

# SIMONE ROMITI

simone.romiti.1994@gmail.com | [Webpage](#) | [Github](#) | [LinkedIn](#) | [Orcid](#)

## EDUCATION

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<a href="#">Roma Tre University</a>	Rome, Italy
<b>PhD in Theoretical Physics</b> (Dissertation 22 April 2022)	2018 – 2021
<ul style="list-style-type: none"><li>• <b>1st in ranking</b> for public admission exam to PhD program</li><li>• Affiliation with <b>INFN (Istituto Nazionale di Fisica Nucleare)</b></li><li>• <b>Tutorial sessions and teaching assistant</b> for undergraduate courses</li></ul>	
<a href="#">Roma Tre University</a>	Rome, Italy
<b>M.S. in Theoretical Physics of Elementary Particles</b>	2016 – 2018
<ul style="list-style-type: none"><li>• <b>Final grade:</b> 110/110 <i>cum laude</i>, <b>GPA: 29.85/30</b></li></ul>	
<a href="#">Roma Tre University</a>	Rome, Italy
<b>B.S. in Physics</b>	2013 – 2016
<ul style="list-style-type: none"><li>• <b>Final grade:</b> 110/110 <i>cum laude</i>, <b>GPA: 28.84 / 30</b></li><li>• <b>Merit Scholarship</b> awarded for top high school marks and academic excellence.</li></ul>	

## WORK EXPERIENCE

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<a href="#">University of Bern</a>	Apr 2024–Present
<i>Postdoctoral Researcher</i>	Bern, Switzerland
<ul style="list-style-type: none"><li>• <b>Innovative method</b> using <b>Physics-Informed Neural Networks (PINNs)</b> → exponential to polynomial scaling of memory</li><li>• <b>Reference scientist</b> for <b>Hadronic Vacuum Polarization (HVP)</b> analysis of Bern group → sub-permille precision achievement</li><li>• <b>Pole contribution</b> to <b>Hadronic Light-by-Light contribution to <math>(g - 2)_\mu</math></b> → achieved <math>N^6</math> to <math>N \log(N)</math> scaling improvement</li><li>• <b>Main developer</b> of open-source libraries → my code for and Monte Carlo simulations led to scientific publications</li><li>• <b>Supervision of PhD students</b></li></ul>	
<a href="#">University of Bonn</a>	Nov 2021–Mar 2024
<i>Postdoctoral Researcher</i>	Bonn, Germany
<ul style="list-style-type: none"><li>• ETMC ensembles generation → fine tuned simulation and obtained <math>O(a)</math>-improved configurations</li><li>• <b>GPU code optimization</b> → achieved <math>\sim 1.5</math> improvement by auto-tuning of Multigrid parameters</li><li>• <b>Novel method for SU(2) Hamiltonians</b> → achieved machine-precision exactness for canonical commutation relations</li><li>• <b>Monte Carlo and Quantum Computing</b> → obtained Hamiltonian limit and calculations of glueballs spectrum</li><li>• <b>Supervision of Master's and PhD students</b></li></ul>	

## SKILLS

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**Programming Languages** - C, C++, Python, Bash, R

**High-Performance Computing** - openMP, MPI, CUDA, EasyBuild, SLURM

**Tools** -  $\LaTeX$ , Markdown, RMarkdown, Quarto

**Frameworks and Libraries** - Jupyter, NumPy, SymPy, SciPy, Pandas, Matplotlib, Plotly, PyTorch, Streamlit

**Tools & DevOps** - Docker, Git, GitHub Actions

**Languages** - Italian (native), English (proficient), German (A1)

## EXTRA ACTIVITIES AND AWARDS

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<b>Invited speaker</b> at <a href="#">Scale Setting workshop</a>	<a href="#">ECT*</a>   March 2025
<b>Main organizer</b> of <a href="#">Hamiltonian LGTs workshop</a>	<a href="#">ECT*</a>   September 2025
<b>Principal Investigator</b> for 240k GPU node-hours allocation	<a href="#">CSCS (ALPS)</a>   October 2025
<b>Leading organizer</b> of <a href="#">weekly seminars at HISKP department</a>	<a href="#">HISKP</a>   2022 - 2024