Mathieu Remazeilles CURRICULUM VITAE

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EMPLOYMENT

2021 – CSIC Tenured Research Scientist, Consejo Superior de Investigaciones Científicas (CSIC), Institute of Physics of Cantabria, University of Cantabria, Spain

2020 – 2021 Research Fellow, Jodrell Bank Centre for Astrophysics, University of Manchester, UK

2013 – 2020 Postdoctoral Researcher, Jodrell Bank Centre for Astrophysics, University of Manchester, UK

2011 – 2013 Postdoctoral Researcher, Institut d'Astrophysique Spatiale, University of Paris 11, France

2009 – 2011 Postdoctoral Researcher, AstroParticule et Cosmologie (APC), University of Paris 7, France

2008 – 2009 Teaching and Research Assistant, University of Paris 11, France

EDUCATION

2005 – 2009 PhD in Theoretical Physics (advisor: Martin A. Bucher), University of Paris 11, France
Thesis: "Evolution of cosmological perturbations in braneworld universes" (highest honours)

2004 – 2005 Master (5th year) of Theoretical Physics, École Normale Supérieure, Paris, France

2003 – 2004 Master (4th year) of Fundamental Physics, University of Paris 11, France
(ranked 1st with highest honours)

2002 – 2003 Bachelor (3rd year) of Fundamental Physics, University of Paris 11, France
(ranked 1st with highest honours)

2001 – 2004 Engineer's degree of Ecole Nationale Supérieure de Techniques Avancées (ENSTA), Paris, France. French "Grande Ecole" in Engineering and Applied Mathematics.

TEACHING EXPERIENCE

2020 – 2021 Teaching Assistant (1 hour per week) in quantum mechanics, electromagnetism, and mathematics for undergraduate students in Physics at the University of Manchester, UK.

Dec 2019 Invited Lecturer at the XIII Tonale Winter School of Cosmology, Passo del Tonale, Italy.
Four lectures on CMB polarization and spectral distortions.

Apr 2013 Invited Teaching Assistant (8 hours) in data analysis for PhDs at the International Young Astronomer School on Exploiting the Herschel and Planck data, Paris Observatory, France.

2008 – 2009 Teaching Assistant (96 hours) in mathematics, electromagnetism, mechanics, and optics for undergraduate students in Physics at the University of Paris 11, France.

Oct 2007 Invited Teaching Assistant (16 hours) in probability and statistics for master students at the African Institute for Mathematical Sciences (AIMS), Cape Town, South Africa.

2005 – 2008 Teaching Assistant (192 hours) in statistical physics, wave physics, solid mechanics, geometrical optics for undergraduate students in Physics at University of Paris 11, France.

AWARDS

Gruber Cosmology Prize to the Planck team (Aug 2018)
Marcel Grossmann Award to the Planck scientific collaboration (Jul 2018)
Royal Astronomical Society 2018 Group Achievement Award to the Planck team (Jan 2018)

REFEREE

Nature Astronomy, Physical Review Letters, *Physical Review D, The Astrophysical Journal*, *Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, *Journal of Cosmology and Astroparticle Physics*

SCIENTIFIC RESPONSIBILITIES

2022 – Supervisor of PhD student Jyothis Chandran (on leave) at the University of Cantabria, Spain.

2019 – Coordinator and co-leader of the Science White Paper "CMB Backlight" in response to the ESA Voyage 2050 call for the long-term European space science programme.

2018 – Member of the CMB collaborations *LiteBIRD*, *PICO*, CMB-S4 and Simons Observatory.

2016 – *LiteBIRD*: Co-lead of the Project Study Group on SZ science for the next-generation CMB satellite mission *LiteBIRD*, primarily dedicated to the search for primordial CMB B-modes and selected by the Japanese space agency JAXA for a launch in 2032.

2016 – 2018 *CORE*: Coordinator of the Foregrounds Working Group for the European CMB space mission *CORE*, proposed to ESA in 2017. Lead Author of a *CORE* Collaboration paper.

2014 – 2016 International Space Science Institute: invited member of an international team of 11 scientists in charge of the joint *Planck* - Atacama Cosmology Telescope (ACT) analysis for galaxy cluster cosmology. Two-year funded project: "SZ clusters in the Planck era".

2014 – BINGO: collaborator of the radio telescope experiment BINGO, a funded SKA pathfinder in Brazil, dedicated to BAO measurements through HI 21-cm line intensity mapping.

2014 – 2018 Co-supervisor of three PhD students at the University of Manchester: Lucas Olivari (2014-2017), Carlos Hervias (2014-2017; University of Florida), Tianyue Chen (2015-2018; MIT).

2011 – 2018 *Planck* Scientist for the CMB space mission *Planck*, launched by ESA in May 2009. Corresponding Author of two *Planck* Collaboration papers.

SELECTED CONFERENCES (INVITED SPEAKER)

- 22-24 Nov 2023: "*IX Meeting on Fundamental Cosmology*", Tenerife, Spain
- 12-15 Dec 2022: "*Galactic science and CMB foregrounds*", Tenerife, Spain
- 23-27 May 2022: "*From Planck to the future of CMB*", Ferrara, Italy
- 5-10 July 2021: "*16th Marcel Grossmann Meeting*" (remotely), Rome, Italy
- 16-19 Dec 2019: "*B-mode from space*", Max Planck Institute, Garching, Germany
- 15-18 Oct 2018: "*CMB foregrounds for B-mode studies*", Tenerife, Spain
- 1-7 Jul 2018: "*15th Marcel Grossmann Meeting*", Rome, Italy
- 12-16 Mar 2018: "*Probing fundamental physics with CMB spectral distortions*", CERN, Switzerland
- 29 Nov-1 Dec 2017: "*CMB foregrounds workshop*", UCSD, San Diego, USA
- 11-16 Jul 2016: "*CMB spectral distortions from cosmic baryon evolution*", Bangalore, India
- 4-8 Jul 2016: "*European Week of Astronomy and Space Science*", Athens, Greece
- 17-20 May 2016: "*Towards a next space probe for CMB observations and cosmic origins exploration*", CERN, Geneva, Switzerland (invited speaker & chairperson of the session on foregrounds)

SELECTED PUBLICATIONS (210 refereed publications. H-index: 98. Source: SAO/NASA ADS)

- **Planck Collaboration (corresponding author: Remazeilles, M.**; 200+ co-authors), *"Planck 2015 results. XXII. A map of the thermal Sunyaev-Zeldovich effect"*, A&A 594, A22 (2016). **348 citations.**
- **Planck Collaboration (corresponding author: Remazeilles, M.**; 150+ co-authors), *"Planck intermediate results. XLVIII. Disentangling Galactic dust emission and cosmic infrared background anisotropies"*, A&A 596, A109 (2016). **270 citations.**
- **Remazeilles, M.**, et al (100+ co-authors), *"Exploring Cosmic Origins with CORE: B-mode component separation"*, JCAP 04, 023 (2018). **73 citations.**
- **Remazeilles, M.**, Dickinson, C., Eriksen, H. K., Wehus, I. K., *"Sensitivity and foreground modelling for large-scale CMB B-mode polarization satellite missions"*, MNRAS 458, 2032 (2016). **88 citations.**
- **Remazeilles, M.**, Dickinson, C., Banday, A. J., Bigot-Sazy, M.-A., Ghosh, T., *"An improved source-subtracted and destriped 408 MHz all-sky map"*, MNRAS 451, 4311 (2015). **248 citations.**
- **Remazeilles, M.**, Delabrouille, J., Cardoso, J.-F., *"CMB and SZ effect separation with constrained Internal Linear Combinations"*, MNRAS 410, 2481 (2011). **183 citations.**
- **Remazeilles, M.**, Delabrouille, J., Cardoso, J.-F., *"Foreground separation with generalized Internal Linear Combinations"*, MNRAS 418, 467 (2011). **150 citations.**
- **Remazeilles, M.**, Rotti, A., Chluba, J., *"Peeling off foregrounds with the constrained moment ILC method to unveil primordial CMB B-modes"*, MNRAS 503, 2478 (2021). **63 citations**.
- **Remazeilles, M.**, Bolliet, B., Rotti, A., Chluba, J., *"Can we neglect relativistic temperature corrections in the Planck thermal SZ analysis?"*, MNRAS 483, 3459 (2019). **48 citations.**