ISTITUTO NAZIONALE DI FISICA NUCLEARE

Announcement n. 25272

DOE-INFN Summer Students Exchange Program 2023 Edition

The US Department of Energy (DOE) and the Istituto Nazionale di Fisica Nucleare of Italy (INFN) announce the 2023 edition of the Summer Exchange Program dedicated to promote the exchange of students in science between the two countries.

INFN (http://www.infn.it) is one of the leading organization worldwide promoting basic scientific research and has tight connections with DOE activities in many areas of interest: Particle Physics, Astroparticle Physics, Nuclear Physics, Theoretical Physics and Detector Physics.

We call for applications of US students willing to join a INFN research team in Italy for a two-month period between June 1st and October 31st, 2023.

There are 11 positions available. Applicants can choose among 21 different INFN sites and 77 research projects.

Grants amount to €6.000,00 to cover travel and living expenses.

To qualify for the fellowship, it is mandatory, that each university student to undertake an insurance policy, at their own expense, covering medical, assistance, accident and illness expenses for the duration of the fellowship.

Eligible candidates must be enrolled as students at a US university and they must have begun, at the time of application, at least the third year of a US University curriculum in physics, engineering or computing science, or planning to start the third year in 2023.

Applications, in electronic form, must be sent to INFN not later than March 2nd, 2023 by 11:59:59 pm through the website: https://reclutamento.dsi.infn.it/.

The application should include:

- a short CV following the template provided in the recruitment site, describing the applicant's academic and research experience. Only PDF files will be accepted.
- a list of the University courses and scores. Only PDF files will be accepted.
- the three preferred INFN sites and the research projects chosen among those listed in the Annex I.
- the motivation for applying to this program and a statement on research interests, specifying and justifying the selected projects.

Candidates will be excluded from participation in this call if they submit their application later than the indicated deadline.

Incomplete applications (lack of information or missing files) will not be considered.

Direzione Risorse Umane

Selection of participants will be carried out by the Selection Committee which will establish the evaluation criteria before having seen the applicant's documentation.

The selection of the candidates will be based on:
- the statement on research interests;
- the curriculum vitae and studiorum.

At the end of the selection process, the results of the selection will be published on the INFN website (Job Opportunities – Details of the announcement). Successful candidates will then receive an official communication from the INFN administration Offices.

Selected students are also requested to send their official University transcript by e-mail (digital scanned copy) before accepting the appointment with INFN.

Since September 2010, citizens of countries like US may enter Italy for a period of up to 90 days without a visa, to take part in the exchange program (please check here http://vistoperitalia.esteri.it/home/en).

Rome, January 31st 2023

ISTITUTO NAZIONALE DI FISICA NUCLEARE
Il PRESIDENTE
(Prof. Antonio Zoccoli)[1]

RC/ADV

[1] Documento informatico firmato digitalmente ai sensi della legge 241/90 art. 15 c 2, del testo unico D.P.R. 28 dicembre 2000, n. 445, del D.Lgs. 7 marzo 2005, n. 82, e norme collegate, il quale sostituisce il testo cartaceo e la firma autografa

ANNEX 1

INFN Sections and Laboratories	Research Projects
1. BARI	**1. APT** - Characterization of a prototype detector for MeV gamma-rays.
1. BARI	**2. CTA** - Calibration studies for the frontend electronics of the prototype Schwarzschild Couder Telescope for CTA.
1. BARI	**3. Fermi LAT** - Gamma-ray analysis of transient sources at high energies.
1. BARI	**4. HEPAWtools -**HEP analysis workflow with cutting-edge tools
1. BARI	**5. LHCb -** Study of the performance of new-generation eco-friendly gaseous detectors for the future LHCb Muon System.
2.BOLOGNA	**6. ATLAS** - Quality Certification of the ATLAS ITk pixel modules
2.BOLOGNA	**7. EIC** - Commissioning of the EIC-dRICH SiPM readout prototype
3.CAGLIARI	**8. CMS** - Higgs searches with the CMS experiment at CERN
3.CAGLIARI	**9. LHCB** - Studies of Heavy Nuclei collisions at LHCb
4. CATANIA	**10. FRIDA** - Characterization of novel detectors for dosimetry of Ultra-High Dose-Rate (UHDR) beams for FLASH radiotherapy
5. FERRARA	**11. DUNE** - Cryogenic characterization of the Silicon Photomultipliers (SiPMs) sensors for the DUNE Far Detector experiment
5. FERRARA	**12. BESIII** - Study of benchmark channels of BESIII CGEM-IT
5. FERRARA	**13. BESIII** - Precise charmonium measurement at BESIII
5. FERRARA	**14. LHCb** - The Ring Imaging Cherenkov (RICH) detector upgrade project of the LHCb experiment: R&D activities and characterization of fast-timing and radiation-hard single-photon detectors and electronics
5. FERRARA	**15. Medipix -** Characterization of state-of-the-art hybrid pixel detectors for applications in fundamental physics, life sciences and outreach
5. FERRARA	**16. NA62/HIKE** - Development of the Small Angle Calorimeter for the High Intensity Kaon Experiments (HIKE) at the CERN Super Proton Synchrotron
5. FERRARA	**17. RD_FCC** - uRWELL for muon detector development for muon detector of the IDEA spectrometer
6. FIRENZE	**18. CMS** - Measurement of the Higgs boson production in the WW decay channel with the CMS experiment at LHC using Machine Learning techniques
6. FIRENZE	**19. CMS** - Characterization of Si-pixel based detectors for CMS HL-LHC Upgrade
6. FIRENZE	**20. GAMMA** - Data analysis and detector characterization in the framework of the AGATA project
6. FIRENZE	**21. NUCLEX** - Activity of construction, assembling and testing of scintillating detectors for experiments with heavy-ions.
7. GENOVA	**22. ATLAS** - Pixel Detector for the ATLAS Upgrade at HL-LHC
7. GENOVA	**23. ATLAS** - Theoretical and Experimental Studies of Heavy Flavours at the LHC
7. GENOVA	**24. DUNE** - Tests of detector prototypes for imaging charged particle tracks in liquid Argon
7. GENOVA	**25. EIC NET** - Streaming DAQ for the future Electron-Ion Collider
7. GENOVA	**26. ICARUS** - Neutrino events reconstruction with Time Projection Chamber detector in the ICARUS experiment
7. GENOVA	**27. JLAB 12** - BSM searches at Jefferson Lab
7. GENOVA	**28. JLAB 12** - AI-supported analysis of CLAS and CLAS12 data
8. LECCE	**29. DUNE** - Refurbishing of the KLOE calorimeter as an element of the DUNE near detector
9. LNF	**30. ATLAS** - Study of the Higgs Boson properties in the H->ZZ*->4l decay channel using early Run 3 data collected by the ATLAS detector at LHC
9. LNF	**31. ATLAS** - Test of the performances of the ATLAS MDT detectors at the Cosmic Ray Stand (CRS)
9. LNF	**32. CLAS12 RICH** - Physics analysis with the CLAS12 RICH

9. LNF	**33. CYGNO/INITIUM** - R&D for CYGNO/INITIUM experiment
9. LNF	**34. EIC** - SEY investigation of a-C coatings
9. LNF	**35. GGM** - Gas Gain Monitor (GGM) for the RPC detector of the CMS experiment at CERN
9. LNF	**36. LHCb** - Analysis of Run 2 and current Run 3 LHCb data
9. LNF	**37. PADME** - Search for the X17 anomaly in positron-electron annihilation events with the PADME experiment
9. LNF	**38. SIDDHARTA-2** - Kaonic atoms measurements at the DAFNE collider with the SIDDHARTA-2 experiment from particles to neutron stars!
9. LNF	**39. SPARC-LAB** - Measurement and tests of electro-optical femtosecond synchronization system for an electron linear accelerator (SPARC_LAB).
9. LNF	**40. VIP** - Tests of Quantum Mechanics within the VIP experiment: violation of the Pauli Exclusion principle and gravity related collapse models
10. LNGS	**41. CUPID** - Development of rare events (Neutrinoless Double Beta Decay) particle detectors at LNGS, in the CUPID experiment
10. LNGS	**42. LUNA** - Measurement of the gamma background of a shielded HPGe detector inside the LNGS underground laboratory
10. LNGS	**43. LUNA** - Measurement of the cross section and branching ratios of the 14N(p,γ)15O reaction at LUNA.
11. LNL	**44. OCRA** - Cosmic rays: what they are, how to observe them, how to measure them at sea level.
12. LNS	**45. CHIRONE** - Tagging System LNS Fragment Separator
12. LNS	**46. CHIRONE** - Experimental Activity in Neutron Detection Simulation
12. LNS	**47. DUNE** - Study of the performance of a Near Detector for the DUNE experiment at FNAL (USA)
12. LNS	**48. KM3NET** - Construction of the km3net high energy neutrino telescope at 3500 m depth offshore CapoPassero
13. MILANO	**49. AUGER** - Limits on the emission of ultra-high energy cosmic rays from known magnetars
14.NAPOLI	**50. DarkSide** - Characterization of SiPM based Photon Detection Modules for the DarkSide Prototype
14.NAPOLI	**51. DUNE** - Test of DUNE Vertical Drift Optical Module in Liquid Argon
15. PADOVA	**52. ENUBET** - Assembly and characterization of a large detector prototype for monitored neutrino beams (ENUBET project)
15. PADOVA	**53. LUNA** - Experimental design for Nuclear Astrophysics at LUNA
15. PADOVA	**54. RD_Mucol** - Study of detector performance at Muon Collider
15. PADOVA	**55. SWGO** - Study of the performance of a proposed high-altitude particle detector for gammaray astroparticle physics
16. PISA	**56. ATLAS** - Machine learning studies for particle trajectories reconstruction in ATLAS
16. PISA	**57. ATLAS** - Double Higgs and trilinear Higgs self coupling at the Large Hadron Colliders
16. PISA	**58. ATLAS** - Test of Photomomultipliers for the ATLAS Calorimeter Upgrade
16. PISA	**59. SWEATERS** - Characterization measurements of a gas detector based on bulk-MicroMegas technology for low energy ionizing particles of SWEATERS Project
16. PISA	**60. VIRGO** - Machine learning techniques for gravitational wave physics
16. PISA	**61. VIRGO** - Multimessenger study of transient sources
16. PISA	**62. VIRGO** - Laboratory measurements campaign by using high precision and low noise sensors for future Gravitational Waves detectors
17. ROMA	**63. AMS02** - Non-Target Effects induced Galactic Cosmic Rays in Exploratory Space Missions: Improvements using the AMS detector data
17. ROMA	**64. CYGNO** - Background studies for the CYGNO experiment with the LIME underground prototype
17. ROMA	**65. FOOT** - The FOOT experiment. Cross-Section measurements for Particle Therapy and Space Radiation Protection applications

17. ROMA	**66. LUNA** - Detector and target characterization measurements in the underground laboratory
18. ROMA TRE	**67. BELLE II** - SIPM studies for the KLM detector upgrade.
18. ROMA TRE	**68. DARKSIDE** - The DARKSIDE program for Dark Matter searching
18. ROMA TRE	**69. LEGEND-200** - Analysis of LEGEND-200 data with an innovative technique
19. TIFPA	**70. NuJET** - Neutrinos as engine for the production of relativistic jets
20. TORINO	**71. FUSION** - Modelling of laser-particle interaction for radioisotope production
20. TORINO	**72. LUNA** - Low energy nuclear astrophysics at LUNA (Laboratory for Underground Nuclear Astrophysics): study of the 21Ne(p,γ)22Na reaction
21. TRIESTE	**73. BELLE II** - Improving the photon-energy calibration for the Belle II detector
21. TRIESTE	**74. BELLE II** - Search for B → KS0 τ+τ- decays at the Belle II experiment
21. TRIESTE	**75. CTA** - Search for transient emission in CTA data
21. TRIESTE	**76. Fermi/LAT** - Search for short duration transient in Fermi/LAT data
21. TRIESTE	**77. SWGO** - Scientific simulation of the upcoming SWGO experiment