

Xavier Kervyn

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Born on 18 May 2001. Belgian

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RESEARCH INTERESTS

Keywords: quantum gravity, supergravity, formal string theory, black holes, asymptotic symmetries, symmetries and dualities, SUSY, integrability, twistor theory, celestial amplitudes, holography

RESEARCH EXPERIENCE IN THEORETICAL PHYSICS

Università degli Studi di Padova, Padova, Italy

Summer Research Student, Department of Physics and Astronomy – Theoretical Physics 2023

- Will join [Prof. Alessandro Sfondrini](#) to work on the spectrum of a new integrable 2D QFT, deriving its Bethe Ansatz and looking at its relations to string theory & the holographic conjecture in AdS_3

EDUCATION

Peterhouse, University of Cambridge, Cambridge, United Kingdom

Master of Advanced Study in Applied Mathematics 2022-23

- Part III essay (thesis): *BMS Symmetries of Gravitational Scattering* ([Dr. Prahar Mitra](#))
- Coursework in theoretical physics: QFT; GR; string theory; SUSY; symmetries, particles and fields

Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Bachelor of Science in Physics 2019-22

- Final year at **ETH Zürich** (Zurich, Switzerland) in the frame of the Swiss-Mobility program
- Final year summer project within the CMS collaboration at **CERN** ([Dr. Simone Pigazzini](#))
- Semester project within the Exoplanets and Habitability group: LIFE mission ([Prof. Sascha Quanz](#))

SELECTED AWARDS, GRANTS & SCHOLARSHIPS

Annual Scholarship – *Swiss Study Foundation* 11/2022

CHF 20'000 awarded for Masters studies at the University of Cambridge [[press statement](#)]

Excellence Scholarship – *Colbianco Stiftung* 08/2022

CHF 2'000 awarded for Masters studies at the University of Cambridge

Fellowship – *e-fellows.net* 06/2022

Admitted to the career and student network due to my results and extracurricular commitment

Swiss Study Foundation Fellowship – *Swiss Study Foundation* 05/2022

The SSF supports outstanding students able to contribute to science and society

Swiss Mobility Program grant – *Ecole Polytechnique Fédérale de Lausanne* 09/2021

CHF 1'500 awarded due to my results to pursue my studies at ETH Zurich

Baccalaureate Merit Award – *Région Provence-Alpes Côte d'Azur* 07/2019

Awarded for achieving the highest distinction at the French Baccalaureate

Prix Maupassant de la Jeune Nouvelle – *Assoc. des Membres d'Or de la Palme Académique* 07/2016

Literary prize, awarded for an essay on the First World War

PUBLICATIONS & PREPRINTS

1. No peer-reviewed publications yet, working on it!

CONFERENCES, SCHOOLS AND WORKSHOPS ATTENDED (*scheduled)

*XIX Modave Summer School in Mathematical Physics, Modave, Belgium [link]	09/2023
*Advanced school on [...] celestial holography (Celestial 2023), Warsaw, Poland [link]	08/2023
*Integrability, Dualities and Deformations 2023, Durham, UK [link]	07/2023
*Young Researchers Integrability School & Workshop 2023, Durham, UK [link]	07/2023
Eurostrings 2023, Gijon, Spain [link]	04/2023
Young Physicists Forum 2022, ETH Zürich, Switzerland [link]	05/2022

CONTRIBUTED TALKS & SEMINARS

DAMTP Part III Seminar Series, University of Cambridge <i>Gravitational Scattering and covariant phase space methods in Gravity</i>	03/2023
DAMTP Part III Seminar Series, University of Cambridge <i>Holography and Twistor methods in AdS_5</i>	12/2022
Group Seminar, ETH Zürich HEP group & CERN CMS collaboration <i>Towards an automatized analysis framework for the upcoming HL-LHC CMS ECAL upgrade</i>	07/2022
LIFEsim Seminar, ETH Zürich Exoplanets and Habitability Group <i>Characterisation of the impact of non-perfect nulls on the detectable planet population by LIFE</i>	12/2021

TEACHING EXPERIENCE

Volunteer Tutor , <i>Village Book Builders</i> (remote) <ul style="list-style-type: none">• 1:1 weekly online tutoring sessions with a 13yo. child in Mukono, Uganda	2022-23
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SPECIFIC SKILLS

Languages: French (native); English, German (full working proficiency)
Programming: C++ (OOP), Python (NumPy, Pandas, Matplotlib, Seaborn, Plotly.express, SciPy)
Data Analysis: Python (advanced), MATLAB (intermediate), Microsoft Excel (elementary)
Scientific work: \LaTeX , Mathematica, scientific writing, funding search and application

ACADEMIC REFERENCES

- **Dr. Prahar Mitra** (*Part III essay setter*)
Office B0.02, Department of Applied Mathematics & Theoretical Physics, University of Cambridge, Wilberforce Road, Cambridge CB3 0WA, UK.
Email: pm729@damtp.cam.ac.uk
- **Prof. Matthias Gaberdiel** (*Lecturer for Quantum Mechanics I*)
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