

# Curriculum Vitae of Orlando Elena

*Current position: **Senior Research Scientist***

**Stanford University – KIPAC/HEPL/Department of Physics**

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## SCIENTIFIC INTERESTS

Multifrequency and Multimessenger Astrophysics (theory and observational data analysis):

- Cosmic Rays: Sources, Propagation, and Role in Star Formation;
- Galactic Gamma-Ray Sources, including Solar System Sources;
- Diffuse Emission from Radio, throughout Microwaves to Gamma Rays and Implications for Dark Matter and Cosmic Microwave Background Studies;
- Galactic Magnetic Fields: Large Scale and in Clouds.

## EDUCATION

2005-2008: PhD fellowship- *Technische Universitaet Muenchen*. Dissertation Title: “Gamma rays from interactions of cosmic-ray electrons” Magna cum laude. Supervisor: Prof. Guenther Hasinger

2005-2008: IMPRS student (International Max Planck Research School) at *Max-Planck-Institut fuer extraterrestrische Physik, MPE* (Germany). “Talented selected German and foreign junior scientists are offered the opportunity to earn a doctorate under excellent research conditions.”

2006: Marie-Curie early stage Training Site fellow at MPE

2003-2004: Fellowship (Leonardo da Vinci European Programme) at *Institute fuer Informatik Julius-Maximilians-University* (Wuerzburg, Germany)

2004: Master thesis in Physics - *University of Trieste*, Department of Physics and Astrophysics (Italy) “Atmocube: analysis of a pico-satellite for the study of the Earth’s atmosphere.”

## ACADEMIC AND RESEARCH APPOINTMENTS

2018: Senior Research Scientist (Academic Staff)

*Stanford University*, Kavli Institute for Particle Astrophysics and Cosmology/HEPL, Department of Physics.

2013-2018: Physical Science Research Scientist (Academic Staff)

*Stanford University*, Kavli Institute for Particle Astrophysics and Cosmology/HEPL.

Mostly self-supported by awarded NASA grants.

2010-2013: Postdoctoral scholar fellowship, *Stanford University*, HEPL/KIPAC.

Mostly self-supported by awarded NASA grants.

2008-2010: Postdoctoral Research Associate fellowship, *Max-Planck-Institut fuer extraterrestrische Physik (MPE)*

Mar 2018: Visiting scientist at MIAPP, Munich (Germany)

Jun 2017: Visiting scientist at University of Padua (Italy)

Jun 2016: Visiting scientist at MPE, Garching (Germany)

## **PUBLICATIONS**

Author of more than 315 publications (250 peer-reviewed), more than 40,000 citations (Google Scholar), h factor = 102 (ADS NASA).

## **MEMBERSHIPS**

- Since 2019 Member of the Cherenkov Telescope Array (*CTA*)
- Since 2019 Member of *SWG0* The Southern Wide field-of-view Gamma-ray Observatory
- Since 2019 Member of the *IMAGINE* Consortium for studies of the Galactic magnetic fields
- Since 2018 American Astronomical Society, *AAS* Member
- Since 2018 High Energy Astrophysical Division, *HEAD* Member
- Since 2018 Member of the *AMEGO* team. Future NASA gamma-ray mission.
- Since 2017 Board Member of the *ISSNAF Bay Area Chapter*. Young ISSNAF Liaison. (ISSNAF = Italian Scientists and Scholars of North America Foundation, supported by the Italian Embassy in USA).
- Since 2014 NASA endorsed USA Member of the *Athena* Consortium, ESA X-ray mission
- Since 2014 Member of the *e-ASTROGAM* Consortium (Now all-Sky ASTROGAM). Future gamma-ray mission
- Since 2013 Associated Member of the *Planck* Low Frequency Instrument Consortium
- Since 2007 Member of the *Fermi Large Area Telescope* Collaboration. Full Member since 2014
- Since 2005 Developer member of the *GALPROP* code for cosmic-ray propagation.
- 2008-2009 Associated Member of the *GRIPS* collaboration (Gamma-ray burst investigation)

## **UNIVERSITY SERVICE and EDITORIAL ACTIVITY**

- 2018 – 2019: Member of the Graduate Admissions Committee of the Physics Department, Stanford University.
- 2018: Guest Editor for AIP Conference Proceedings ISBN: 978-0-7354-1756-4, Volume number: 2032, 2018 for the International Conference of Young Astrophysicists and Astronomers, Padova 2018, <https://aip.scitation.org/toc/apc/2032/1>.
- 2018 – present: Associate Editor for the peer-review journal High-Energy and Astroparticle Physics, *Frontiers in Astronomy and Space Sciences*

## REVIEWING ACTIVITY

- 2016: Reviewer for the *NASA Astrophysics Data Analysis Program (ADAP)* - Selecting which proposals will be funded
- 2011: Reviewer for the *NASA Fermi Guest Investigator program* - Selecting which proposals will be funded
- 2014 - present: Appointed scientific reviewer for *international scientific journals*: MNRAS, ApJ, PhyRevD, PASJ, and other refereed journals.
- 2018: Review panel member of the Netherlands Organization for Scientific Research (NWO) for a Veni grant within the Innovational Research Incentives Scheme of the Domain Science.

## TEACHING

**Lecturer** at the Santa Clara City Library “Astrophysics: the violent Universe” (<http://santaclaraca.gov/Home/Components/Calendar/Event/66592/67?curm=7&cury=2019>)

**Lecturer** at the school Multimessenger Data Analysis in the CTA era, PhD school, Sesto, July 2019, “Diffuse emission and Cosmic rays”

**Instructor, Stanford Continuing Studies** of the course “WSP128 - An Introduction to Astrophysics” of the program Stanford Continuing Studies, Spring 2019, Apr 13. Overall rating of the class: 4.28/5. Creator and Responsible of the course. Position from Feb 2019 to Apr 2019. <https://continuingstudies.stanford.edu>. Average overall rating for the class: 4.28/5.

**Teaching** 2 lectures (2 hours) “The energetic Universe” at SPLASH Stanford University (2017). Average overall rating for the classes: 4/5. Feedback from two students: “Well planned and easy to follow”, “I loved how the teacher obviously had a passion for what she was teaching”.

**Lecturer of physics laboratory** for the 3rd and 4th year students of the Technische Universitaet Muenchen (Germany) for two semesters (84 hours) (2007-2008)

## MENTORING

**Founder and Coordinator** of the "Career Advising Program" of the Bay Area Chapter Young ISSNAF within ISSNAF, Italian Scientists and Scholars of North America Foundation (<http://www.issnaf.org/bay-area-chapter.html>). Nine pairings at present.

**Supervisor of M. Paz** (STARS summer graduate student) (2017).

**Supervisor of F. Guidi** (INFN-SLAC summer student exchange program) (2016). Admitted at IAC, Tenerife as PhD student.

**Supervisor** of P. Harrington (senior student in the SULI summer student program) (2016). Admitted to MS program at UCSC.

**Mentor** of PhD students at the AWIS (Association of Women in Science at Stanford University).

**Responsible** of the "Young ISSNAF mentorship program" of the Bay Area Chapter Young ISSNAF, Italian Scientists and Scholars of North America Foundation. Italian faculties in USA are paired with early career scientists in USA to help in job applications (please note that this is a different program from the “Career Advising Program”).

## LEADERSHIP ROLES IN THE FIELD

- 2018 - present: Scientific Coordinator and Convener of the *Solar System Working Group* of the Fermi-LAT collaboration. “Main mission: coordinating science analyses, reviewing results and presentations, approving group talks and presentations, ensuring top quality collaboration papers, organizing and chairing weekly meetings (~50 members).
- 2018 – present: Founder and chair of the “International Conference of Young Astrophysicists and Astronomers” the first international conference for students at any university level ([www.icyaa.it](http://www.icyaa.it)) in Italy. Those undergraduate students having their research work in an advanced stage have the opportunity to give a talk in an international conference. PhD students, suggested by their PhD programs, present their research in highlight talks by invitation.
- 2013-2015: Scientific Coordinator and convener of the *Diffuse and Molecular Clouds Working Group of the Fermi-LAT Collaboration*. Main mission: coordinating science analyses, reviewing results and presentations, approving group talks and presentations, ensuring top quality collaboration papers, organizing and chairing weekly meetings (~130 members).
- 2011-2013: Scientific Coordinator and convener of the *Solar System Tools Working Group of the Fermi-LAT Collaboration*. Main mission: coordinating science analyses, designing and testing the software, writing manual and tutorial, ensuring top quality software, organizing and chairing meetings (10 members).

## FELLOWSHIPS AND AWARDS

- 2018: *Marie Skłodowska-Curie* COFUND Incoming Astrofit fellowship (declined). Success rate 8%
- 2016: Received Certificate of Appreciation from the Director of SLAC "In recognition of your dedication as a mentor"
- 2016: *Marie Skłodowska-Curie* COFUND Incoming Astrofit fellowship (declined). Success rate 15%
- 2015: Invited to present a poster to the Italian embassy in Washington for the *award ISSNAF - Italian Scientists and Scholars of North America Foundation* “for early stage investigators working in North America whose commitment to their discipline of study is innovative, impactful and honors their country of origin.”
- 2014: *Marie Skłodowska-Curie* COFUND Incoming Astrofit fellowship (declined).
- 2011: *Bruno Rossi Prize* awarded to William B. Atwood, Peter Michelson and the Fermi Gamma-ray Space Telescope team "for enabling, through the development of the Large Area Telescope, new insights into neutron stars, supernova remnants, cosmic rays, binary systems, active galactic nuclei, and gamma-ray bursts"
- 2010: NASA Group Achievement Award to Fermi Science Team “for the successful launch and early operation of the Fermi mission and discover of new high-energy gamma ray sources”
- 2010: *MultiDark* fellowship, “Spanish Project supported by the Ministry of Economy and Competitiveness” (declined).
- 2010: *CNES* fellowship, Centre National d’Etudes Spatiales (declined).
- 2005-2006: *Marie Curie early stage Training Site* fellow at MPE (Garching, Germany)
- 2003-2004: *Leonardo da Vinci* European fellowship at Institute fuer Informatik Julius-Maximilians-University (Wuerzburg, Germany).
- 2001: Atlantis Project – student exchange agreement Canada and Italy (declined)

## **SUCCESSFUL GRANTS AS SCIENCE PI (see also fellowships)**

- **NASA Astrophysics Data Analysis Program 2015 (ADAP)** - Cosmic Rays, Magnetic Fields and Diffuse Emissions: Combining Observations from Radio to Gamma Rays (**429,000 USD**).
- **NASA Fermi GI cycle 8** - Linking LAT Gamma-Ray and Radio Observations of the Galactic Diffuse Emission (**55,000 USD**).
- **NASA Fermi GI cycle 5** – Constraining models of our Galaxy, diffuse gamma-ray emission and cosmic-ray propagation (**198,000 USD**).
- **AGILE AO1** – Gamma-ray emission from star-forming regions (observation time and data right only).
- **AGILE AO2** – Gamma-ray emission from star-forming regions (observation time and data right only).

## **SUCCESSFUL PROPOSALS AS Co-I or Collaborator**

- **NASA ROSES-2015 APRA** – Modeling of Cosmic-Ray Propagation and Galactic Diffuse Gamma-Ray Emission in Support of Current and Future NASA Missions, Phase 3 – PI: Moskalenko.
- **NASA Fermi GI cycle 7** – Disentangling dark matter gamma-ray signal from astrophysical foregrounds: combining searches in a public framework – PI: Charles.
- **NASA Fermi GI cycle 5** – Emission from the quiescent Sun: a study and a tool – PI: Moskalenko. I was *Coordinator* of the work for 2013-2014. The Fermi LAT Solar System Tools were officially released by NASA (Johansson & Orlando 2013).
- **NASA Fermi GI cycle 5** – On the nature of the Fermi-LAT unassociated Galactic sources - PI: Bottacini.
- **NASA Fermi GI cycle 4** – Study of the gamma-ray emission from solar system bodies – PI: Moskalenko.
- **NASA Fermi GI cycle 2** – Study of the extended emission around the Sun due to inverse Compton scattering of cosmic-ray electrons on solar photons.
- **INTEGRAL A09** – Probing relativistic electrons in the Galaxy and its halo (3Ms observation time and data right) – PI: Strong.
- **INTEGRAL A08** – Probing relativistic electrons in the Galaxy and its halo (3Ms observation time and data right) – PI: Strong.
- **AGILE A01** – AGILE GRID observations of Unidentified EGRET sources likely related to supernova remnants (observation time and data right) – PI: Torres.

- **NASA ROSES-2008 APRA** – Modeling of Cosmic-Ray Propagation and Galactic Diffuse Gamma-Ray Emission in Support of Current and Future NASA Missions – PI: Moskalenko. I was working on implementing the Galactic magnetic field, the radio and microwave interstellar emission in GALPROP.
- **INTEGRAL A07** – Probing relativistic electrons in the Galaxy and its halo (3Ms observation time and data right) - PI: Strong.

## **ORGANIZATION OF SCIENTIFIC MEETINGS AND CONFERENCES**

- *Organizer* with Italian Consulate of a scientific event for the visit of the President of the Italian Space Agency at Stanford (Stanford, USA) 9 August 2019
- *Organizer and Convener of the Solar Splinter Session* of the Fermi LAT Collaboration meeting (Santa Cruz, USA) Sep 2019
- *Convener* of the Fermi LAT Collaboration Meeting, March 2019 (Bled, Slovenia)
- *Organizer and chair* of the “International Conference of Young Astrophysicists and Astronomers” 2018 (Padova)
- *Convener* of the “Galactic Sources” Session at the TeVPA 2017 (Ohio, USA)
- *Organizer* of the seventh Fermi Symposium 2017, Garmish (Germany).
- *Organizer and Convener* of bi-weekly teleconferences within the Fermi-LAT Collaboration (2011-2015 and 2018-present)
- *Convener and organizer* of many sessions of four Fermi LAT Coll. meetings (Stockholm, SLAC, Montpellier, Bled) (2013-2014, and 2018-present)
- *Organizer* of the workshop “Gamma-ray diffuse studies” (MPE Munich, 2009)

## **INVITED TALKS AT INTERNATIONAL CONFERENCES and WORKSHOPS**

22. Panelist at the Italy-USA Innovation Forum & Round Table Space Industry, Science and Technology, Stanford and NASA Ames, October 2019.
21. “**Space Missions for High-Energy Astrophysics**” for the visit of the President of the Italian Space Agency at Stanford, August 2019.
20. “**Diffuse emission and Cosmic rays**” Multimessenger Data Analysis in the CTA era, Sesto, Italy, July 2019
19. “**Cosmic rays and magnetic fields**” EWASS 2019, in the session “New inputs and prospects to model Milky Way Magnetic Fields”, Lyon July 2019 (review talk)
18. “**Interstellar medium, cosmic rays, and associate gamma rays**” The AMEGO Workshop, Sep 5-7 2018, NASA Goddard
17. “**Cosmic rays from multifrequency observations**” The CRATER 2018, 28 May 2018 to 01 June 2018 Gran Sasso Science Institute
16. “**Cosmic rays, Gamma and Synchrotron Connection**” The High Energy Universe: Gamma Ray, Neutrino, and Cosmic Ray Astronomy, MIAPP Garching, March 2018, Germany
15. “**The synchrotron spectral index**” *B-modes from space Workshop*, Berkeley Nov 2017
14. “**Cosmic rays and interstellar emissions from radio to gamma rays**” *Three elephants in the gamma-ray sky*, Garching Oct 2017.

13. **“Quiet solar emission”** *2nd e-ASTROGAM Workshop, joint to AMEGO Workshop: towards a White Book on MeV Gamma-ray Astrophysics*, Munich Oct 2017
12. **“Gamma rays from interstellar space and cosmic rays”** *2nd e-ASTROGAM Workshop, joint to AMEGO Workshop: towards a White Book on MeV Gamma-ray Astrophysics*, Munich Oct 2017
11. **“Synchrotron radiation in the context of cosmic ray propagation models”**, *The Radio Synchrotron Background Conference*, Richmond, July 19-21, 2017
10. **“High and very-high energy gamma-ray observations of the Milky Way”**, *SciNeGHE*, Pisa Oct 2016 (review talk)
9. **“Insights on cosmic rays and interstellar emission from gamma ray observations”** *Symposium High and Very-High Energy Gamma-ray Astronomy: status and future at EWASS*, Athens July 2016 (review talk)
8. **“Interstellar medium from radio to gamma energies”** *Workshop on the Future of Dark Matter Astro-Particle Physics*, Trieste 8-11 Oct 2013
7. **“What gamma rays with Fermi-LAT tell us about cosmic rays”** *14th ICATPP Conference on Astroparticle, Particle, Space Physics and Detectors for Physics Applications*, Plenary session, Como 23-27 Sep 2013
6. **“Interstellar radio emission and its implication for cosmic rays and magnetic fields”**, *PACIFIC 2012 Symposium on Particle Astrophysics and Cosmology*, 1-7 Sep 2012, Moorea
5. **“Cosmic rays, gamma rays and synchrotron radiation from the Galaxy”**, *SciNeGHE*, 20-22 June 2012, Lecce
4. **“Local gamma-ray sources”** *SciNeGHE*, Sep 9th 2010, Trieste, Italy (review talk)
3. **“Synchrotron emission and magnetic fields”** *High Energy Workshop*, Garching, Apr 23rd, 2009
2. **“Synchrotron and magnetic fields with GALPROP”**, *CESR Toulouse, GLAST-WMAP-PLANCK Workshop*, 10 April 2008
1. **“Synchrotron and magnetic fields with GALPROP”**, *UHECR and Magnetic field Workshop*, Ringberg 11-14 Feb 2009

#### INVITED COLLOQUIA and SEMINARS

1. Delaware University **“The Journey of Cosmic Rays in our Galaxy”** Feb 28, 2018, Università di Trieste **“Relativistic particles in Space”** Jan 19th, 2018
2. Università di Padova, **“Cosmic rays and interstellar emissions”**, June 19th 2017
3. MPI Munich colloquium, **“Cosmic rays and Galactic diffuse radiation from radio through X-ray to gamma-ray energies”**, June 26th 2012
4. Space Sciences Laboratory Colloquium Berkeley, **“Cosmic rays and Galactic diffuse radiation from radio through X-ray to gamma-ray energies”**, 8 June 2012.
5. INAF Bologna, **“Cosmic rays in the Galaxy”** Nov 15, 2012.
6. Tea talk seminar, **“The quiet Sun in gamma rays”**, Jun 14th 2011, Stanford University
7. CNES, Paris **“Cosmic-ray propagation in the Galaxy”**, Mar 15th, 2010
8. Cluster of excellence, Garching, **“Quiet Gamma-ray emission from the Moon and the Sun with Fermi/LAT”**, May 2009
9. GLAST Science lunch, **“Galactic and solar gamma-ray emission: theory, results from EGRET and prospects for GLAST”**, Jan 24th, 2008, SLAC, USA
10. Gamma-ray workshop, **“Gamma-ray emission from the solar halo and disk: a study with EGRET data”**, Feb 16th, 2008, Ringberg, Germany
11. MPE Garching **“AtmoCube: analysis and design of a pico-satellite in order to study the Earth’s atmosphere”**, Feb 15th, 2005

## CONTRIBUTED TALKS AT INTERNATIONAL CONFERENCES

1. “A Consistent Model of the Interstellar Gamma-Ray Emission to Interpret Fermi LAT Observations of Diffuse Emissions” ICRC2019, July 2019, Madison USA
2. “Local Interstellar Cosmic-Ray Spectra and Diffuse Galactic Emission from Radio to Gamma Rays” AAS Meeting, Jan 2019 Seattle, USA
3. “Modelling the Quiescent Gamma-Ray Solar Emission and the Cosmic Ray Electrons in the Inner Heliosphere” *COSPAR 2018*, July 2018 Los Angeles, USA
4. “Multi-wavelength Signatures of Cosmic Rays in the Milky Way” *TeVPA 2017*, Ohio USA
5. “Multi-wavelength Signatures of Cosmic Rays in the Milky Way” *45th edition of the ICRC*, Busan South Korea 2017
6. “Recent results and coming improvements of the GALPROP cosmic-ray propagation code” *Cosmic Ray Origin -beyond the standard models*, Cadore (Italy) Sep 2016
7. “Latest applications and results with the GALPROP cosmic-ray propagation code” *25th edition of the European Cosmic Ray Symposium*, Torino Sep 2016
8. “Diffuse emissions from radio through microwaves to gamma rays”, *28th Texas Symposium on Relativistic Astrophysics*, Geneva, Switzerland, Dec 13 to 18, 2015
9. “Cosmic rays from multi-wavelength observations of the Galactic diffuse emission”, *TAUP 2015* Sep 2015, Torino (Italy)
10. “Multi-wavelength constraints on cosmic-ray leptons in the Galaxy”, *ICRC 2015* July 2015, The Hague (The Netherlands)
11. “Cosmic rays and magnetic fields using radio observations and multiwavelength constraints”, *CHANG-ES workshop*, Kingston July 2013
12. “Cosmic-ray leptons, magnetic fields and interstellar synchrotron emission”, *ICRC 2013* Brazil, July 2013
13. “Synchrotron radiation, magnetic fields and cosmic rays” *Planck Conference 2012*, Bologna, Feb 2012
14. “Modeling the synchrotron emission in the Galaxy”, *ICRC 2011*, Aug 16<sup>th</sup>, 2011
15. “Cosmic rays, gamma rays and synchrotron radiation from the Galaxy”, *TAUP*, Munich Sep 7<sup>th</sup> 2011
16. “Fermi-LAT Observation of the Solar Gamma-ray Emission”, American Astronomical Society, *AAS Meeting*, Miami, May 2010
17. “Fermi-LAT Observation of the Gamma-ray Emission from the Sun”, *2009 Fermi Symposium*, 2-5 Nov Washington
18. “Cosmic-ray electrons, synchrotron and magnetic fields in the Galaxy”, the *31st ICRC*, Lodz, Poland, July 2009
19. “The extended inverse-Compton gamma-ray emission from the Sun seen by EGRET”, *ICRC 2007*, Merida, Mexico

+ more than 30 posters as first author

## SCIENTIFIC ANALYSIS TOOLS PUBLICLY RELEASED

Developer of scientific software publicly released to the scientific community:

- **GALPROP code:** Co-developer and tester of the GALPROP code to calculate propagation of cosmic rays in the Galaxy and associated diffuse emissions. The software is accessible via web browser (<http://galprop.stanford.edu>). It is officially used in the Fermi-LAT and Planck collaboration to model the Galactic diffuse emission. It is written in C/C++. *More than 1,000 users worldwide.*



- **Solar Template Tools:** Co-developer and tester of the tool officially released in 2013 by the Fermi Science Support Center (FSSC) NASA's Fermi science tools ([http://fermi.gsfc.nasa.gov/ssc/data/analysis/scitools/solar\\_template.html](http://fermi.gsfc.nasa.gov/ssc/data/analysis/scitools/solar_template.html)) (ref. Johannesson & Orlando 2013 arXiv:1307.0197). Co-responsible for the tutorial webpage at the FSSC. It is written in Python 2.7. *Adressed to all the Fermi Large Area Telescope data users.*
- **StellarICs:** Co-developer and tester of the software to calculate the inverse Compton emission from stars and Sun (ref. Orlando and Strong 2013 NuPhS 239, 266). <http://sourceforge.net/projects/stellarics/>. It has been used to obtain the models of the gamma-ray solar emission officially released by the Fermi-LAT collaboration as well as with the Solar Template Tools and in Fermi-LAT publications. It is written in C/C++. *Downloads to date: 235.*

### ADDITIONAL SERVICE

**2019: Commitee Member**, and presenter for the 2019 Leonardo 500 Award. Awards were given at Gala April 5th, 2019 San Francisco (<http://www.davincisanfrancisco.com/2019/01/ldvsaward/>). This award was established on the 500th anniversary of Leonardo da Vinci's death to recognize Italian or Italian American early-career researchers working in the San Francisco Bay Area. The winners were presented an award certificate and a \$1,000 prize at the annual Gala meeting.

**2018: Founder and Coordinator** of the "Career Advising Program" (<http://www.issnafac.org>) of the Bay Area Chapter Young ISSNAF, Italian Scientists and Scholars of North America Foundation. Italian scientists in USA are paired with students in Italy to provide career advice and possibly exchange programs. Nine pairings to date.

**2017: Founder and Board Member** of the Bay Area Chapter of ISSNAF - Italian Scientists and Scholars of North America Foundation (<http://www.issnaf.org/bay-area-chapter.html>). The largest network among Italian scientists in the Bay Area, USA, including Stanford University, Berkeley Univ, Santa Cruz Univ., Davis Univ, SLAC, San Francisco Univ., LBNL.

### PROMOTER OF DIVERSITY-FOCUSSED ACTIVITIES

- Organizer and moderator of events in support of Diversity and Inclusion in Science in Italy with the Diversity Committee (Comitato di Garanzia, CUG) of the University of Trieste. First event Nov 5<sup>th</sup> 2019 in Trieste "La Luna e' per tutti" (The all-gender Moon).
- Panelist at the public event "Five Women. Five Inustries. One Community." San Francisco SAP.io March 7<sup>th</sup> 2019
- I was one of the 18 Co-PIs of an international program and proposal submitted to the 100&Change call of the McArthur Foundation titled "Woman and Minorities in STEM" (100M USD) in 2016 (not selected)
- I was Mentor at the AWIS (Association of Women in Science at Stanford University)
- Promoting "Girls' day", an initiative for incentivizing young girls to study science. Max-Planck-Institut fuer extraterrestrische Physik (MPE) in Garching (Germany), 2008, 2009, 2010

## ORGANIZER OF FURTHER OUTREACH ACTIVITIES

- *Organizer* of the event “Do innovations come from industry and inventions from academia?” 27 August 2019 (Stanford, USA). Panel discussion to investigate relations between industry and academia.
- *Organizer* of the scientific event “BAC Talks” 16 May 2019 (Palo Alto, USA) Outreach event.
- *Organizer* of the scientific event “BAC Talks” 20 Mar 2019 (Berkeley, USA) Outreach event.
- *Organizer* of the scientific event “BAC Talks” 16 Jan 2019 (Palo Alto, USA) Outreach event.
- *Organizer* of the scientific event “BAC Talks” 26 Sep 2018 (Berkeley, USA) Outreach event.
- *Organizer* of the scientific event "The Enrico Fermi's Legacy: from La Sapienza to the Bay Area" for the La Giornata della Ricerca Italiana nel Mondo. In collaboration with Consulate General of Italy, the Istituto Italiano di Cultura in San Francisco, the Italian Scientists and Scholars of North America Foundation, San Francisco, 5 May 2018 (San Francisco, USA)
- “Tage der offenen Tuer am MPE” (open house). Max-Planck-Institut fuer extraterrestrische Physik (MPE) in Garching (Germany), 2005, 2006, 2009

## MEDIA APPEARANCES

### USA:

- Article for L'ItaloAmericano 25 April 2019 “San Francisco’s celebrations of Leonardo and his genius coming to an end in May” <https://italoamericano.org/story/2019-4-25/celebration-leonardo> , on the 2019 Leonardo 500 Award.
- Chaired and presenter at the premiation of the three winners of the Leonardo 500 Award, San Francisco, in collaboration with ISSNAF, Leonardo da Vinci Society, and Italian Consulate in San Francisco, Gala at The Century Club of California in April 2019.
- Interview for Quanta Magazine “Gamma-ray data reveal surprises about the sun” <https://www.quantamagazine.org/gamma-ray-data-reveal-surprises-about-the-sun-20190501/>
- Article for L'ItaloAmericano 25 March 2019 “Celebrating success, recognizing excellence, and raising money for Women’s History Month” (<https://italoamericano.org/story/2019-3-25/women-history-month>)
- Interview as Invited Panelist at the public event “Five Women. Five Industries. One Community.” San Francisco SAP.io March 7<sup>th</sup> 2019 <https://www.ularch.com/blog-1/2019/4/18/baia-womens-history-month>
- PRESS RELEASE NASA news 2019 “Gamma Rays from Our Neighbors: The Quiet Sun and Moon” <https://fermi.gsfc.nasa.gov/fermi10/fridays/09142018.html>
- The Kavli Foundation “Researchers Find Two Distinct Components of High-Energy Emission from Direction of the Sun” 28 aprile 2011 <http://www.kavlifoundation.org/kavli-news/let-sun-shine#.W6KF7X5IAUE>

- SLAC today “Fermi Telescope Unites the Near and Far With Gamma Rays From the Sun” <http://today.slac.stanford.edu/feature/2011/fgst-cosmic-ray-sun-gamma.asp> . 2011

### **International:**

- Interview for Portogruaro.net Magazine May 2019 “Elena Orlando, Portogruarese di spicco a Stanford. Dalla Germania agli USA, da quasi 15 anni contribuisce alla ricerca in campo astrofisico internazionale” <http://www.portogruaro.net/magazine/scheda.php?magazine=89>
- Interview for Popular Science Italy printed version March 2019 “Nella mente dei 20 ricercatori che cambieranno il mondo.” “Alla ricerca dei raggi cosmici.”
- Interview for Italian nationwide newspaper Il Corriere “Le testimonianze di chi è all'estero: «Così catturano i migliori talenti»” <https://www.corriere.it/cronache/cards/testimonianze-chi-all-estero-così-catturano-migliori-talenti-lettere/elena-orlando.shtml> luglio 2018
- Interview for Italian nationwide newspaper Il Corriere “La diaspora dei ricercatori. «Più qualità, meno clientele. Noi all'estero per passione” 7 luglio 2018 [https://www.corriere.it/cronache/18\\_luglio\\_07/diaspora-ricercatori-piu-qualita-meno-clientele-noi-all-estero-passione-b9701fee-8229-11e8-a063-c48368df153e.shtml](https://www.corriere.it/cronache/18_luglio_07/diaspora-ricercatori-piu-qualita-meno-clientele-noi-all-estero-passione-b9701fee-8229-11e8-a063-c48368df153e.shtml)
- Article for Italian nationwide newspaper La Repubblica 14 maggio 2018 “ISSNAF a San Francisco, networking ricercatori-imprese” <http://rampini.blogautore.repubblica.it/2018/03/14/issnaf-a-san-francisco-networking-ricercatori-imprese/?ref=RHPF-WB>
- Presentation of the CubeSat project UWE-1 and TV interview at Saarbrücken (Germany) for the event “Bildung Forschung Zusammenarbeit” 27 maggio 2006

### **FURTHER EXPERIENCE AND CERTIFICATES**

- Jan 15-18 2014: Workshop “Communicating science” by Alan Alda, KIPAC Stanford University (18 hours)
- Apr-May 2012: “Mentoring In Research Workshop” (7h), Stanford University

### **PROFESSIONAL ACCREDITATIONS**

- 2018: “Abilitazione nazionale tornata 2016”: qualified to be Full Professor in Italy in experimental astrophysics,  
area 02/A1 Fisica Sperimentale delle Interazioni Fondamentali, prima fascia
- 2018: “Abilitazione nazionale tornata 2016”: qualified to be Full Professor in Italy in Astronomy and Astrophysics,  
area 02/C1 - Astronomia, Astrofisica, Fisica della Terra e dei Pianeti, prima fascia
- 2017: “Abilitazione nazionale tornata 2016”: qualified to be Associate Professor in Italy Astronomy and Astrophysics,  
area 02/C1 - Astronomia, Astrofisica, Fisica della Terra e dei Pianeti, seconda fascia

2013: “Abilitazione nazionale tornata 2013”: qualified to be Associate Professor in Italy in experimental astrophysics,  
area 02/A1 Fisica Sperimentale delle Interazioni Fondamentali, seconda fascia