Alessandro Liberatore

Curriculum Vitae

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**** ******* [under request]*
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Overview

Thanks to my studies and many international experiences, I had the opportunity to broaden my knowledge about Space Science with particular attention to the Solar Physics and Space Weather. I am also interested in Astroparticle Physics and Space Optics. Currently, I am a postdoc at Jet Propulsion Laboratory.

Current position

06/2022 - now **Post-doc at Jet Propulsion Laboratory (JPL/NASA)**
CALTECH - California Institute of Technology
Section: Interstellar And Heliospheric Physics

Education

10/2018 - 05/2022 **Ph.D. fellow at National Institute for Astrophysics (INAF)**
UNITO-University of Turin & INAF-Astrophysical Observatory of Turin [OATo].
I was involved in experimental and data-analysis aspects of:
⋆ *METIS* space-based coronagraph for the Solar Orbiter mission (NASA/ESA);
⋆ *AntarctiCor* ground-based coronagraph for the ESCAPE project in Antarctica;
⋆ Total solar eclipses study and observation with the EKPol telescope.

09/2015 - 04/2018 **Masters degree in Astroparticle Physics**
University of Turin, Physics Department.
Dissertation: "The use of ESAF software to simulate the performance of the future missions of the JEM-EUSO program".
Final mark: 110/110 *cum laude*.

09/2011 - 07/2015 **Bachelors degree in Physics**
University of Turin, Physics Department.
Dissertation: "Measurements of Secondary Cosmic Ray radiation at high altitude and high latitude - Neutron Dosimetry".

09/2006 - 07/2011 **High school diploma**
Scientific lyceum - F. Juvarra. Venaria Reale (TO).

Technical skills

- Programming languages: Python ★★★★½ C/C++ ★★★☆☆ IDL ★★☆☆☆ MATLAB ★½☆☆☆
- Advance *Data Analysis* Python packages: NumPy, SciPy, Pandas.
- Systems engineering software *LabVIEW*.
- *Arduino* electronic platform.
- Image processing program ImageJ.
- Markup language for high quality typesetting - LaTeX.
- Office packages - Excel, PowerPoint, Word.

Soft skills

- Great ability for independent work, team work and group interaction.
- Strong ability for pattern recognition, interpretation and analysis.
- Able to extract essential information from complex stimuli.
- Excellent organizational skills and determination.
- Able to solve problems in new situations.

Languages

Italian - Native language

English - Full professional proficiency

Italian Sign Language (LIS) - Academic proficiency

Main internships & International experiences

12/10/2019 - 04/02/2020 **Member of XXXVII Italian Mission in Antarctica (Dome C, Antarctica)**
New scientific mission in Concordia base (75°06'S 123°19'E; ∼ 3300m a.s.l.) for the Extreme Solar Coronagraphy Antarctic Program Experiment to study the solar corona (from the solar wind to the coronal magnetic field topology and dynamics).

06/04/2021 - 09/04/2021 **Solar Orbiter school (Les Houches, France)**
Principally targeting PhD students and early-career researchers, the school provide training to young scientists in using the extremely various datasets from Solar Orbiter mission and the tools specifically developed to analyze them.

06/07/2020 - 17/07/2020 **NASA Heliophysics International School (Boulder, Colorado)**
International course focused on the physics of the connections between Sun, heliosphere, planets magnetospheres and its implications for Earth and space climate. Just 35 graduate students are selected to join for this unique professional experience.

12/10/2019 - 04/02/2020 **Member of XXXV Italian Mission in Antarctica (Dome C, Antarctica)**
Scientific mission in Concordia base (75°06'S 123°19'E; ∼ 3300m a.s.l.) for the Extreme Solar Coronagraphy Antarctic Program Experiment to study the solar corona (from the solar wind to the coronal magnetic field topology and dynamics).

07/10/2019 - 12/10/2019 **International School on Space Optics (Rome, Italy)**
Immersion program of lectures, design project and visits to space-related facilities. The course can be seen as a "compressed" 1-year class on Space Optics which would have been part of a Master Program in Spaceborne Technologies and Applications.

09/09/2019 - 13/09/2019 **HEMERA International School (Heidelberg, Germany)**
European consortium interested in balloon research. I learned, from the different space agencies and companies involved, how it is possible to make science from balloons; from the logistic to the specific scientific and industrial operations.

05/05/2018 - 10/05/2018 **ESA Course - Space Optics Instrument Design (Poltu Quatu, Italy)**
European Space Agency (ESA) international course in the sector of optical engineering for Space. I had the opportunity to learn from professionals with a long experience in this field.

23/05/2018 - 26/08/2018 **Internship at Slovak Academy of Science (Košice, Slovakia)**
I worked with the Slovak Space Department team to evaluate Earth UV background and I had the opportunity to work and make observations at the high altitude astronomical observatory *Lomnický štít* (2634m a.s.l.).

01/06/2016 - 01/08/2016 **Internship at Royal Institute of Technology (Stockholm, Sweden)**
I worked with astronaut *Christer Fuglesang* at Mini-EUSO space telescope (onboard the ISS - International Space Station since 2019) to study the physics of Ultra-Relativistic Cosmic Rays and Transient Luminous Events (TLEs).

Associations and hobbies

Since 2020 **FIDE - International Chess Federation**

Since 2018 **Member of the Italian Physical Society** (SIF)

Since 2016 **Member of MENSA** (Italian section)

Hobbies: Chess, Photography, Sport (swimming, mountaineering, basketball).

June 08, 2022

Alessandro Liberatore, PhD