Claudia Rella

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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 INTERNSHIPS

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

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 — 2021, Mar
SIGMA 17 (2021), 032, 56 pages, https://doi.org/10.3842/SIGMA.2021.032

Characterization and performance of PADME's Cherenkov-based small-angle calorimeter — 2019, Mar

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

TALKS AND SEMINARS

Resurgence, Stokes Constants, and Arithmetic Functions in Topological String Theory — 2023, Apr
Mathematics Seminar, IHES, France

Resurgence, Stokes Constants, and Arithmetic Functions in Topological String Theory — 2023, Mar
Physical Mathematics Seminar, University of Geneva, Switzerland

Stokes Constants in Topological String Theory — 2022, Nov
Workshop on Mathematics of Beyond All-Orders Phenomena, University of Cambridge, UK

Introduction to Motivic Amplitudes — 2019, Nov
Seminar on Lie Groups and Moduli Spaces, University of Geneva, Switzerland

Motivic Scattering Amplitudes — 2019, Aug
Conference on Representation Theory and Integrable Systems, ETH Zürich, Switzerland

Monte Carlo Simulation of PADME's Small-Angle Calorimeter — 2017, Dec
PADME Weekly Meeting, INFN – LNF, Italy

TEACHING EXPERIENCE

Lecturer on Topological Surfaces — 2019, Oct
Master Class in Mathematical Physics – Department of Mathematics, University of Geneva, Switzerland

Lecturer on Riemannian Geometry — 2018, Mar – May
Excellence Program in Physics – Department of Mathematics, Sapienza University of Rome, Italy

ACADEMIC ACHIEVEMENTS AND SCHOLARSHIPS

Excellence Fellowship — 2019
NCCR SwissMAP, Switzerland

Degree Prize for Distinction — 2019
St John's College, University of Oxford, UK

Torno Subito Scholarship — 2018
Department of Education, Research and University, Lazio, Italy

Best Student Award for the Course in Nuclear and Subnuclear Physics — 2018
Sapienza University of Rome and INFN, Italy

Summer Student Scholarship — 2017
INFN, Italy

Excellence Program — 2016 – 2018
Department of Physics, Sapienza University of Rome, Italy

Deserving Student Scholarship — 2015 – 2018
Sapienza University of Rome, Italy

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