

# Adrien Florio

PhD

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## Positions

- 09/2022- **Goldhaber Distinguished Fellow**, Nuclear Theory, Brookhaven National Lab., US.  
Co-design Center for Quantum Advantage (C2QA) researcher
- 09/2020- **Postdoc. researcher**, Center for Nuclear Theory, Stony Brook, US.  
09/2022

## Awards

- 09/2022- **Goldhaber Distinguished Fellowship**, Brookhaven National Lab., US.  
\$22K yearly salary bonus + \$12k yearly travel/material fund

## Education

- 2020 **PhD in Physics**, EPFL, Lausanne, Switzerland.  
Supervisor: Pr. M. Shaposhnikov
- 2016 **MSc in Physics**, EPFL, Lausanne, Switzerland.
- 2016 **Minor in Mathematics**, EPFL, Lausanne, Switzerland.
- 2014 **BSc in Physics**, EPFL, Lausanne, Switzerland.
- 2014 **ERASMUS Exchange**, Imperial College London, London, United Kingdom.
- 2011 **Maturité Suisse**, Gymnase d'Yverdon, Cheseaux-Noréaz, Switzerland.

## Organizing Committees

- 2024 "Advanced Lectures in Physics in Switzerland (ALPS I)"  
PhD summer, whose first edition will be on quantum computing. Funding (CHF30K) granted by SwissMAP.
- 2022 "CosmoLattice School 2022"  
PhD summer school 09/2022 about the CosmoLattice software.

- 2021 "Chirality, Vorticity and Magnetic Field in Heavy Ion Collisions"  
Conference, 6<sup>th</sup> in its series.
- 2020-2022 CFNS/CNT seminars

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## Teaching

- 09/2022 PHD school lectures at CosmoLattice School 2022  
Lectures on real-time simulations and the use of the CosmoLattice software.
- 07/2022 PHD school lecture at YETI 2022  
Invited lecture on real-time simulations and the use of the CosmoLattice software at the YETI 2022 "Phenomenology in the sky" PhD school.
- 2019- Students supervised
- Alexandra Tchalakian, EPFL (2019-2020, Master project supervisor)
  - José Matos, EPFL/Porto (2020-2021, Master project co-supervisor)
  - Frédéric Dux, EPFL (2020-2021, Master project co-supervisor)
  - Nicolas Loayza, Valencia (2021-, PhD student, Mentorship)
  - David Frenklakh, Stony Brook (2021-, PhD student, Mentorship)
- 2016-2019 Teaching Assistant
- General Relativity and Cosmology for 1st year Master students
  - Quantum Mechanics III for 1st year Master students
  - Remedial General Physics for 1st year Bachelor students
- 2017 Teaching Toolkits  
1 day workshop to improve teaching skills, EPFL's Teaching Support Center.

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## Outreach

- 08/2022 Tutor at the QISE High School Summer School run by Virginia Tech (online)
- 1 week summer school to teach quantum computations to high school students.

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## Computing Skills (by experience)

- C/C++ 2 semester course on C++ and object-oriented programming, with a 1 semester practical project. Course on computational physics. Worked on a particle tracking code at CERN and on Lattice QCD simulations. Developed an open-source modern C++ Expression Template field theory library, available at *cosmolattice.net*.  
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- MPI/OpenMP 1 semester course on parallel computing. Parallelized field theory simulations.  
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- Python Extensively used for data analysis over different projects. Experience with IBM's Qiskit.  
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- Julia Used for data analysis and to solve ODE's across different projects. Used ITensor for tensor networks simulations.  
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- Bash Proficient at scripting.  
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- Mathematica Good knowledge. Used for analytical computation accross projects.  
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## Languages

- French Mother tongue
- English Fluent CAE in 2014
- German B1-B2
- Italian Good written and oral comprehension

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## Experience

- 2015 CERN internship CERN, Geneva  
2 month internship with Dr. T. Pieloni and Dr. X. Buffat. Developed a new Poisson solver for the COMBI multiparticle tracking software.

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## Talks

- 2022 ● Seminar, Iowa State University, Ames *"The  $O(4)$  critical point in QCD"*  
● Seminar, University of Minnesota, Minneapolis  
● SEWM2022, Saclay  
● FunQCD2022, Valencia

- Theory seminar, Bern
- Nuclear and Particle Theory seminar, MIT
- RBRC seminar, BNL
- 2022 • IFT, journal club, Madrid (online) *"Gibbs entropy from entanglement in electric quenches"*
- 2021 • NT seminar, BNL (online) *"Searching for a critical point in 5D SU(2)"*
- Quark confinement and hadron spectrum 2021 (online)
- SEWM2021 (online)
- 2021 • Asymptotic safety seminar series (online) *"CosmoLattice"*
- Seminar, Saclay, IHES, (online)
- 2022 • YITP journal club , Stony Brook
- 2021 • Cosmo Coffee , Geneva, CERN (online)
- Seminar, Chennai, IMSC, (online)
- 2020 • Seminar, Bielefeld University *"Abelian Finite Temperature Chiral Charge Dynamics"*
- 2019 • Seminar, Basel University
- Seminar, INT, Seattle
- Seminar, UChicago
- Lunch Seminar, Stony Brook
- RIKKEN Lunch Seminar, Brookhaven National Lab
- Informal Seminar, NYU
- Seminar, IFIC, Valencia
- CosmoCoffee, CERN
- 2019 • Informal talk, Imperial College London *"Schwinger Pair-Production from Padé-Borel Reconstruction"*
- 2018 • Lattice2018, MichiganU *"Real Time Evolution of U(1) Chiral Charge"*
- 2018 • Seminar, DESY Zeuthen *"Open vs Periodic Boundary Conditions in the Deconfined Phase"*
- Lattice Seminar, CERN
- 2017 • Lattice2017, Granada *"Thermal Simulations, Open Boundary Conditions and Switches"*
- HISS, Dubna
- 2016 • Bielefeld University, Bielefeld *"Open-Boundary Conditions and Sampling of the Topological Charge"*
- 2016 • CERN, Geneva *"COMBI, Improved Field Solvers"*

Inspire page: <https://inspirehep.net/authors/1844184>