GEORGIOS CHRISTOU

giorgos.christou@protonmail.com ◇ LinkedIn ◇ GitHub

EDUCATION

MSc Particle and Nuclear Physics, University of Edinburgh, Edinburgh, Scotland — Sept 2023 - Present

BSc Physics, University of Cyprus, Nicosia, Cyprus — Sept 2019 - Jun 2023
Graduated with Excellence, 1^{st} in class, GPA: 8.66/10

High School Diploma, Lyceum Makariou III, Larnaca, Cyprus — Sept 2015 - Jun 2018
Graduated with Excellence, GPA: 19.22/20

RESEARCH EXPERIENCE

MSc Thesis — Nov 2023 - Present
Proton structure and light quark Yukawa couplings, Supervisor: Dr. Liza Mijović — *University of Edinburgh*

CERN Summer Student Programme 2023 — Jun 2023 - Aug 2023
CP asymmetries in charm decays, Supervisors: Prof. Angelo Carbone, Dr. Federico Betti — *LHCb Collaboration*

- Development of new kinematic weighting algorithm for the measurement of CP asymmetries.
- Implementation of RapidSim and Particle Gun to simulate data.
  The project report is on CDS and on GitHub.

BSc Thesis — Sept 2022 - May 2023
Baryon Spectrum using Lattice QCD, Supervisor: Prof. Constantia Alexandrou — *University of Cyprus*

- The thesis was a continuation of the previous project and the purpose was to complete the calculations for the baryon mass spectrum.
- The first ever calculation of the low-lying baryon spectrum at the continuum limit using exclusively physical point twisted mass fermion ensembles.
- Became familiar with the environment of exascale computers.
- Calculation of the baryon mass spectrum at the continuum limit and comparison with experimental values.
- Prediction of previously unmeasured low-lying masses of doubly- and triply-charmed baryons.

Undergaduate Internship — May 2022 - Jun 2022
Baryon masses from Lattice QCD, Supervisor: Prof. Constantia Alexandrou — *University of Cyprus*

- Calculation of various baryon masses using correlator data generated from lattice QCD simulations.
- Implementation of methods for evaluating the low-lying baryon spectrum at finite lattice spacing.

Undergdraduate Internship — Jun 2021 - Aug 2021
Wheeler-DeWitt solution for Starobinsky potential, Supervisor: Prof. Nicolaos Toumbas — *University of Cyprus*

- The main purpose of this project was to see whether initial conditions favouring inflation are probable.
- We approximated the Starobinsky potential as a step function and we used the WKB approximation in the semiclassical regime in order to find the wave function for various values of the inflaton field.
- Using appropriate boundary conditions we constructed the quantum probability density distribution for this inflationary model.

PUBLICATIONS

- A list of my publications can be found on my INSPIRE profile.

SKILLS

- **Programming**: Fortran, Mathematica, C++, Python, ROOT, Bash/Shell, Julia (Beginner)
- **Languages**: Greek (Native), English (IELTS Score: 8, Level: C1), French (Beginner)
- **Technical**: Git, GitHub, LaTeX, Linux, Unix

AWARDS & ACHIEVEMENTS

Valedictorian in the Department of Physics, University of Cyprus — Jun 2023
Awarded to the student with the highest GPA of the department

Grade 5 Music Theory, The Associated Board of the Royal Schools of Music — May 2019
Grade: Distinction

Electric Guitar Degree, Musical Horizons Conservatory — Nov 2017
Grade: Excellent

OTHER

Cypriot National Guard Military Service: Cyprus, 14 Months — Jul 2018 - Sept 2019
Rank: Private

INTERESTS

My hobbies include photography and especially wide-field and deep-sky astrophotography, as well as creating time-lapse videos. Moreover I enjoy playing guitar, listening to music and reading books. Another passion of mine is creating programs to solve numerical problems in physics.