

# STEFANO ROBERTO SOLETI

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

Email: [roberto@lbl.gov](mailto:roberto@lbl.gov), [roberto@soleti.it](mailto:roberto@soleti.it)  
Website: <https://www.soleti.it>  
GitHub: [@soleti](#)  
Skype: [srsoleti](#)

## RESEARCH EXPERIENCE

---

**Donostia International Physics Center**  
*“la Caixa” Foundation’s Junior Leader*

Donostia–San Sebastián, Gipuzkoa, Spain  
*Sept. 2022 – present*

- Search for neutrinoless double decay with the NEXT experiment.

**Lawrence Berkeley National Laboratory**  
*Owen Chamberlain Postdoctoral Fellow*

Berkeley, CA, United States  
*Sept. 2019 – Sept. 2022*

- Assembly and testing of pixelated LArTPC prototypes, leading developer of the near detector simulation framework with GPU algorithms for the DUNE collaboration.
- Monte Carlo samples production manager, deep learning methods for particle identification for the Mu2e collaboration.

**Harvard University**  
*Postdoctoral Fellow*  
*Graduate Fellow*

Cambridge, MA, United States  
*Apr. 2019 – Aug. 2019*  
*Sept. 2017 – Mar. 2019*

- First measurement of cosmic-ray reconstruction efficiency in a LArTPC.
- Leading analyzer of the low-energy excess search for the MicroBooNE collaboration.

**INFN Frascati National Laboratories**  
*Graduate Fellow*

Frascati, Rome, Italy  
*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**  
*Summer intern*

Batavia, IL, United States  
*Jul. – Sept. 2013*

- Electronics simulation for the Mu2e electromagnetic calorimeter.

## EDUCATION

---

**University of Oxford**  
*Ph.D. in Particle Physics*

Oxford, United Kingdom  
*Mar. 2019*

- Thesis: “[Search for a low-energy excess of electron neutrinos in MicroBooNE](#)”
- Advisors: Roxanne Guenette, Alfons Weber

**Sapienza University of Rome**  
*Master (Laurea magistrale) in Physics*

Rome, Italy  
*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**  
*Bachelor (Laurea) in Physics*

Rome, Italy  
*Oct. 2012*

## TEACHING & TUTORING EXPERIENCE

---

- PhD advisor of a student at the **University of the Basque Country** 2022 – 2025
- Supervisor of one 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

---

- “la Caixa” Foundation’s Junior Leader Fellowship 2022 – 2025
- 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 & COMMUNITY

---

- **Early Career Member-at-Large**, American Physical Society, Topical Group on Data Science 2022
- **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 University 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
- **ROOT Users Workshop**, *Mu2e Analysis Models*, CERN (remote), May 2022
- **HEP Software Foundation Frameworks Working Group**, *Mu2e and its Framework Usage*, Fermilab (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