

Claudia Rella

claudia.rella@unige.ch | claudia.rella@cern.ch | <https://www.claudiarella.com>

Department of Theoretical Physics, University of Geneva

Quai Ernest Ansermet 24, 1205 Geneva, Switzerland

EDUCATION

- Doctor of Philosophy in Mathematical Physics 2020, Oct – present
Department of Theoretical Physics, University of Geneva, Switzerland
Thesis: Supervised by Prof Marcos Mariño.
Affiliations: ERC SyG ReNewQuantum – NCCR SwissMAP.
- Master of Science in Mathematical and Theoretical Physics – Distinction 2018, Oct – 2019, Jun
Mathematical Institute and Department of Physics, University of Oxford, UK
Thesis: *Motivic Amplitudes*. Supervised by Prof Francis Brown.
Affiliations: St John's College.
- Bachelor of Science in Physics (*) – Summa cum Laude 2015, Oct – 2018, Jun
Department of Physics, Sapienza University of Rome, Italy
Thesis: *Photonic Bloch Waves*. Supervised by Prof Fabio Sciarrino.
(*) : Extra-curricular coursework in Mathematics at the Department of Mathematics.

RESEARCH EXPERIENCE AND INTERSHIPS

- Research Internship in High Energy Physics Phenomenology 2020, Jul – Sep
CERN, Geneva, Switzerland
- Master Class in Mathematical Physics 2019, Oct – 2020, Jun
University of Geneva and NCCR SwissMAP, Geneva, Switzerland
- Business Consulting Internship 2019, Jul – Aug
Pangea Formazione, Rome, Italy
- Research Internship in Experimental Particle Physics 2017, Sep – Nov
PADME @ INFN – LNF, Frascati, Italy

OTHER ACTIVITIES

- Cooperation Associate of the Department of Theoretical Physics 2022, May – present
European Organization for Nuclear Research (CERN), Switzerland
- Junior Member of the Scientific Council of the SRS Conference Centre 2020, Sep – present
SwissMAP Research Station (SRS), Switzerland
- Invited Contributor to the Theory Frontier of the 2021-22 Snowmass Process 2020, Aug – present
Division of Particles and Fields of the American Physical Society, US
- Mentee at LeadTheFuture Mentorship Program 2019, Sep – present
LeadTheFuture, Italy

PUBLICATIONS

- Resurgence, Stokes constants, and arithmetic functions in topological string theory 2022, Dec
arXiv:2212.10606, <https://doi.org/10.48550/arXiv.2212.10606>
- Searching for muonphilic dark sectors with proton beams 2022, Aug
With B. Döbrich and T.-T. Yu, Phys. Rev. D 106 (2022) 3, 035023, <https://doi.org/10.1103/PhysRevD.106.035023>

An introduction to motivic Feynman integrals <i>SIGMA 17 (2021), 032, 56 pages, https://doi.org/10.3842/SIGMA.2021.032</i>	2021, Mar
Characterization and performance of PADME's Cherenkov-based small-angle calorimeter <i>With A. Frankenthal et al., Nucl. Instrum. Methods Phys. Res. A 919 (2019) 89-97, https://doi.org/10.1016/j.nima.2018.12.035</i>	2019, Mar

TALKS

Stokes Constants in Topological String Theory <i>Workshop on Mathematics of Beyond All-Orders Phenomena, University of Cambridge, UK</i>	2022, Nov
Introduction to Motivic Amplitudes <i>Research Seminar on Lie Groups and Moduli Spaces, University of Geneva, Switzerland</i>	2019, Nov
Motivic Scattering Amplitudes <i>Conference on Representation Theory and Integrable Systems, ETH Zürich, Switzerland</i>	2019, Aug
Monte Carlo Simulation of PADME's Small-Angle Calorimeter <i>PADME Weekly Meeting, INFN – LNF, Italy</i>	2017, Dec

TEACHING EXPERIENCE

Lecturer on Topological Surfaces <i>Master Class in Mathematical Physics – Department of Mathematics, University of Geneva, Switzerland</i>	2019, Oct
Lecturer on Riemannian Geometry <i>Excellence Program in Physics – Department of Mathematics, Sapienza University of Rome, Italy</i>	2018, Mar – May

ACADEMIC ACHIEVEMENTS AND SCHOLARSHIPS

Excellence Fellowship <i>NCCR SwissMAP, Switzerland</i>	2019
Degree Prize for Distinction <i>St John's College, University of Oxford, UK</i>	2019
Torno Subito Scholarship <i>Department of Education, Research and University, Lazio, Italy</i>	2018
Best Student Award for the Course in Nuclear and Subnuclear Physics <i>Sapienza University of Rome and INFN, Italy</i>	2018
Summer Student Scholarship <i>INFN, Italy</i>	2017
Excellence Program <i>Department of Physics, Sapienza University of Rome, Italy</i>	2016 – 2018
Deserving Student Scholarship <i>Sapienza University of Rome, Italy</i>	2015 – 2018

SKILLS

Languages	Italian (native), English
Programming Languages	C, C++, Python, R
Data Analysis Languages	MATLAB, ROOT, gnuplot
Symbolic Calculus Languages	Mathematica
Version-control Systems	Git
Simulation Software	Geant4

