

Marie Skłodowska Curie Action – Postdoctoral Fellowship 2023
Expression of interest – Hosting offer
(MSCA-PF-2023)

Contact Person/Scientist in charge <i>(data of the principal investigator of the research group/lab or scientific supervisor)</i>	Name	Alberto
	Surname	Lusiani
	Email	Alberto.Lusiani@sns.it
Laboratory /Department /Institute /Centre / <i>(data of the centre/department where the fellow would be located)</i>	Name	Scuola Normale Superiore
	Address	Piazza dei Cavalieri, 7, 56126 Pisa (PI) - Italy
Research Area <i>(Please select one the following research areas: corresponding to the eight MSCA evaluation panels. You can select between one and up to three scientific areas per EOI)</i>	Social Sciences and Humanities (SOC) Economic Sciences (ECO) Information Science and Engineering (ENG) Environment and Geoscience (ENV)	Life Sciences (LIF) Mathematics (MAT) Physics (PHY) Chemistry (CHE)
Brief description of the Centre/Research Group <i>(max. 1,600 characters including spaces: information about the research centre or research group, scientific staff. Please include URL if possible)</i>	<p>Precision-frontier and intensity-frontier experimental particle physics research at Scuola Normale, on two INFN activities: measurement of the Muon Magnetic Anomaly at Fermilab (FNAL-E989, https://muon-g-2.fnal.gov/, INFN Gminus2) and research and development for the Future Circular Collider at CERN (https://fcc.web.cern.ch/, INFN RD-FCC). SNS personnel is integrated in tightly connected groups including also researchers of INFN and University of Pisa. The Gminus2 group includes 13 researchers working on average 54% of their time, the RD-FCC group includes many researchers for a small percentage of their time. The Italian national PI of both projects is in the Pisa groups: Marco Incagli for Gminus2 and Franco Bedeschi for RD-FCC. Graziano Venanzoni from Pisa is co-spokesman of FNAL-E989. Alberto Lusiani at SNS is responsible for the assembly of the measurement for FNAL-E989 and is the Tau Physics convener for the FCC international study project. He has been responsible for Tau experimental Physics for the 2019 Update of the European Strategy for Particle Physics, is responsible for the Tau branching fraction review for the Review of Particle Physics and for the Tau averages for the Heavy Flavour Group HFLAV. The most recent presentations for INFN funding are at https://agenda.infn.it/event/32135/#11-gminus2 for Gminus2 and at https://agenda.infn.it/event/32135/#50-rd_fcc for RD-FCC.</p>	

<p>Project description <i>(max. 1,800 characters including spaces: short description of the research project / research line where the fellow would be hosted and develop his /her project)</i></p>	<p>FNAL-E989 is finishing data collection for a measurement of the muon magnetic anomaly with a design and also estimated precision of 140 ppb, about 4 times more precise than the 2006 final measurement at BNL. This is one of the most precise tests of the Standard Model, where there is presently a disagreement. The Italian collaborators are responsible for the laser monitoring system of the calorimeter and have several responsibilities in the data analysis and operations of the experiment. An intense effort will be required to complete this measurement with an unprecedented statistical and systematic precision. The FCC study project is performing research and development on detectors and is studying with simulations what detector properties and performances will be required to fully exploit the physics reach of the future accelerator.</p>
<p>Applications: documents to be submitted and deadlines <i>(Please indicate the documents that the candidate fellow should submit to establish contact: CV, letter of motivation, letter of references, etc., please indicate deadline. Recommended deadline: April 2023)</i></p>	<p>The candidate should submit a CV, a letter of motivation and 3 letters of references before the end of April.</p>