

Curriculum Vitae et Studiorum

Andrea Serafini

14/09/1994

Università di Ferrara

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ACADEMIC CAREER

September 2016 - present

Master's Degree in Physics - University of Ferrara

Title of the thesis: *Geoneutrinos from Potassium in the Earth*

Presumed graduation date: *20 September 2018*

Supervisor: Prof. Fabio Mantovani

Co-supervisors: Dr. Marica Baldoncini, Dr. Virginia Strati

Weighted Average Mark: **29.75**

September 2013 - September 2016

Bachelor's Degree in Physics - University of Ferrara

Title of the thesis: *Studio delle prestazioni di rivelatori a GEM in campo magnetico*

Supervisor: Prof. Diego Bettoni

Co-supervisors: Dr. Gianluigi Cibinetto, Dr. Giulio Mezzadri

Final mark: **110/110 cum laude**

September 2008 - July 2013

High School Diploma - Liceo Scientifico A. Roiti, Ferrara

Curriculum: Piano Nazionale Informatica (PNI)

Final mark: **98/100**

EXPERIENCES

2 July 2018 - 12 July 2018

ISAAP Summer Institute: Using Particle Physics to Understand and Image the Earth – IUSS – Ferrara

Topics: lecturers provided a background in the following subjects: neutrino geoscience, nuclear hydrology, cosmochemistry, nuclear chemistry, cosmogenic isotopes, muons tomography, geostatistics, and gamma-ray surveys. The Summer Insitute had been organized in frontal lectures and hands-on sessions dedicated to calculations and measurements.

Link: <https://indico.cern.ch/event/660892/page/13004-schedule>

21 June 2018 - 22 June 2018

LiquidO Meeting – Astroparticle and Cosmology (APC) laboratory (Paris, France)

Topics: the meeting focused on the evaluation of possible isotopes targets for Potassium geoneutrinos detection.

Activities: evaluation of geoneutrinos fluxes on the Earth's surface, cross-section calculations for anti-neutrino's interactions and calculations of Potassium geoneutrinos signals in scintillation detectors.

19 March 2018 - 23 March 2018

2nd SBN (Short Baseline Neutrino) Analysis Workshop – INFN – Sezione di Padova

Topics: evaluation of the advances in SBN Program and discussion of problems and possible upgrades.

Activities: I joined the analysis group to solve problems found with the particle tracking system of the detectors.

Link: <https://agenda.infn.it/conferenceDisplay.py?ovw=True&confid=15073>

13 September 2017 - 15 September 2017

Short Baseline Near Detector (SBND) Collaboration Meeting – FermiLAB (USA)

Topics: collaboration meeting held to inform the entire SBN collaboration about the progress made with the neutrino detector construction.

Link: <https://indico.fnal.gov/event/15193/>

30 July 2017 - 28 September 2017

Summer School: Italian program at the Fermi National Accelerator Laboratory – FermiLAB (USA)

Topics: I joined the SBN collaboration in the challenge of building a three-detector experiment to study neutrino oscillations.

Activities: I worked on the evaluation of possible systematic errors between detectors caused by the utilisation of different electronics. In particular, I studied how the choice of particular sampling and shaping times could have an impact on event analysis, by writing an analysis algorithm in C++.

Link: <http://eddata.fnal.gov/lasso/summerstudents/view.lasso?year=2017&id=2021&program=Italians>

PUBLICATION

Serafini A. *Preliminary Study for LArTPC Systematic Errors* - Report for Internal SBN Collaboration Meeting - FermiLAB (Illinois - US) (2017) ([pdf](#))

LANGUAGE SKILLS

Mother tongue: Italian

Other language: English (Listening: C1; Reading: C1; Speaking: B2; Writing: B2)

COMPUTER SKILLS

OS: Windows, Linux, macOS.

Software: Office Suite, ROOT, Photoshop, Illustrator, AutoCAD, LaTeX editors.

Programming: C++, Fortran.

REFERENCES

- **Dr. Anatael CABRERA** - APC Laboratory (Paris, FR) & LNCA Underground Laboratory (Chooz, FR) [CNRS-IN2P3 / CEA / Observatoire de Paris / USPC-Sorbonne] - Spokesperson of Double Chooz Experiment - anatael@in2p3.fr
- **Prof. Mark CHEN** - Gordon and Patricia Gray Chair in Particle Astrophysics, Professor Chair of Undergraduate Studies, Physics (A&S) - Department of Physics, Engineering Physics & Astronomy - Queen's University, Kingston, Ontario, Canada K7L 3N6 - Spokesperson of SNO+ Experiment - mchen@queensu.ca
- **Prof. Giovanni FIORENTINI** - Chair of Nuclear and Subnuclear Physics, University of Ferrara - Member of National University Council (CUN) - fiorenti@fe.infn.it

Il sottoscritto ANDREA SERAFINI nata il 14/09/1994 a Ferrara, residente a Ferrara in Via della Carpa 2, codice fiscale SRFNDR94P14D548A, consapevole che ai sensi dell'art. 47 D.P.R. 28 Dicembre 2000, n.445 le dichiarazioni false, la falsità negli atti, l'uso di atti falsi, comportano l'applicazione delle sanzioni penali previste dell'art.76 del D.P.R. 445/2000

DICHIARA

la veridicità del proprio curriculum vitae.

Ferrara, 23/07/2018

