



# VALERIA PETTORINO

PHYSICIST, PHD, HDR

## CONTACT INFORMATION

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## PROFILE

I am an astrophysicist with 15+ years experience. Project manager within large international collaborations, typically in roles at the interface between theory and data analysis. President of the Programme National de Cosmologie et Galaxies.

## SKILLS & ABILITIES

- Theoretical physics and data analysis
- Project management
- Event organisation
- Communication
- Speaker
- Enjoys working in a Team

## QUALIFICATIONS

2019 Habilitation à Diriger des recherches  
2017 - 2026 Abilitazione Scientifica Nazionale  
02/A2 - FISICA TEORICA DELLE INTERAZIONI  
FONDAMENTALI (Prima e Seconda Fascia)  
02/C1 - ASTRONOMIA, ASTROFISICA, FISICA  
DELLA TERRA E DEI PIANETI (Prima e  
Seconda Fascia)

## PROFESSIONAL HISTORY

### Staff Scientist

CEA Paris Saclay (2016 - Present)

#### Responsibilities:

- President of the Programme National de Cosmologie et galaxies
  - Co-Lead of the *Euclid* Satellite Inter-Science Taskforce
  - Member of the *Conseil Scientifique et Technique*, CEA DAp
  - CEA Representative for *CMB Perspectives* for CNES
  - EU Expert Reviewer
  - CEA Expert in cosmology, theory and data interpretation
- Communication and mentoring:
- Direction board for Euclid France Communication
  - Advisor for Euclid - ENSAAMA science and art partnership
  - Co-lead of Mentorship Programme for Women in Physics

#### Event organisation:

- Organiser of GOLD 2021, 10-week scientific programme
- Board member of EuroPython Society (2018-2019)
- Co-organiser of EuroPython conferences (2017-2019)

#### Training:

- Agile Management, Science Diplomacy

### Group Leader

University of Heidelberg (2014 - 2016)

#### Responsibilities:

- Lead of Planck satellite data analysis on dark energy
- Grant manager, ~ 1M euro won in 2 years
- Representative for European CANTATA COST action (in charge of the equal opportunity team)
- Member of Research Council for investments plan

#### Training:

- Data Science, Machine Learning

### Postdoctoral Researcher

University of Geneva (2012 - 2014)

SISSA Trieste (2010 - 2012)

Columbia University, New York (2009-2010)

University of Heidelberg (2007-2009)

University of Torino (2005-2007)

#### Event organisation:

- Winter School on Cosmology, Tonale, Italy (14 editions, co-funder)

#### Communication:

- Euclid Deputy for Public Outreach (2012-2014)
- Popular talk at the Italian Academy in New York

#### Grants:

- Marie Curie Fellowship
- Alexander von Humboldt Fellowship
- SISSA Young scientist
- Research Associate at the Italian Academy in New York

## LANGUAGES

**Italian** ● ● ● ● ●  
Native

**English** ● ● ● ● ●  
Full Professional

**French** ● ● ● ● ●  
Full Professional

**German** ● ● ● ● ●  
Intermediate

## AWARDS

- 2019 *Euclid STAR Prize*, category TEAM
- 2019 *Giuseppe and Vanna Cocconi Prize* to WMAP and Planck Collaborations
- 2018 *Gruber Prize in Cosmology* to Planck Collaboration
- 2018 *Marcel Grossman Institutional Award* to Planck collaboration
- 2018 *Group Award* by Royal Society to Planck Collaboration
- 2010, 2014, *Best Reviewer* for PLB
- 1995, 3rd place English debating competition in Ontario, Canada
- 1993 Langhe Prize

## NETWORKS

- [Supernova Foundation](#) - women in physics, leadership team since 2017
- [EuroPython Society](#), member since 2017, board member 2019, supporting python in Europe.
- [DIRE](#) (Donne Italiane Rete Estera - Italian Women Abroad, based in Paris)

## EDUCATIONAL HISTORY

### Habilitation à Diriger des Recherches (HDR)

Université Paris Sud, 2019

### PhD in fundamental and applied physics

Federico II Univ. Naples 2002 - 2005

### Graduate studies

Federico II Univ. Naples 1997 - 2002

- 110/110 cum Laude
- ERASMUS exchange in Grenoble

### Ungraduate studies

Liceo Scientifico Caro Naples 1992 - 1997

- Intercultura exchange in Canada
- Langhe Prize for highest marks in the school
- 60/60 with mention of committee

## CERTIFIED TRAINING

I value transfer of knowledge and I am continuously seeking training in transferable skills that allow me to improve my skills as scientist and manager, in an international context.

- Science Diplomacy, by S4D4C EU-H2020 (2020)
- Intermediate Machine Learning on Kaggle (2020)
- Convolutional Neural Networks in TensorFlow (2020)
- Introduction to TensorFlow for AI, ML, and DL (2020)
- Managing an Agile Team (2020)
- Data Visualization with Python by IBM (2019)
- Machine Learning by Andrew NG on Coursera (2019)
- Using Databases with Python (2015)
- A Crash Course in Data Science (2015)
- Communication in the 21st Century Workplace (2015)
- Python Data Structures (2015)
- The Art of Negotiation (2015)

## TEACHING

I have given classes at the master and PhD levels and in international schools as an invited lecturer, including:

- 2017, 2018 Rencontres d'été de physique, 4th year of university, lectures on 'Physics at very large scales'.
- 2014-2016 Linear perturbations and CMB, Heidelberg.
- 2015 Invited lectures on CMB and Dark Energy, Lintz, Austria.
- 2014 Invited lecture on the CMB, Azores school on Cosmology (student feedback available upon request).
- 2013 Invited series of PhD lectures on the Dark Universe, SISSA, Trieste, Italy.
- 2012 Lab. of Theoretical Physics, Univ. of Geneva, Switzerland.
- 2009 Tutorial on "General Relativity", University of Heidelberg.
- 2004 Teaching assistant, Univ. Naples, "Quantum Mechanics".

## COMMUNICATION

I have given invited talks worldwide (~20 in the last 5 years) as expert in my field, on theory, observations and reviews of the state of the art.



I engage in communication for the general public. Press Releases and videos are available on my website. Here is a selection:

- Interview for [Quanta Magazine](#)
- Interview for [Radio France Internationale](#), on the anniversary of Sputnik1
- Invited talk for the 150th anniversary of Italy (2011, Brera)
- Lindau Nobel Laureats Meeting, 2012  
(selected among 3 young researchers for an interview for Nature, with Laureats B.Schmidt and J.Mather)
- Consulting for Euclid Satellite - ENSAAMA École d'Arts et Métiers, Paris for a project in metal inspired to cosmology.

## EXPERT AND JURY MEMBER

European Commission monitor for Horizon 2020  
Lindau Alumni Peer Reviewer 2020  
Evaluation Committee CEA DPhP 2020  
HDR Jury member (FR), 2018  
PhD Jury member (CH 2016, 2018, FR 2017, 2019)  
CMB Perspectives CNES panel (FR) 2017-2019  
HCERES Expert Reviewer (FR) 2018  
Referee for Research Council UCL (BE), 2018  
Euclid Prize Chair 2017  
Evaluator Marie Curie fellowships 2014, 2016, 2017  
Panel selection women fellowships (DE) 2016  
Research Council Heidelberg, (DE) 2015-2016  
Referee for National Science Centre Poland 2014  
Evaluation Committee Heidelberg DE 2010  
Referee for 9 international journals since 2008

## SCIENCE DIPLOMACY

I am interested in how science and science policy can be used for evidence-based diplomacy to address societal challenges, and to improve international relationships.

- President of the PNCG (2019 - present)
- MCAA Science Policy Work Group, member
- On-line class on Science Diplomacy, S4D4C (2020)
- Writing of articles on [open science](#) and [resources](#) for equal opportunity, inclusion and women in science.

## MENTORING

- [Supernova Foundation](#) - leadership team since 2017 and mentor for the pilot programme.  
Worldwide mentoring programme for women in physics, including about 300 women from 22 countries. We connect women and organise group webinars on different topics (CV and application process, career path, strategies to deal with different problematics that may arise, gender-specific harassment, as well as valorisation of skills.)
- CV and job mock interviews for PhD and postdocs.
- Tutorial on [how to give a talk](#).

## EVENTS I ORGANISED (SELECTION)

- **GOLD, Paris France 2020**, a 10 week programme for researchers, students, postdocs including a school, 3 workshops and tutorial sessions.
- **EuroPython 2019**, Basel, CH - elected in the board of the EuroPython Society, Helped with selection of the location, programme, marketing and communication, contact point for dealing with code of conduct related matters.
- **EuroPython 2018**, Edinburgh, UK
- **COSMO21, 2018**, Valencia, Member of the Scientific Organizing Committee.
- **Winter School on Cosmology (2007 - 2020)**: co-funder and organizer for 14 years, inspired to the concept: *theory for observers and observations for theorists*.
- **IDEALS: Investigating Dark Energy At Large Scales, Trieste 2011**, I was in charge of all aspects, from scientific programme to hotel booking

## INTERESTS AND HOBBIES

I am curious about learning new skills and topics. Having moved 10 times in 12 years I learned to embrace what each city had to offer. Over the years I have done:

- acting classes
- creative writing
- editing and evaluation in writing competitions
- co-organisation of performances in bookshops (2004 - 2007)
- collaborative-writing of novels
- debating
- tango, swing, valse.