

# BORIS BOLLIET

*French, born on March 11th 1990 (33 years old)*

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## Assistant Teaching Professor

Since April 2024

*MPhil in Data Intensive Science, Department of Physics, University of Cambridge*

SZ Group Leader in *The Simons Observatory* collaboration

Member of Kavli Institute for Cosmology, Cambridge (since 2023)

Visiting Researcher at the University of Manchester (since 2021)

Member of ACT, SO, CMB-S4, LSST DESC and NIKA2 collaborations

## *Previous Positions:*

### Senior Research Associate at the DAMTP, Cambridge

September 2022 - April 2024

*ERC-funded position in Blake Sherwin's group*

Guest Researcher at the Flatiron Institute (CCA) in New York

March 2021 - September 2023

### 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, Artificial Intelligence, Machine Learning, Thermal and kinetic Sunyaev Zeldovich Effects, Weak Lensing, CMB Spectral Distortions, Dark Matter, Dark Energy, Inflation.

**Citation Summary:** 44 citeable papers (31 published) - Total citations: 1,223 (1,100 published) - Citations per paper: 27.8 (35.5 published) - h-index: 21 - Link to publication list: [inspire-hep](#).

## EDUCATION

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### 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

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### 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**

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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**

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<b>Lecturer in the MPhil in Data Intensive Science</b>	Since 2024
Artificial Intelligence, Machine Learning, Statistics, Computing	
<b>Assistant in Instruction for Part III and Part II at Cambridge</b>	2022 - 2023
Advanced Cosmology Part III (Prof. Blake Sherwin)	
Field theory in cosmology Part III (Prof. Enrico Pajer)	
General Relativity Part II (Prof. Aron Wall)	
<b>Modern Cosmology - Columbia Science Honors Program</b>	2021 - 2022
New York, USA	
Saturday morning program specifically designed for selected high school students	
Teaching the full course (2h weekly)	
<b>Invited Lecturer at the Bard Summer School On Quantum Gravity</b>	June 2019
Bard College, Annandale-On-Hudson, NY, USA	
Lecture and Computing Lab on CMB phenomenology (~6h)	
<b>Assistant in Instruction at Université Grenoble Alpes</b>	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**

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**Cosmological Constraints with the thermal and kinetic Sunyaev Zeldovich effects** Talks given at Kyoto TITP (invited), Yale, Princeton (invited), Stony Brook, NYU/CCA, Oxford (invited), Grenoble (invited), Geneva, Munich, Marcel Grossmann, Moriond, MPA, IAS Paris, Sesto, Aspen, in 2017-2023.

**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.

SERVICES TO THE PROFESSION & OUTREACH

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Organizer of the CMB-France meeting (december 2023).  
Organizer of Aspen workshop on cluster cosmology (Summer 2023).  
Referee for *Physical Review*, *Reviews of Modern Physics* and *Classical and Quantum Gravity*.  
Organizer of the cosmology journal club at DAMTP (since 2023).  
Organizer of the theory seminars at Columbia (2021-22).  
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

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