

## CURRICULUM VITAE

Prof. Francesco Berrilli

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### Employment

07/2020 - present: Full Professor, Dept. of Physics, University of Rome Tor Vergata  
10/2004 - 07/2020: Associate Professor, Dept. of Physics, University of Rome Tor Vergata  
05/1989 - 10/2004: Assistant Professor, Dept. of Physics, University of Rome Tor Vergata  
09/1985 - 05/1989: High school teacher (Physics and Laboratory), Ministry of Education  
01/1985 - 08/1985: Software developer: semantic algorithms and relational database, SOGeI SpA

### Teacher of:

- Sun and Space Climate (Master in Physics)
- Numerical Calculus and Computer Science Laboratory (Bachelor in Physics)
- Fundamentals of Didactics of Physics (Master in Physics)
- Sun and Space Weather (2nd level Master in Space Science and Technology)
- Motion and Energy Modules (2nd level Master in Science teaching profession)

### Adjunct Positions

Corresponding member of Accademia Nazionale dei Lincei [2014 – present]  
Research Collaborator at CNR-Institute of Physics of Interplanetary Space [1985 – 1998]  
Associate National Institute for Nuclear Physics (INFN) [2011 – present]  
Associate National Institute of Astrophysics (INAF) [2010 – present]  
Visiting Researcher at Institute for Astronomy – University of Hawaii (Maui, USA) [Autumn 2014]  
Visiting Researcher NSF at Geographic South Pole [Antarctica Summer 2016-17]

### Research Skill Summary

Instrumentation, Data analysis and Observational Astrophysics: 38 years; Image Acquisition and Analysis: 30 years; Solar Physics and Sun-Earth interaction: 22 years; Space Weather: 11 years; Physics Education Research: 11 years.

Note: Have secured funding as PI or Co-I in all research fields: about 2.4M€, 20 National Project grants and 8 European Project grants:

CNRS: Projet International de Coopération Scientifique 2001

FP7-INFRASTRUCTURES EST: The large aperture European Solar Telescope

FP7-SOLARNET: High-resolution Solar Physics Network

H2020-INFRADEV-1-2014-1 GRESt: Getting Ready for the European Solar Telescope

European Commission-Home Affairs CIPS-SPARC: Space Awareness for Critical Infrastructure

European Commission-Growth-Tender IPS Ionospheric Prediction Service project

H2020-INFRADEV-2016-2 PRE-EST Preparatory Phase for the European Solar Telescope

H2020-INFRAIA-2018-1 SOLARNET Integrating High Resolution Solar Physics

**Scientific Publications:** 253 entries, 99 refereed [NASA/ADS Database]

## Professional Services

- Scientific coordinator of the Solar and Space Physics Group of the Department of Physics UNITOV
- Member of the Lincei “Commission for the environment and major natural disasters”
- Member of the Italian Space Agency (ASI) “Space Weather National Working Group”
- Elected member of the Scientific Board of SWICo (Space Weather Italian Community)
- Elected member of Macroarea 3 - Sun and Solar System of the INAF (no longer active)
- Italian member in the Groupe de Travail "Sun & Sun-Earth relationships" of the Institut national des sciences de l'Univers/CNRS and the Scientific Board of the BASS2000 database, Observatoire Midi- Pyrenees- Université de Toulouse (no longer active)
- Italian member, nominated by CNR, of the Scientific Advisory Council of the Franco-Italian solar telescope THEMIS (no longer active)
- Member of the International Astronomical Union, American Geophysical Union, European Physical Society, International Association of Geomagnetism and Aeronomy, Italian Physics Society
- Member of the steering committee on Public Outreach division II IAU (Heliophysics)
- Member of the Referees Pool: European Science Foundation, MIUR and Georgia Science Academy
- Expert Reviewer of the WG Contribution to the IPCC Sixth Assessment Report
- Deputy director of the II level UNITOV Masters: Science and Technology for Space and Trainer Profession in Science Education
- Deputy member of the Management Committee of the European Action COST ES1005 "Towards a more complete assessment of the impact of solar variability on the Earth's climate"
- Delegate for the University of Tor Vergata at the assembly of members of the National Interuniversity Consortium (CIFS) for Space Physics
- Delegate for the Space Weather for the National Technological Platform “SPIN-IT Space Innovation in Italy SPIN IT/CTNA of the ASI Working Group
- Member of National Space Weather Working Group of Italian Space Agency
- Principal Investigator ADAHELI Solar Mission Project (ASI phase A awards grant)
- Principal Investigator ADAHELI + Solar Mission ESA Call Small Missions 2012 proposal
- Principal Investigator SEE - Sun cubE onE Bando per Future Missioni Cubesat (ASI)
- Solar Mission Project (ASI phase A awards grant)
- Member of the Mission Scientific Teams of the missions: ESA-SolmeX, NASA-SAFARI, ESA-HiRISE, ESA Solar Orbiter
- Former Head of the Computing Center of the Physics Department
- Head of the Mechanical Workshop of the Physics Department
- Section editor for Geophysics of the Rendiconti Lincei Physical and Natural Sciences (LYNC) - Springer Nature
- Review Editor on the Editorial Board of Astronomical Instrumentation (specialty section of Frontiers in Astronomy and Space Sciences).
- Director of two International Schools "Frontiers of Space Science: from Solar Activity to NEOs" and "Ground and Space-based Instruments for Future Research in Solar-Terrestrial Physics"
- Member of several SOC and LOC and/or convener of National and International Meetings, Workshops and Congresses
- Journal Reviewer for: Advances in Space Research; Annales Geophysicae; Astronomy and Astrophysics; Earth, Moon, and Planets; Frontiers in Astronomy and Space Sciences; Il nuovo Cimento; International Journal of Thermal Sciences; Journal of Astronomical Telescopes: Instruments and Systems; Journal of Space Weather and Space Climate; Living Reviews in Solar Physics; Meteorological Applications; Methods in Physics Research;

Monthly Notices of the Royal Astronomical Society; Physica A; Solar Physics; The Astrophysical Journal; The European Physical Journal D.

**Supervisor** of several dozen Bachelor's theses in Physics, **Supervisor** of 26 Master's theses in Physics and Universe Sciences, **Supervisor** of 20 PhD theses in Physics, Astrophysics and Space Science.

### **Honours and Awards**

- Award: IAU Minor Planet Center 7918 Berrilli (1981 EJ22) Asteroid Name
- 2013 Research & Innovation Award - Edmund Optics – Fabry-Perot prototype @ UNITOV

### **Education**

Laurea in Fisica with grade 110/110 at La Sapienza, Rome University "Realization of an infrared spectrophotometer for the TIRGO telescope and first results of Herbig's Ae/Be star observations" Supervisors: Dr Paolo Saraceno, Prof. Francesco Melchiorri; Co-examiner: Prof. V. Castellani

### **Dissemination and outreach**

Particular attention has been dedicated to the dissemination of scientific culture by participating in dozens of dissemination initiatives of: physics, astrophysics, solar physics, sun-earth relations, climatology and history of science in Italy, Spain and France, at schools, scientific institutes, cultural foundations, libraries and academies.

Among these of particular relevance are:

The collaboration in the presentation video of the European Solar Telescope - EST (2018) and the documentary on European solar physics "Reaching for the Sun".

Invited to the SPACELAB broadcast of RAI News 24 to talk about:

- 16/3/2012 "The Sun, asteroids, the origin of life"
- 17/4/2013 "Celebration of the IV centenary of the publication of Galileo Galilei's booklet History and demonstrations around sunspots"
- 16/5/2013 "The Sun and the maximum activity of 2013"

Invited to RAI Scuola's MEMEX program to talk about CLIMATE and Sun:

- 9/3/2016 "Memex: Predicting the climate of tomorrow"

Invited to the TV2000 program There is Space to talk about Space Meteorology and future instrumentation in the solar field:

- 9/11/2017 "C'è Spazio - Sun and stars" - <https://www.youtube.com/watch?v=x9n7uLqLZYk>
- 24/11/2018 " C'è Spazio Xtend - Interview with the Researcher - Episode 3"

[https://www.youtube.com/watch?v=QfvVO\\_jYVCo&t=35s](https://www.youtube.com/watch?v=QfvVO_jYVCo&t=35s)

RAI Radio 3 Scienza 04/02/2020 "Stelle fotogeniche"

Collaboration in the preparation of the closing videos of the Tor Vergata internships as part of the MIUR National Educational Project "Internships in Universities"

- The Sun active star (First part) <http://www.youtube.com/watch?v=68rg1azZKi4>
- The Sun active star (Second part) <http://www.youtube.com/watch?v=kzwhY8t-lx8>

Participation in the organization of educational conferences within the PLS of MIUR:

- Meeting with the Schools, 10 December 2009 - Galileo: Protagonist of the culture of his time

- Meeting with the Schools, 25 March 2010 - Kepler: modern and ancient, reason and mysticism
- Meeting with the Schools, 9 December 2010 - Newton and his time

The sponsorship and participation in PINT OF SCIENCE FESTIVAL and the conference Observing the sun from the end of the world Wednesday 17 May 2017 (<https://pintofscience.it/event/Osservare-il-sole-dalla-fine-del-mondo>)

The collaboration with the Coelum magazine in the drafting of the dissemination articles: The European Solar Telescope project – EST, More than an interview, a referendum on ALH 84001, Is there something wrong with the Sun?

The collaboration with the magazine Le Stelle in the drafting of the dissemination articles: Predicting Solar Storms Le Stelle, N.148, p.36-41, 2015

The organization of the event on the Solar Eclipse March 20, 2015 in collaboration with Sky TG24 HD - <https://www.youtube.com/watch?v=STGwPQxdHUQ> with 118459 contacts

Notte della Ricerca 2020 “Studiare il Sole per capire il clima sulla Terra”

Contribution to the Fourth Science and Environment Day, University of L'Aquila, Ultraviolet solar radiation in the earth's atmosphere: variability and biological implications. ISBN: 9788896868676 (<http://www.univaq.it/include/utilities/blob.php?table=evento&id=896&item=locandina>)