

# Claudia Rella

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## EDUCATION

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### Doctor of Philosophy in Mathematical Physics

*Department of Theoretical Physics, University of Geneva, Switzerland*

Thesis: Supervised by Prof Marcos Mariño.

Affiliations: ERC SyG ReNewQuantum – NCCR SwissMAP.

2020, Oct – present

### Master of Science in Mathematical and Theoretical Physics – Distinction

*Mathematical Institute and Department of Physics, University of Oxford, UK*

Thesis: *Motivic Amplitudes*. Supervised by Prof Francis Brown.

Affiliations: St John's College.

2018, Oct – 2019, Jun

### Bachelor of Science in Physics <sup>(\*)</sup> – Summa cum Laude

*Department of Physics, Sapienza University of Rome, Italy*

Thesis: *Photonic Bloch Waves*. Supervised by Prof Fabio Sciarrino.

<sup>(\*)</sup>: Extra-curricular coursework in Mathematics at the Department of Mathematics.

2015, Oct – 2018, Jun

## RESEARCH EXPERIENCE AND INTERNSHIPS

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### Theoretical Particle Physics Research Internship

*NA62 @ CERN, Geneva, Switzerland*

2020, Jul – Sep

### Mathematical Physics Master Class

*University of Geneva and NCCR SwissMAP, Geneva, Switzerland*

2019, Oct – 2020, Jun

### Business Consulting Internship

*Pangea Formazione, Rome, Italy*

2019, Jul – Aug

### Experimental Particle Physics Research Internship

*PADME @ INFN – LNF, Frascati, Italy*

2017, Sep – Nov

## OTHER ACTIVITIES

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### Junior Member of the Scientific Council of the SRS Conference Centre

*SwissMAP Research Station (SRS), Switzerland*

2020, Sep – present

### Invited Contributor to the Theory Frontier of the 2021-22 Snowmass Process

*Division of Particles and Fields of the American Physical Society, United States*

2020, Aug – present

### Mentee at LeadTheFuture Mentorship Program

*LeadTheFuture, Italy*

2019, Sep – present

## PUBLICATIONS

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### An Introduction to Motivic Feynman Integrals

*SIGMA* 17 (2021), 032, 56 pages, <https://doi.org/10.3842/SIGMA.2021.032>

2021, Mar

### Characterization and Performance of PADME's Cherenkov-Based Small-Angle Calorimeter

*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>

2019, Mar

## TALKS

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### Introduction to Motivic Amplitudes

*Research Seminar on Lie Groups and Moduli Spaces, University of Geneva, Switzerland*

2019, Nov

<b>Motivic Scattering Amplitudes</b> <i>Conference on Representation Theory and Integrable Systems, ETH, Zürich, Switzerland</i>	2019, Aug
<b>Monte Carlo Simulation of PADME's Small-Angle Calorimeter</b> <i>PADME Weekly Meeting, INFN – LNF, Frascati, Italy</i>	2017, Dec

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## TEACHING EXPERIENCE

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

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## ACADEMIC ACHIEVEMENTS AND SCHOLARSHIPS

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

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## SKILLS

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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