

# **Employment History**

- 09/24 Now Assistant Professor in the Neutrino and Nucleon decay Group of the Department of Physics and Astronomy, Stony Brook University, Stony Brook (USA).
- 01/24 08/24 Research Assistant Professor in the Neutrino and Nucleon decay Group of the Department of Physics and Astronomy, Stony Brook University, Stony Brook (USA).
- 05/20 12/23 Postdoctoral Associate in the Neutrino and Nucleon decay Group of the Department of Physics and Astronomy, Stony Brook University, Stony Brook (USA).
- 05/18 04/20 Post-doctoral fellow at *Università degli Studi di Napoli Federico II*, Napoli (Italy) during which I had a visiting period from March 2019 to October 2019 at *Laboratoire de physique nucléaire et des hautes énergies* (LPNHE), Paris (France).
- 11/14 04/18 Ph.D. student at *Università degli Studi di Napoli Federico II, Universitè Paris-Saclay, Commissariat à l'énergie atomique et aux énergies alternatives* (CEA)
- 10/14 10/14 Junior researcher at *Istituto Nazionale di Fisica Nucleare Sezione di Napoli* (INFN), Napoli (Italy).
- 08/14 09/14 Summer intern at Fermi National Laboratory, Batavia (USA).

### **Education**

11/14 - 01/18 Ph.D. in Particle Physics under joint supervision at *Università degli Studi di Napoli Federico II, Universitè Paris-Saclay, Commissariat à l'énergie atomique et aux énergies alternatives* (CEA)

**Thesis Title:** Measurement of antineutrino flux and cross section at the near detector of the T2K experiment

Italian advisors: Prof. Vittorio Palladino and Prof. Gianfranca de Rosa

French advisor: Dr. Marco Zito Final judgement: optimum cum laude

03/12 - 05/14 Master's Degree in Particle Physics at *Università degli Studi di Napoli Federico II* **Thesis Title:** Study of neutrino and antineutrino interactions in the near detector of

T2K experiment

**Supervisor:** Prof. Vittorio Palladino **Final grade:** 110/110 cum laude

09/08 -  $03/12\,$  Bachelor's Degree in Physics at  $\textit{Universit\`a degli Studi di Napoli Federico II}$ 

**Thesis Title:** Antineutrino interaction in the near detector of T2K experiment

Supervisor: Prof. Vittorio Palladino

Final grade: 110/110

## **Research Activities**

- 03/13 Now Member of the T2K Collaboration.
- 05/20 Now Member of the DUNE Collaboration.

- 11/14 04/20 Member of the Hyper-Kamiokande Collaboration.
- 07/17 04/20 Member of the Intermediate Water Cherenkov Detector (IWCD) project.
- 09/16 04/20 Member of the Enhanced NeUtrino BEams from kaon Tagging (ENUBET) project.

# Responsibilities

- 06/22 Now Convener of the SuperFGD & US-Japan Prototypes Neutron Analysis Working Group.
- 05/20 Now Convener of the T2K Oscillation Analysis Working Group.
- 05/18 05/22 Convener of the T2K Last Stage Analyses Cross-Section Working Group.
- 05/18 05/20 Convener of the T2K ND80 Selection Development Working Group.
- 12/18 12/19 T2K Young representative.

## Awards and scholarships

- 09/20 Gilberto Bernardini prize assigned by the Italian Physical Society.
- 11/19 Winner of the prize assigned by *Accademia Ercolanese* to the best Ph.D. thesis prepared at *Università degli Studi di Napoli Federico II*.
- 11/18 Winner of the Scholarship assigned by *Angelo Della Riccia foundation* whose main purpose is to support early-career scientists who, after obtaining a Ph.D. in Italy, intend to continue their research in foreign institutes.
- 09/17 Best outreach activity (*Premio per la Comunicazione Scientifica 2017*) by Italian Physics Society (SIF) to the association "Physics and Optics Naples Young Students" (PONYS) for the event "Scientific Adventure Playground".
- 07/16 EPS Young Minds Best Activity Award to the association PONYS by European Physical Society (EPS). In a competition between the 36 European sections, PONYS has been distinguished by the activities carried out in the field of outreach, professional development, and networking.

# **Supervised theses**

04/22 - 05/23 Co-supervisor of a master thesis at Department of Physics and Astronomy, Stony Brook University

**Thesis Title:** Analysis of Outgoing Particle Kinematics from Monte Carlo Simulations of Neutron Interactions on Hydrocarbon

Student: Kuunal Kelash Mahtani

01/18 - 01/19 Co-supervisor of a master thesis at Dipartimento di Fisica "E. Pancini", Università degli Studi di Napoli Federico II

**Thesis Title:** Optimization of the selection criteria of muon antineutrino events in the off-axis near detector of the T2K experiment

Student: Lorenzo di Colandrea

07/17-10/17 Co-supervisor of a bachelor thesis at Dipartimento di Fisica "E. Pancini", Università degli Studi di Napoli Federico II

Thesis Title: Study of the time of flight between the sub-detectors of the off-axis near

detector of the T2K experiment **Student:** Francesco Carnevali

#### **Outreach activities**

- 11/23 Communication training and presentation of a research talk at the Stony Brook University 2023 Postdoc Spotlight.
- 12/20 04/22 Co-organizer of Neutrino Social Global, a series of social events organized during the coronavirus pandemic where a special guest was interviewed by students and postdocs.
- 01/14 04/20 Member of the association "Physics and Optics Naples Young Students" (PONYS).
  - 05/20 Guest Blog on Nature Blogs.
- 03/17 11/17 Articles for the website of Hamamatsu.

#### Service activities

- 10/22 10/23 Co-chair of the 22nd edition of the International Workshop on Next Generation Nucleon Decay and Neutrino Detectors (NNN23). The workshop was held in Procida, an island near Naples (Italy) from October 11th to 13th, 2023.
- 10/22 Now Creator and admin of the Stony Brook University Neutrino and Nucleon decay Group website (link here).
- 06/19 11/20 Member of the Local Organizing Committee of the first and second editions of the workshop *New and Enhanced Photosensor Technologies for Underground/underwater Neutrino Experiments (NEPTUNE)*. The second edition was canceled because of the COVID-19 pandemic.
- 06/18 10/18 Organizer of an internal T2K workshop on the *Cross-Section Working Group* held at Gran Sasso Science Institute (GSSI) in Italy on October 22nd-23rd, 2018.

Stony Brook, September 24, 2024

Ciro Riccio