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 – 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 – 2019
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 – 2018
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, Sep – 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
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   2023, Nov
Commun. Number Theory Phys. 17 (2023), No. 3, pp. 709-820
https://dx.doi.org/10.4310/CNTP.2023.v17.n3.a4

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, Jul
29th Nordic Congress of Mathematicians with EMS, Aalborg, Denmark	
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	
An 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 Seminar, 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 – 2020
NCCR SwissMAP, Switzerland	
Degree Prize for Distinction	2019
St John's College, University of Oxford, UK	
Torno Subito Scholarship	2018 – 2019
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, SageMath, PARI/GP
Version-control Systems	Git
Simulation Software	Geant4