BORIS BOLLIET

French, born on March 11th 1990 (33 years old)
Phone: +33781267783 ⋄ *email:* boris.bolliet@gmail.com ⋄ *webpage:* borisbolliet.github.io

Senior Research Associate at Cambridge University (DAMTP) Starting September 2022
Guest Researcher at the Flatiron Institute (CCA) in New York
Co-Leading the SZ analysis working group in *The Simons Observatory*
Member of ACT, SO, CMB-S4 and LSST DESC

Previous Positions:
Research Associate at Columbia University September 2020 - August 2022
Post-doc in Colin Hill's group
Research Associate at the University of Manchester September 2017 - August 2020
ERC-funded position in Jens Chluba's group

Research Interests: Theoretical, Observational, Computational Cosmology and Astrophysics. Thermal and kinetic Sunyaev Zeldovich Effects, Weak Lensing, CMB Spectral Distortions, Dark Matter, Dark Energy, Inflation.

Citation Summary: 38 citeable papers/28 published - Total citations: 594 - Citations/paper: 15.6 h-index: 16 - Link to publication list: inspire-hep.

EDUCATION

Université Grenoble Alpes September 2013 - August 2017
Grenoble, France
Ph.D. (2017), M.A. Phys. (2014)
Ph.D. Thesis: *Beyond Einstein's Theory of Gravitation: Some Aspects of Loop Quantum Cosmology, Black Holes and the Dark Universe*
Thesis Advisor: Aurélien Barrau

École Normale Supérieure de Lyon September 2009 - August 2014
Lyon, France
S.B. Phys. (2010), M.A. Phys. (2014)

Lycée Louis-Le-Grand September 2007 - August 2009
Paris, France
Classes Préparatoires in Physics (Selective scientific studies for the French Grandes Écoles)

OTHER POSITIONS HELD

Fulbright Fellow at Louisiana State University August - December 2016
Baton Rouge, LA, USA
Fulbright Visiting Student Researcher
Research Project: *Non-Gaussianity in Loop Quantum Cosmology*
Advisor: Ivan Agullo

Intern at The University of Manchester March - August 2014
Manchester, UK
Master's Thesis: *The Equation of State Approach to Cosmological Perturbations in Dark Energy*
Thesis Advisor: Richard Battye

Consultant at the French Embassy in India July - December 2012
New Delhi, India
Project: *Report on the Scientific Landscape and Higher Education in India*
Advisor: Véronique Briquet-Laugier

Intern at Brookhaven National Laboratory June - August 2010
Upton, NY, USA
Bachelor's Thesis: *Two-particle correlations in heavy ion collisions at RHIC*
Thesis Advisor: Paul Sorensen

HONORS AND AWARDS

Selected Participant at the Aspen Center for Physics workshop on CMB	2021
Fulbright Fellowship (∼15 Grantees/year in France)	2016
Invited Young Scientist at the Lindau Nobel Laureate Meeting	2016
Diplôme de l'ENS Lyon, awarded for my work at the French Embassy in India	2014
Élève de l'ENS Lyon (∼30 positions/year in Physics)	2009-2014

TEACHING EXPERIENCE

Modern Cosmology - Columbia Science Honors Program Since September 2021
New York, USA
Saturday morning program specifically designed for selected high school students
Teaching the full course (2h weekly)

Invited Lecturer at the Bard Summer School On Quantum Gravity June 2019
Bard College, Annandale-On-Hudson, NY, USA
Lecture and Computing Lab on CMB phenomenology (∼6h)

Assistant in Instruction at Université Grenoble Alpes 2015-2017
Grenoble, France
- Numerical Methods in Physics (Lecture and Computing Lab ∼40h)
- Special Relativity (Exercise Classes ∼20h)
- Nuclear Physics (Lab and Exercise Classes ∼40h)
- Data Analysis (Computing Lab ∼20h)

SEMINARS & CONFERENCE PRESENTATIONS

Below are the main topics I have covered in my talks and the list of places I visited.

Cosmological Constraints with the thermal and kinetic Sunyaev Zeldovich effects Talks given at Yale, Princeton, Stony Brook, NYU/CCA, Oxford (invited), Grenoble (invited), Geneva, Munich, Marcel Grossmann, Moriond, MPA, IAS Paris, Sesto, Aspen in 2017-2021.

CMB Spectral Distortions from Photon Injection Processes
Talks given at Marcel Grossmann Meetings, Barcelona, CCA, Cambridge in 2018-2021.

Cosmological Perturbations in Dark Energy and Modified Gravity
Talks given at Radboud University, ENS Lyon, Marcel Grossmann, Geneva, Manchester, in 2014-2017.

Phenomenology of Loop Quantum Cosmology
Talks given at Perimeter Institute, Penn State, LSU, Erlangen, CPT Marseille, Krakow, in 2013-2017.

SERVICES TO THE PROFESSION & OUTREACH

Referee for *Physical Review*, *Reviews of Modern Physics* and *Classical and Quantum Gravity*.
Organizer of the theory seminars at Columbia (since September 2021).
Organizer of the weekly Journal Club at JBCA, Manchester (2018-19).
Organizer of the weekly Student Seminars at Université Grenoble Alpes (2015-17).
Outreach Talks in schools, community centers and at private events.

SKILLS

Languages	French (Native); English (Fluent); Spanish (Conversational); Italian, Romanian, Hindi (Basics).
Coding	C/C++, Python, Jupyter Notebook, Mathematica, Git, Latex (Expert); Fortran, HTML (Advanced);
Astrophysics Software	`CLASS`, `Cobaya`, `MontePython`, ,`CCL`, `SZFAST`, `CAMB`, `CosmoMC`.

COMPUTING PROJECTS

Main Author

- `CLASS_SZ`: Full-fledged parallelized halo model code
- `CLASS_EOS_FR`: Cosmological perturbations in Horndeski theory
- `CLASS_LQC`: Primordial power spectrum and non-gaussianity in loop quantum cosmology

Co-Author

- `CosmoTherm`: CMB Spectral Distortions (lead: Jens Chluba, *unreleased*)
- `BremsstrahlungPKG`: Gaunt Factors in Astrophysics (lead: Jens Chluba, *unreleased*)
- `EOS_CLASS`: Cosmological Perturbations in Horndeski Models (lead: Francesco Pace)