europass

Fabio Bosco

Email address: fabio.bosco@uniroma1.it

ABOUT ME

My leading professional interests are addressed to accelerator physics, especially the beam dynamics in electron linear accelerators, electrodynamics and RF systems

WORK EXPERIENCE

PhD student in Accelerator Physics

La Sapienza [11/2019 – Current]

Address: Rome (Italy)

Research in the field of particle accelerators joining activities of the Italian Institute of Nuclear Physics (INFN) and the Department of Basic and Applied Sciences for Engineering (SBAI).
*My work focuses on the **beam dynamics** for high brightness **electron linacs** employed in novel radiation sources such as Compton machines and Free Electron Lasers. Specifically, I am modeling a self-consistent **tracking code** which accounts for collective effects inside the accelerating sections.*

Assistant lecturer in Physics

University of Rome "La Sapienza" [03/2020 – Current]

City: Rome

Teaching activities as a tutor at the university of Rome "La Sapienza". In particular, I have lectured *Mechanics* and *Termodynamics* concepts for Civil engineering and Medicine students and *Electromagnetism* for Aerospace engineers.

Technical support at EuPRAXIA FEL Pilot User Application Workshop

INFN [06/2019]

Address: Rome (Italy)

*Two days **workshop** in Rome (Italy) concerning the main progresses of the international design project EuPRAXIA (European Plasma Research Accelerator with eXcellence In Applications). I assisted the speakers providing **technical support** during the talks*

Internship at Fermi National Accelerator Laboratory

Fermilab [07/2018 – 09/2018]

Address: Batavia (IL) (United States)

*Visitor student at “Fermi National Accelerator Laboratory” (Batavia, IL) employed as intern in a **summer school** program. I have been working in a Quantum Computing Laboratory where I developed a digital device aimed to characterize a Qubit system built in superconductive 3D technology. My work is summarized in a **report** titled ”Digital Phase Comparator for the characterization of a Superconductive Quantum System”.*

EDUCATION AND TRAINING

Master Degree in Electronics Engineering

La Sapienza [2016 – 2019]

Address: Rome (Italy)

*Consolidated knowledge of electromagnetics and RF engineering especially through **laboratory** courses and design projects. Growth of interest for applications in fields of **modern physics** such as Particle Accelerators, Optics and Quantum Mechanics. Author of a **thesis** titled "Arbitrary Shaped Traveling Wave Accelerating Structures for Compact X-Band Free Electron Lasers" which contributed to the international project "CompactLight".*

The Science of Particle Accelerators

JUAS - ESI [01/2019 – 02/2019]

Address: Archamps (France)

*International course concerning the physics of **Particle Accelerators**, Archamps (France). The course is provided by JUAS (Joint Universities Accelerator School) which belongs to ESI (European Scientific Institute). Understanding of the fundamental topics for the subject, either through theoretical lessons, visits, seminars and **workshops**.*

Bachelor Degree in Electronics Engineering

La Sapienza [2013 – 2016]

Address: Rome (Italy)

*Advanced studies of electromagnetics engineering and applied physics. Acquisition of a **theoretical** background as well as knowledge of tools for the **analysis** of systems. Author of a theoretical **thesis** in Electromagnetic Fields titled "Generalized Brewster Phenomena in Planar Structures with Losses".*

High School Scientific Diploma

Liceo Scientifico Statale Nomentano [2008 – 2013]

Address: Rome

*Acquisition of analytical thinking and passion for learning. Growth of the **interest** in scientific subjects as well as humanistic ones like literature, history and philosophy.*

LANGUAGE SKILLS

Mother tongue(s): **Italian**

Other language(s):

English

LISTENING C1 **READING** C2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** C1

DIGITAL SKILLS

Programming Languages
Basic knowledge of C / Good knowledge of Fortran

Data Analysis Tools
Prolificient use Python / Matlab

Particle Tracking Codes
General Particle Tracer / ASTRA

Electromagnetics CAD
ANSYS (HFSS) / CST

Scientific Writing
MicrosoftMicrosoft Office / Proficient User of Latex

PUBLICATIONS

Modeling short range wakefield effects in a high gradient linac
[2021]

Proceedings of IPAC2021, Campinas, Brazil

DRIVING LICENCE

Driving Licence: B

PERSONAL INTERESTS

Personal Interests
Music, both as a listener and as a trumpet and guitar player. Literature, art and creative writing. Playing theater and volleyball as an amateur.

NOTES

Publication of the CV
I authorize the publication of the present CV on La Sapienza's website "Amministrazione Trasparente di Ateneo"