PERSONAL INFORMATION

Giulia D'Angelo

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Gender Female | Date of birth 18/09/1986 | Nationality Italian

BRIEF PRESENTATION

I am a Researcher at the University of L'Aquila, where I coordinate scientific activities in the fields of Space Physics, Space Weather, and Natural Hazards. My research focuses on the investigation of the coupling processes between the magnetosphere, ionosphere, atmosphere, and lithosphere under both external (e.g., solar wind) and internal (e.g., seismicity) drivers, with a particular emphasis on ionospheric irregularities and GNSS scintillation phenomena. I am responsible for the analysis and validation of ionospheric data within several national and international research projects. In the framework of the CSES-Limadou space mission, I lead the analysis of ionospheric measurements and the commissioning of onboard plasma and electric field instruments.

EDUCATION AND TRAINING

25 March 2019

Ph.D. in Physics

University of Rome "Roma Tre", Department of Mathematics and Physics, Via della Vasca Navale, 84, 00146, Roma, Italy

- Thesis' title: Investigation of GNSS scintillations under different configurations of the magnetosphere-ionosphere coupling
- Processing and analysis of Global Navigation Satellite System (GNSS) data, used to monitor the Total Electron Content (TEC) and the ionospheric scintillations. Treatment and interpretation of companion data derived from both ground and space observations
- Scope of the Ph.D. project: Investigation of the physical mechanisms triggering electron density irregularities at high latitudes, causing signal corruptions on GNSS, in terms of Solar Wind-Magnetosphere-Ionosphere coupling.

24 September 2015

Master degree in Physics cum Laude (curriculum in terrestrial and environmental physics)

University of Rome "Roma Tre", Department of Mathematics and Physics, Via della Vasca Navale, 84, 00146, Roma, Italy

- Thesis' title: Multi-parameter study of ionospheric irregularities
- Processing and analysis of Global Navigation Satellite System (GNSS) data, used to monitor the Total Electron Content (TEC) and the ionospheric scintillations. Treatment and interpretation of companion data derived from ground observations

Feb 2015 – Apr 2015

Internship

Istituto Nazionale di Geofisica e Vulcanologia (INGV), Via di Vigna Murata 605, 00143, Roma, Italy

- Global Navigation Satellite System (GNSS) data filtering optimization for ionospheric observation: study of environmental noise on GNSS signals acquired at Rome Station
- During this internship, I developed a technique (D'Angelo et al., 2015) able to discriminate the non-scintillation related tracking errors (such as multipath) from actual ionospheric scintillations.

WORK EXPERIENCES

14 Apr 2025 – Present

Member of the Executive Board, Research Consortium in Astrogeophysics

Consortium established by the University of L'Aquila, the National Institute for Astrophysics (INAF), and the National Institute of Geophysics and Volcanology (INGV), aimed at jointly promoting research, advanced training, and the dissemination of scientific knowledge in the fields of Astrophysics, Cosmic Physics, Interplanetary Space Physics, Solar Physics, Sun-Earth Relations, and Geophysics.

03 Jun 2025 – Present

Tenure-track Researcher (Italian Law 240/2010, Art. 24, Para. 3, Letter A – Full-time)

University of L'Aquila (Italy), Department of Physical and Chemical Sciences, Via Vetoio, Coppito - 67100 L'Aquila.
Research activities in the field of Space Physics and Sun–Earth relations, with a particular focus on Space Weather and Natural Hazards. The work involves the study of dynamic coupling processes between the magnetosphere and ionosphere driven by both external (solar) and internal (terrestrial, e.g., upper atmosphere, earthquakes, volcanoes) forcing. The position is part of the national research project MUR No. 341 dated 15/03/2022 – Space It Up.

01 Feb 2024 – 31 Jen 2025

Postdoctoral Fellow

Università degli Studi dell'Aquila (Italia), Department of Physical and Chemical Sciences, via Vetoio, Coppito - 67100 L'Aquila.

Postdoctoral fellow as part of the project MIUR-PRIN n° 2022ZBBBRY: "Characterization of the Lithosphere-Ionosphere coupling during seismic phenomena".

01 Sep 2020 -15 Feb 2024

Postdoctoral Fellow

Istituto Nazionale di Astrofisica - Istituto di Astrofisica e Planetologia Spaziali (IAPS), Via del Fosso del Cavaliere, 100, 00133 Roma (RM)

Postdoctoral fellow as part of the "CSES-Limadou" project.

18 Oct 2021 - 30 Sep 2022

Lecturer of Istituzioni di matematiche II

Dipartimento di Architettura, Università degli Studi di Roma Tre, Via Ostiense, 133 - 00154 Roma

Sep 2019-Aug 2020

Secondary school teacher, Physics (A020)

Istituto Superiore I. I. S. Sant'Angelo Lodigiano – LOIS00200V, Via Europa, 26866 Sant'Angelo Lodigiano (LO)

Nov 2018-Jun 2019

Secondary school teacher, support for psychophysical and hearing impaired people, ADMM (sostegno psicofisico)

Istituto Tecnico Agrario I. T. Antonio Tosi di Codogno - LOTA01000L, Viale Marconi, 60 - 26845 Codogno (LO)

24 Aug 2017– 30 Nov /2017

Visiting Researcher

Department of Physics, University of Oslo, Oslo (Norvegia)

The research activity focused on the variations of field-aligned currents during periods of strong geomagnetic disturbance and on the characterization of high-latitude ionospheric irregularities causing scintillation of GNSS signals

Nov 2015-Oct 2018

Ph.D student

University of Rome "Roma Tre", Department of Mathematics and Physics, Via della Vasca Navale, 84, 00146, Roma, Italy

RESEARCH ACTIVITY

• Scientific collaborator in the "Upper Atmosphere Physics Group" at the Section Rome2 of the National Institute of Geophysics and Volcanology (INGV), Rome, Italy.
From 01/02/2015 to present.

• Scientific collaborator in the analysis and study of electron density data of SWARM satellite in the SAFE (SwArm For Earthquake study) project funded by European Space Agency (ESA) in the frame of STSE (Support To Science Element) Swarm + Innovation Program, to investigate, by means of data collected from satellites and from ground-based instruments, the phase preceding the great earthquakes with the aim to identify any electromagnetic signal from space. From March 2016 to September 2016

• Scientific collaborator in the "Solar Terrestrial and Space Physics Group" at the Department of Physics of the University of L'Aquila, Italy.
From 01/11/2015 to 16/02/2024.

• Visiting Researcher at the Department of Physics, University of Oslo, Norway, for the study and characterization of currents aligned with the magnetic field during periods of strong geomagnetic disturbances and high-latitude ionospheric irregularities causing GNSS signal scintillation.
From 24/08/2017 to 30/11/2017.

• Scientific leader for the analysis and modelling of ionospheric response during periods of high seismic activity using GNSS and LEO satellite data, within the MIUR-PRIN project No. 2022ZBBBRY titled "Characterization of the Lithosphere-Ionosphere coupling during seismic phenomena," at the Department of Physical and Chemical Sciences of the University of L'Aquila, Italy (Prof. Mirko Piersanti).
From 16/02/2024 to present.

• Scientific leader for the analysis of ionospheric irregularities from satellite and ground measurements within the "CSES-Limadou" project, at INAF-IAPS in Rome, Italy (Dr. Piero Diego).
From 01/09/2020 to 15/02/2024.

• Scientific collaborator at INAF-IAPS in Rome within the CSES-Limadou mission for the analysis and characterization of ionospheric irregularities from plasma and electric field measurements of the CSES-01 satellite.
From 01/03/2024 to present.

• Principal Investigator (PI) of the project "Evaluation of solar flares contribution to the drag enhancement on Earth orbiting satellites: feasibility study" at the University of L'Aquila.
From 01/01/2024 to 31/01/2024

• Local Principal Investigator (PI) of the project "Constraining the laic model by coseismic deformation induced by strong earthquakes: application to Italian seismogenetic areas - CLARITI" within the national "Earth Telescope" call, promoted and funded by INGV.
From 18/12/2024 to present.

• Young researcher within the European international research project "DRAGON-5 2020 – 2024 (ID. 59236)" titled "The cross-calibration and validation of CSES/Swarm magnetic field and plasma data" within the ESA-China international collaboration.
From 2020 to 2024.

• Scientific Coordinator for the analysis and modeling of the ionospheric response during periods of high seismic activity using GNSS and LEO satellite data,University of L'Aquila, Italy (Prof. Mirko Piersanti).
From 01/02/2024 to 31/01/2024

• Young researcher within the European international research project "DRAGON-6 2024 – 2027 (ID. 95437)" titled "Validation and application of observations from multiple low Earth orbital satellites for monitoring the Earth's magnetic and plasma environment" within the ESA-China international collaboration.
From 05/04/2024 to 2027.

• Scientific collaborator in the commissioning phase of the electric field instrument (EFD-02) of the CSES-02 satellite within the CSES-Limadou mission, as part of the Italy-China collaboration for the development of a satellite fleet to monitor lithosphere-ionosphere coupling during seismic events.
From 2020 to present.

• Scientific leader of Task 6 "Climatology of plasma depletions with identification of convective field effects in the ionosphere in relation to solar forcing" within WP 1A-UA4 for the "Study of the physical characteristics and fields of Ionospheric Plasma" in the ASI "LIMADOU Scienza Plus" project no. 2021-18-H1.
From 01/09/2020 al 18/03/2024