://tel.archives-ouvertes.fr/tel-03207370>
- **ABBARA Alia**
Statistical mechanics of inference problems with correlated patterns : an incursion between the replica method and message passing algorithms
PhD supervisor : Krzakala Florent
Defended on November 10, 2020
<https://tel.archives-ouvertes.fr/tel-03497407>
- **DONG Jonathan**
A computational tour on random matrices: computational imaging and optical computing
PhD supervisor : Krzakala Florent
Defended on November 17, 2020
<https://theses.hal.science/tel-03636999>

2021

- **MAILLARD Antoine**
Fundamental limits of high-dimensional estimation : a stroll between statistical physics, probability and random matrix theory
PhD supervisor : Krzakala Florent
Defended on August 30, 2021
<https://tel.archives-ouvertes.fr/tel-03474190>

2022

- **OHANA Ruben**
Leveraging (physical) randomness in machine learning algorithms
PhD supervisor : Florent Krzakala
Defended on September 16, 2022
<https://theses.hal.science/tel-03828849>
- **REFINETTI Maria**
The Role of Architecture, Data Structure and Algorithm in Machine Learning : a Statistical Physics Approach
PhD supervisor : Florent Krzakala
Defended on June 24, 2022
<https://theses.hal.science/tel-03850746>
- **D'ASCOLI Stéphane**
Overparametrization, architecture and dynamics of deep neural networks: from theory to practice
PhD supervisor : Giulio Biroli
Defended on June 22, 2022

2023

- **BISARDI Matteo**
Protein evolution and sequence landscapes
PhD supervisor : Francesco Zamponi
Defended on November 29, 2023
- **FRABOUL Jules**
Eco-evolutionary dynamics of multi-species communities
PhD supervisor : Giulio Biroli
Defended on September 14, 2023
- **VENTURA Enrico**
Demolition and Reinforcement of Memories in Spin Glass-like Neural Networks
PhD supervisor : Francesco Zamponi
Defended on December 1, 2023

Team *Statistical Physics and Inference for Biology*

2020

- **MARCHI Jacopo**
Statistical mechanics of viral-immune co-evolution
PhD supervisor : Thierry Mora, Aleksandra Walczak
Defended on September 23, 2020
<https://tel.archives-ouvertes.fr/tel-03013175>
- **BATTISTA Aldo**
Low-dimensional continuous attractors in recurrent neural networks: from statistical physics to computational neuroscience
PhD supervisor : Rémi Monasson
Defended on October 27, 2020
<https://tel.archives-ouvertes.fr/tel-03203294>
- **MOLARI Marco**
Modeling and Bayesian inference for antibody affinity maturation
PhD supervisor : Simona Cocco
Defended on October 29, 2020
<https://tel.archives-ouvertes.fr/tel-03267835>
- **LEFEBVRE Baptiste**
Online characterization of the retinal network
PhD supervisor : Olivier Marre, Thierry Mora
Defended on December 11, 2020
<https://tel.archives-ouvertes.fr/tel-03272760>

2021

- **ISACCHINI Giulio**
Statistical Learning of Immune Receptor Repertoires
PhD supervisor : Thierry Mora, Aleksandra Walczak
Defended on September 28, 2021
<https://theses.hal.science/tel-04012451v1>
- **ROUSSEL Clément**
Learning and Sampling Complex Landscapes with Restricted Boltzmann Machines: from Theory to the Fitness of the TEM-1 Protein
PhD supervisor : Simona Cocco
Defended on December 2, 2021
<https://theses.hal.science/tel-03774086>
- **FANTHOMME Arnaud**
Recurrent Neural Networks models: inference, representations, and the role of regularization
PhD supervisor : Rémi Monasson
Defended on December 8, 2021
<https://theses.hal.science/tel-04117542v2>

2022

- **SPISAK Natanael**
Statistical inference of evolutionary paths
PhD supervisor : Thierry Mora, Aleksandra Walczak
Defended on July 8, 2022
- **CHARDES Victor**
Inference and modeling of biological networks: from active matter to the immune system
PhD supervisor : Thierry Mora, Aleksandra Walczak
Defended on September 21, 2022
- **BENSOUDA Meriem**
Statistical biophysics models of immune repertoire dynamics
PhD supervisor : Thierry Mora, Aleksandra Walczak
Defended on September 23, 2022
- **MALBRANKE Cyril**
Building synergies between evolution-based and physic-grounded protein modeling: computational design of novel functional Cas9 enzymes
PhD supervisor : Rémi Monasson
Defended on November 30, 2022

2023

- **CAMAGLIA Francesco**
Statistical Analysis of Thymic Maturation
PhD supervisor : Thierry Mora
Defended on June 26, 2023
- **MAURI Eugenio**
Reconstructing evolution with data-driven models: from epistasis inference to mutational paths
PhD supervisor : Simona Cocco
Defended on November 10, 2023
- **RUIZ ORTEGA Maria**
Statistical response in immune repertoires
PhD supervisor : Thierry Mora
Defended on June 27, 2023

Team *Classical and Quantum Many-Body Systems*

2020

- **QIN Liang**
Application of irreversible Monte Carlo in realistic long-range systems
PhD supervisor : Werner Krauth
Defended on October 21, 2020
<https://tel.archives-ouvertes.fr/tel-02998657>

2021

- **DAGARD Victor**
Renormalization and disorder
PhD supervisor : Bernard Derrida
Defended on September 3, 2021
<https://theses.hal.science/tel-03486163v1>

2022

- **LI Botao**
Computation and models: Case studies for hard disks in statistical physics and for deep learning
PhD supervisor : Werner Krauth
Defended on December 14, 2022

2023

- **BIGUÉ Arnaud**
From few- to many-body physics: study of an impurity in a spin-1/2 Fermi superfluid
PhD supervisor : Xavier Leyronas
Defended on September 9, 2023

Team *Theoretical Biophysics and Neuroscience*

2019

- **CONTRERAS Diego**

Modeling morphogenesis of epithelial tissues : from forcestogeometry and back

PhD supervisor : Vincent Hakim

Defended on December 16, 2019

<https://tel.archives-ouvertes.fr/tel-03260200>

2020

- **BERLEMONT Kevin**

From neural coding to descision making

PhD supervisor : Jean-Pierre Nadal

Defended on June 29, 2020

<https://tel.archives-ouvertes.fr/tel-03154023>

2021

- **QU Qiuyang**

Modelling growing epithelium

PhD supervisor : Martine Ben Amar

Defended on July 7, 2021

2022

- **ACKERMANN Joseph**

Gowth and mechanics of cellular structure

PhD supervisor : Martine Ben Amar

Defended on January 24, 2022

<https://theses.hal.science/tel-03885483>

- **KANG Ling**

Oscillations, synchronization and waves in neuronal networks

PhD supervisor : Vincent Hakim

Defended on November 20, 2022

- **NGHIEM Trang-Anh**

Visual coding in the presence of spontaneous neural activity and eye movements

PhD supervisor : Rava Azeredo Da Silveira

Defended on March 28, 2022

- **BLANCO MALERBA Simone**

Encoding and decoding of information through efficient neural representations

PhD supervisor : Rava Azeredo Da Silveira

Defended on December 19, 2022

2023

- **DAI Anna**

Morphogenesis and Growth of Soft Biological tissue

PhD supervisor : Martine Ben Amar

Defended on September 18, 2023

- **TROISI Lucie**

Development of a new class of synthetic gene circuits based on protein-protein interactions

PhD supervisor : Vincent Hakim

Defended on October 13, 2023

Team *Microfluidics, Emulsion and Biology*

2019

- **CHORLAY Aymeric**
Physics of lipid droplet biogenesis
PhD supervisor : Abdou Rachid Thiam
Defended on November 29, 2019
<https://tel.archives-ouvertes.fr/tel-03248641>
- **AJJAJI Dalila**
Interaction of hepatitis C virus core protein with lipid droplets : mechanism and function
PhD supervisor : Abdou Rachid Thiam
Defended on December 20, 2019
<https://theses.hal.science/tel-03700180>

2021

- **SANTINHO Alexandre**
Lipid Droplet Nucleation in the Endoplasmic Reticulum Membrane of the Cell
PhD supervisor : Abdou Rachid Thiam
Defended on December 10, 2021
<https://theses.hal.science/tel-04197641v1>
- **FAUGERAS Vincent**
Cellular Permeability Assessment of Drugs through Biomimetic Droplet Interface Bilayers
PhD supervisor : Abdou Rachid Thiam
Defended on December 16, 2021
<https://theses.hal.science/tel-04268818v1>

2023

- **BHAPKAR Apoorva**
Unmasking the Interplay of SCAP and ACAT in Sterol Sensing and Cholesterol Ester Function Beyond Storage in Lipid Droplets
PhD supervisor : Abdou-Rachid Thiam
Defended on December 6, 2023
- **CARPENTIER Maxime**
Effet de l'absence de Scipin sur l'homéostasie lipidique cellulaire et le trafic des protéines
PhD supervisor : Abdou-Rachid Thiam
Defended on December 13, 2023
- **DUMESNIL Calvin**
Biogenesis of cholesterol-ester-rich lipid droplets
PhD supervisor : Abdou-Rachid Thiam
Defended on December 11, 2023

Team *Multiscale Physics of Living Systems*

2019

- **PERON CANE Caroline**
Monitoring bacterial secreted proteins in real time
PhD supervisor : Nicolas Desprat, Alice Lebreton
Defended on October 7, 2019
<https://tel.archives-ouvertes.fr/tel-03139872>

2020

- **HAMOURI Fatima**
Optical control of protein activity and gene expression by photo-activation of caged-cyclofen for cancer initiation studies
PhD supervisor : David Bensimon
Defended on July 10, 2020

2021

- **RIEU Martin**
Kinetic locking and nanometric tracking of nucleic acid extension using super-resolved magnetic tweezers
PhD supervisor : Jean-François Allemand, Vincent Croquette
Defended on March 15, 2021
<https://theses.hal.science/tel-03612821>

2023

- **EISENMANN Isabelle**
*Phototaxis and collective phenomena in the motile micro-alga *Chlamydomonas reinhardtii**
PhD supervisor : Nicolas Desprat
Defended on December 1, 2023

Team *Membrane Molecular Mechanisms*

2020

- **FAVIER Sophie**

Role of the JUNO oocyte protein in the mechanism of block to polyspermy in mammals

PhD supervisor : Christine Gourier

Defended on May 20, 2020

<https://tel.archives-ouvertes.fr/tel-03482588>

2022

- **THIMONIER Chloé**

Sonosensitive emulsions for therapeutic applications

PhD supervisor : Nicolas Taulier (co-encadrant Wladimir Urbach)

Defended on September 22, 2022

2023

- **DUBOIS Yaelle**

Role and implication of post-fertilization release of CD9 and JUNO in polyspermy block

PhD supervisor : Christine Gourier

Defended on December 15, 2023

Team *Active Cell Matter*

2023

- **AMIRI Sirine**

Quantification of cytoskeleton-nucleus mechanotransduction during cell squeezing through narrow spaces

PhD supervisor : Cecile Sykes

Defended on December 12, 2023

- **d'HUMIERES Johan**

*The mechanical role of the nucleus in cell invasion in *Caenorhabditis elegans**

PhD supervisor : Julie Plastino

Defended on December 7, 2023

Team *Micromegas* : *Nano-Fluidics*

2019

- **POGGIOLI Anthony**
Nonlinear ionic transport at the nanometric and Ångströmetric scales
PhD supervisor : Lydéric Bocquet
Defended on November 28, 2019
<https://tel.archives-ouvertes.fr/tel-02869126>
- **CANALE Luca**
Multiscale ice and snow friction
PhD supervisor : Lydéric Bocquet
Defended on September 12, 2019
<https://tel.archives-ouvertes.fr/tel-03371506>

2020

- **LAINÉ Antoine**
Sliding friction at the nanoscale
PhD supervisor : Alessandro Siria
Defended on September 1, 2020

2021

- **MARCOTTE Alice**
Experimental study of the dynamic properties of the liquid-carbon interface at the nanoscale
PhD supervisor : Lydéric Bocquet
Defended on December 13, 2021
<https://theses.hal.science/tel-04207920v1>
- **EMMERICH Théo**
Activated carbon nanofluidics: from blue energy to ionic memory
PhD supervisor : Lydéric Bocquet
Defended on December 16, 2021
<https://theses.hal.science/tel-03603163>
- **KAVOKINE Nikita**
Many-body effects in nanoscale fluid transport
PhD supervisor : Lydéric Bocquet
Defended on June 30, 2021
<https://theses.hal.science/tel-03332325>

2022

- **DODE Antoine**
On the frictions and motion of rowing boats

PhD supervisor : Lydéric Bocquet
Defended on December 8, 2022

Team *Mechanics, Soft Matter and Morphogenesis*

2020

- **JULES Théo**
Geometry and mechanics of origamis
PhD supervisor : Mokhtar Adda-Bedia
Defended on October 12, 2020
<https://tel.archives-ouvertes.fr/tel-03128874>

2022

- **BOSSERT Marine**
Experimental study of cavitation in mesoporous materials
PhD supervisor : Etienne Rolley
Defended on July 8, 2022
<https://theses.hal.science/tel-03850750>

2023

- **DOUIN Adèle**
Seismic Events Prediction in Knitted Fabric through Deep Learning
PhD supervisor : Frederic Lechenault
Defended on March 20, 2023

Team *Non-Linear Physics*

2021

- **PRABHUDESAI Gaurav**
Fluctuations in turbulent flows
PhD supervisor : Stephan Fauve, François Pétrélis
Defended on February 17, 2021
<https://tel.archives-ouvertes.fr/tel-03192088>
- **VAN KAN Adrian**
Critical transitions in turbulence
PhD supervisor : Alexandros Alexakis, Marc Brachet
Defended on September 9, 2021
<https://theses.hal.science/tel-03979252v1>

2023

- **VERNET Marlone**
Turbulence, transport and thermoelectricity in liquid metals
PhD supervisor : Christophe Gissinger
Defended on October 27, 2023

Team *Fields, Gravity and Strings*

2019

- **DUAN Zhihao**
Topological string theory and applications
PhD supervisor : Amir-Kian Kashani-Poor
Defended on July 8, 2019
<https://tel.archives-ouvertes.fr/tel-02341882>
- **LAVDAS Ioannis**
AdS₄/CFT₃ and quantum gravity
PhD supervisor : Costas Bachas
Defended on October 3, 2019
<https://tel.archives-ouvertes.fr/tel-02966558>
- **ZAN Bernardo**
Studies in strongly coupled quantum field theories and renormalization group flows
PhD supervisor : Slava Rychkov
Defended on November 7, 2019
- **ZHONG Deliang**
Correlation Functions in Integrable Higher-dimensional CFTs
PhD supervisor : Valdimir Kazakov, Benjamin Basso
Defended on September 30, 2019

2020

- **GE Dongsheng**
Quantum information encoded in semi-classical gravity
PhD supervisor : Giuseppe Policastro
Defended on September 28, 2020
<https://tel.archives-ouvertes.fr/tel-03262512>
- **LI Songyuan**
Topological holography
PhD supervisor : Jan Troost
Defended on November 27, 2020
<https://tel.archives-ouvertes.fr/tel-03269600>

2021

- **FERRANDO Gwenael**
Non-compact Integrable Spin Chain for the Conformal Fishnet Theory
PhD supervisor : Vladimir Kazakov
Defended on September 15, 2021
<https://theses.hal.science/tel-03987820v1>

2022

- **QIAO Jiaxin**

On the Wick Rotation of the Four-point Function in Conformal Field Theories

PhD supervisor : Slava Rychkov

Defended on June 14, 2022

- **PAPADOPOULOS Vassilis**

Membranes, Holography and Quantum Information

PhD supervisor : Costas Bachas

Defended on November 22, 2022

2023

- **JARAMILLO DUQUE David**

Topological strings and Higgsing trees

PhD supervisor : Amir-Kian Kashani-Poor

Defended on September 22, 2023

- **SIROIS Benoit**

Développement et application de nouvelles méthodes pour le bootstrap conforme numérique

PhD supervisor : Slava Rychkov

Defended on September 21, 2023

- **ZHENG Zechuan**

Bootstrap Method in Theoretical Physics

PhD supervisor : Miguel Paulos, Vladimir Kazakov

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Team *Astrophysics*

2021

- **BELLOMI Elena**
3D chemical structure of the interstellar medium
PhD supervisor : Michel Pérault, Patrick Hennebelle, Benjamin Godard
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<https://tel.archives-ouvertes.fr/tel-03273709>
- **REGALDO SAINT BLANCARD Bruno**
Statistical modeling of the polarized emission of interstellar dust
PhD supervisor : François Levrier, François Boulanger
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- **DELL'OVA Pierre**
Exploring the interstellar contents of a Pevatron: molecules, dust and star formation in the evolved supernova remnant IC443
PhD supervisor : Maryvonne Gerin, Antoine Gusdorf
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2022

- **RICHARD Thibaud**
Characteristics of turbulent dissipation in the interstellar medium
PhD supervisor : Pierre Lesaffre
Defended on March 30, 2022
<https://theses.hal.science/tel-03850855>
- **CHARTIER Nicolas**
Statistical methods to accelerate forward modelling of galaxy surveys data
PhD supervisor : Nick Kaiser
Defended on October 14, 2022

2023

- **WALTER Clément**
Exploration de l'émission Galactique du CO avec les données de Planck
PhD supervisor : François Levrier
Defended on July 3, 2023

Team Cosmology and Gravitation