

Solène Chabanier

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SCIENTIFIC INTERESTS AND TECHNICAL SKILLS

Observational Cosmology

Large-scale structures, Ly α forest, Clustering, Massive neutrinos, Dark matter, Dark energy

Numerical Methods

Data mining, Spectral analysis, High performance computing, Cosmological hydrodynamical simulation

Large-scale Astrophysics

Galaxy formation, Numerical modeling, Supermassive Black Hole and AGN feedback, Stellar feedback

RESEARCH EXPERIENCES

Postdoctoral Researcher,

Computational Research Division, Lawrence Berkeley National Laboratory
Advisor: Zarija Lukic

2020–Present
Berkeley, CA USA

PhD in Cosmology and Astrophysics,

CEA-Saclay, Paris-Saclay University
Advisors: Nathalie Palanque-Delabrouille and Frédéric Bournaud

2017–2020
Saclay, FR

Neutrino and dark matter cosmology with the Lyman-alpha forest: the interplay between large-scale evolution and small-scale baryonic physics

Master's thesis,

Department of Physics, Imperial College
Advisor: Jonathan Pritchard

May 2017 - Sept 2017
London, UK

Topology of percolating structures during the Epoch of Reionization by means of Minkowski Functionals

Self Study Project,

Department of Physics, Imperial College
Advisor: Steve Warren

Sept 2016 - Mar 2017
London, UK

Search for observational evidences of Cosmic Strings

EDUCATION

Engineering Degree in Computer Sciences,

Télécom Paris
France's leading engineer school in Computer Science

2014-2017
Paris, FR

MS in Fundamental Physics, with high honors

Department of Physics, Imperial College London

2016-2017
London, UK

MS in Computer Sciences,

EURECOM

2015-2016
Sophia Antipolis, FR

Classes Préparatoires in Physics, Mathematics and Chemistry,

Lycée Pasteur

2012-2014
Neuilly, FR

Intensive 2-year scientific track to prepare competitive exams for selective French Grandes Ecoles

APPROVED PROPOSALS

The ACCELL2 simulations (Principal Investigator) 200k GPU hours allocations, Institut du développement des Ressources en Informatique Scientifique (IDRIS)	2020-2021
Extreme-Horizon Simulations (Co-Principal Investigator) 58 million CPU hours allocation on 25.000 CPUs, Très Grand Centre de Calcul (TGCC)	2019-2020

INVITED TALKS AND CONFERENCE PRESENTATIONS

(invited) Action Dark Energy 2020 LPNHE	Oct 2020 Paris, Fr
(invited) Seminar University of Zurich UZH	Sep 2020 Zurich, CH
(invited) Workshop Euclid Cosmological Simulation Working Group Institut de Ciències de l'Espai	Nov 2019 Barcelona, ES
(invited) INPA Seminar Lawrence Berkeley National Laboratory	Nov 2019 Berkeley CA, US
(invited) FLASH Seminar University of Santa Cruz	Nov 2019 Santa Cruz CA, US
(poster) Cosmic Controversies Chicago University	Oct 2019 Chicago IL, US
(contributed) Ramses User Meeting Niels Bohr Institute	Sept 2019 Copenhaguen, DK
(contributed) Lines in the Large Scale Structure Aix Marseille University	Jul 2019 Marseille, FR
(contributed) eBOSS-DESI ANR France Meeting CEA-Saclay	May 2019 Saclay, FR
(contributed) International eBOSS collaboration Meeting Jussieu University	Dec 2018 Paris, FR
(contributed) eBOSS-DESI ANR France Meeting Marseille Astrophysics laboratory	Sept 2018 Marseille, FR

OUTREACH, TEACHING AND SERVICES

PhD and Postdoc representative Representative of PhD students and postdocs at DPhP/CEA-Saclay	2018-2020 Saclay, FR
Virtual Reality Movie: Dive Into The Extreme-Horizon Development of a virtual reality movie for public outreach	2020 Saclay, FR
Contribution to CEA2035 Prospective Strategy Invited, as PhD student, to contribute to the CEA2035 prospective strategy <i>Discussions about major scientific goals of CEA in 2035</i>	Mar 2020 Saclay, FR

Teaching Assistant Astronomy and Astrophysics Doctoral School of Ile de France <i>Numerical simulations and high performance computing</i>	Jan 2020 Paris, FR
Public Conference and Radio interview Astronomical Society of Nantes, <i>Structures in the cosmos: what they tell us about neutrinos and warm dark matter</i>	Jan 2020 Nantes, FR
Public Conference Annual Astronomy Festival <i>Numerical Simulations in Cosmology</i>	Aug 2019 Fleurance, FR
Workshop for informed audience Annual Astronomy Festival <i>Probing the neutrinos masses with Cosmology</i>	Aug 2019 Fleurance, FR
French eBOSS-DESI Workshop organization Organization of the eBOSS-DESI collaboration workshop, 60 people	May 2019 Paris, FR
Public Conference Annual Science Week, <i>The saga of neutrinos: from the infinitely small to the infinitely large</i>	Oct 2018 Paris, FR
Mentoring <i>High-school and Classe Préparatoire students in maths and physics</i>	2016-2020
Organizer of the Télécom Paris Career's Fair <i>Organization of school's recruitment fair in Paris that welcomed 5000 visitors and 113 participating companies</i>	2014 - 2015