STEFANO ROBERTO SOLETI

Building 50, Room 6026A
Lawrence Berkeley National Laboratory
1 Cyclotron Rd
Berkeley, 94720 CA, United States

Email: roberto@lbl.gov, roberto@soleti.it
Website: https://www.soleti.it
GitHub: @soleti
Skype: srsoleti

EDUCATION

University of Oxford — Oxford, United Kingdom
Ph.D. in Particle Physics — *Mar. 2019*

· Thesis: "Search for a low-energy excess of electron neutrinos in MicroBooNE"
· Advisors: Roxanne Guenette, Alfons Weber

Sapienza University of Rome — Rome, Italy
Master (Laurea magistrale) *in Physics* — *Jan. 2015*

· Thesis: "Study of requirements and performances of the electromagnetic calorimeter for the Mu2e experiment at Fermilab"
· Advisors: Stefano Miscetti, Cesare Bini

Sapienza University of Rome — Rome, Italy
Bachelor (Laurea) *in Physics* — *Oct. 2012*

RESEARCH EXPERIENCE

Lawrence Berkeley National Laboratory — Berkeley, CA, United States
Owen Chamberlain Postdoctoral Fellow — *Sept. 2019 – present*

· Assembly and testing of the pixelated LArTPC prototype for the DUNE near detector.
· Leading developer of the DUNE near detector simulation framework with GPU algorithms.
· Monte Carlo samples production manager of the Mu2e collaboration.
· Cosmic-ray simulation and background estimate for the Mu2e experiment.

Harvard University — Cambridge, MA, United States
Postdoctoral Fellow — *Apr. 2019 – Aug. 2019*
Graduate Fellow — *Sept. 2017 – Mar. 2019*

· First measurement of cosmic-ray reconstruction efficiency in a LArTPC.
· Data-driven measurement of the space-charge effect with tagged cosmic muons in MicroBooNE.
· Leading analyzer of the low-energy excess search for the MicroBooNE collaboration, main physics goal of the experiment.

INFN Frascati National Laboratories — Frascati, Rome, Italy
Graduate Fellow — *Feb. – Sept. 2015*

· Full characterization of the first electromagnetic calorimeter prototype for the Mu2e experiment. Three test beams and radiation-hardness tests.

Fermi National Accelerator Laboratory — Batavia, IL, United States
Summer intern — *Jul. – Sept. 2013*

· Electronics simulation for the Mu2e electromagnetic calorimeter.

TEACHING & TUTORING EXPERIENCE

- Supervisor of two students at the **University of California - Berkeley** for their undergraduate academic research project 2021
- Tutor of one student for the **Harvard University summer student program** 2018
- Demonstrator in the **Optics laboratory of the University of Oxford** 2017
- Tutor of one student for the **University of Oxford summer student program** 2017

SCHOLARSHIPS, FELLOWSHIPS & AWARDS

- Owen Chamberlain Postdoctoral Fellowship at the Lawrence Berkeley National Laboratory 2019 – 2022
- Ermenegildo Zegna Founder's Scholarship 2015 – 2017
- University of Oxford St Catherine's College Graduate Scholarship 2016 – 2017
- INFN Postgraduate Scholarship 2015
- INFN - Fermilab Summer Student Scholarship 2013
- University College "Lamaro Pozzani"Scholarship 2009 – 2014

PROFESSIONAL ACTIVITIES

- **GPU Hackathon**, Simon Fraser University 2021
- **Computational and Data Science Training for High Energy Physics**, Princeton University 2019
- **International Neutrino Summer School**, ICISE, Vietnam 2016

OUTREACH

- **Nuclear Science Day for Scouts** at the Lawrence Berkeley National Laboratory 2021
- Developer and maintainer of a **neutrino preprints Twitter bot** `@nuarxiv` 2020
- Re-design of the **MicroBooNE collaboration website** `https://microboone.fnal.gov` 2017
- Marking of **British Physics Olympiads** papers at the Universit of Oxford 2015 – 2016
- Orientation and welcoming events at the University of Oxford 2015 – 2016

CONFERENCE PRESENTATIONS & TALKS

- **Neutrino 2022**, *Demonstration of a novel, ton-scale, single-phase LArTPC with pixelated readout* (poster), Seoul, South Korea (remote), May 2022
- **APS April Meeting 2022**, *Demonstration of a novel, ton-scale, single-phase LArTPC with pixelated readout*, New York, United States Apr. 2022
- **PHYS 290E invited seminar**, *Machine Learning and Artificial Intelligence at the intensity frontier*, University of California Berkeley, Mar. 2022
- **WIDG invited seminar**, *Demonstration of a novel, ton-scale, single-phase LArTPC with pixelated readout*, Wright Lab, Yale University, Nov. 2021
- **Machine Learning Group Meeting invited talk**, *Simulation of a neutrino detector using GPU algorithms*, Lawrence Berkeley National Laboratory, Sept. 2021
- **APS April Meeting 2021**, *Highly-parallelized simulation of a 3D pixelated charge readout for liquid argon time projection chambers*, Apr. 2021
- **PHYSTAT-nu 2019**, *Status of the MicroBooNE low-energy excess and evaluation of the systematic uncertainties* (poster), CERN, Switzerland, Jan. 2019

- **Research Progress Meeting invited seminar**, *Search for a low-energy excess at MicroBooNE*, Lawrence Berkeley National Laboratory, Jan. 2019
- **Neutrino 2018**, *Electron-neutrino reconstruction and selection in the MicroBooNE LArTPC using the Pandora pattern recognition* (poster), Heidelberg, Germany, June 2018
- **MASS 2018**, *MicroBooNE status and recent results*, University of Southern Denmark, Odense, Denmark, May 2018
- **DPF 2017**, *Cosmic-ray reconstruction efficiency and detector performances in the MicroBooNE experiment*, Fermilab, United States, July 2017
- **WIN 2017**, *Detector performance and cosmic-ray reconstruction efficiency in MicroBooNE*, University of California Irvine, United States, June 2017
- **NNN 2016**, *Cosmic-ray reconstruction efficiency with the MicroBooNE detector*, IHEP, Beijing, China, Nov. 2016
- **NuPhys 2015**, *The Muon Counter System of the MicroBooNE experiment*, Queen Mary University, London, United Kingdom, Dec. 2015
- **IFAE 2015**, *Characterization of the prototype for the Mu2e electromagnetic calorimeter*, University of Rome Tor Vergata, Rome, Italy, Apr. 2015
- **SIF National Congress**, *The electromagnetic calorimeter of the Mu2e experiment*, University of Pisa, Pisa, Italy, Sept. 2014