

## CURRICULUM VITÆ ET STUDIORUM



### Alessandra Rotundi

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Born in Rome on the 27<sup>th</sup> of October 1963; nationality Italian; 1 daughter and 1 son.

**Present Position:** Full Professor, University of Naples "Parthenope", Dept. of Science and Technology. Associated Istituto Nazionale di AstroFisica - Istituto di Astrofisica e Planetologia Spaziali.

### Appointments/Invitations

- Member of the committee for the selection of the Presidents of the Public Research Institutes, supervised by the Italian Minister of Education, University and Research (MIUR), e.g. Italian Space Agency (ASI) and Centro Nazionale delle Ricerche (CNR) – (2018-2020).
- National Co-Principal Investigator for the Comet Interceptor/ESA space mission, 2019 – 2028.
- Expert Consultant for the evaluation of the National Program of Space Research (2020).
- Invited by NASA to be part of the Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM) sub-committee for the review of the Stardust samples curation and allocation process (2018).
- Invited by the University of Paris-Sud as a "Professeur Invités" in the frame of the "Observatoire des Sciences de l'Univers de l'Université Paris-Sud (OSUPS)" program (July 2017).
- Member of the Planetary Science Working Group of the Italian Space Agency (ASI) (2016).
- Member of the selecting committee to assign the Tacchini Award for the best national PhD thesis in Astrophysics (2016).
- Member of the "Expert Board" supervising the work in the MiARD H2020 program (since August 2015).
- Member of the "Scientific Advisory Committee" for the AHEAD program in the H2020 frame (since October 2015).
- Member of the national board for industrial research: Albo Esperti Ricerca Industriale - D.Lgs. 297/1999, (2015)
- Part of the board selecting proposal in the frame of the SIR (Scientific Independence of young Researchers) program (2014/2015).
- Expert Consultant of the ESA "Solar System Exploration Working Group", 2011-14.
- Minister of Instruction University and Research (MIUR) Expert Consultant, from 2014.
- Expert Consultant for the evaluation of the National Program of Space Research, 2013-2016.
- "Associated Partner", i.e. recognised expertise in the area of "astrobiology and planetary sciences" identified by the Steering Committee as important contributors to the AstRoMap project (2013).
- Reviewer part of the "Evaluation Group of Experts" in the physics area (GEV 02) for the Research Quality Evaluation (VQR) 2004-2010, ANVUR (2012/13).
- Member of the Committee for selecting Research Projects of INAF-PRIN/INAF, 2011.
- Member of the Committee for the Selection of the INAF Institutes Directors, 2011.
- Member of the Joint Committee INAF-ASI, 2011 – 2012.

- Member of the European Task Force for Laboratory Astrophysics, since 2011.
- Principal Investigator of the GIADA instrument on-board the Rosetta/ESA space mission (since 2010).
- Member of the Technical Scientific Council of the Italian Space Agency (ASI), 2007/08.
- Chairperson in the Commission for the ASI competition Mission of Opportunity, 2008.
- National Coordinator of the Project (PRIN/MIUR 2008) Primitive Extra-terrestrial Material as clues to the origin and evolution of the Early Solar System.
- Member of the Preliminary Examination Team selected by NASA for the first analyses of the cometary samples returned to Earth by the Stardust/NASA S/C (2006).
- Founding member of the Italian Society of Astrobiology (since 2007).
- Director at the University of Naples “Parthenope” for the National Astronomy and Astrophysics University Network (now National Association of Astrophysics University Professors) (since 2003).

**Reviewer for scientific national and international proposals:**

NASA/Laboratory Analysis of Returned Samples, Polish National Science Centre, German Research Foundation, MIUR.

**Since 2006 Responsible of the following Research Funds for a total amount of about 2.410.000 euro:**

- Italian Space Agency, "Extraterrestrial dust analyses", 2009.
- PRIN/MIUR 2005, (Responsible of the Research Unit), "Simulazioni di laboratorio dell'evoluzione dei grani interstellari e analisi di campioni extraterrestri.", 2006-2008.
- Legge 5/annual. 2005, Regione Campania “Analisi in laboratorio di polvere dallo spazio” (2010).
- Progetti di ricerca scientifica e tecnologica bilaterale (Italy-USA) di "Grande Rilevanza" co-funded by Ministero degli Affari Esteri "VESUVIO-DUSTER", 2011.
- Progetti di ricerca scientifica e tecnologica bilaterale (Italy-USA) di "Grande Rilevanza" co-funded by Ministero degli Affari Esteri "VESUVIO-DUSTER", 2012.
- Italian Space Agency, contract n. I/032/05/0, "GIADA-Rosetta", 2010 – 2012.
- PRIN/MIUR 2008, (National Coordinator), " Materiale Extraterrestre Primitivo come memoria dei processi evolutivi nel Sistema Solare primordiale.", 2010-2012.
- Italian Space Agency, "DUSTER - Dust in the Upper Stratosphere Tracking Experiment and Return", 2015.
- Progetti di ricerca scientifica e tecnologica bilaterale (Italy-USA) di "Grande Rilevanza" co-funded by Ministero degli Affari Esteri "VESUVIO-DUSTER", 2013.
- Piano Nazionale Ricerca Antartide (Responsible of the Research Unit) PdR 2013/AZ.2/Antarctic Micrometeorites, 2013.
- Piano Nazionale Ricerca Antartide (Responsible of the Research Unit) PdR 2016/Antarctic Micrometeorites, 2016.
- Dipartimento di Scienze e Tecnologie, Università degli Studi di Napoli “Parthenope”, " “Studio e Sviluppo di strumentazione per sonde spaziali e atmosferiche", 2017.
- Italian Space Agency, contract n. I/024/12/0, GIADA-Rosetta, fase E2, 2012- 2019.
- EURO-CARES (European Curation of Astromaterials Returned from Exploration of Space) is a three-year, multinational project, funded under the European Commission's Horizon2020 research program, (2015 – 2017).
- PRIN/MIUR 2015, (Responsible of the Research Unit), "titolo: “Cosmic Dust: a Cosmochemical View of the Origin and Evolution of the Solar System”, 2017-2020.
- Italian Space Agency, contract n. ASI-INAf n. 2020-4-HH.0, per “Partecipazione italiana alla fase 0 della missione ESA Comet Interceptor”, 2020 – 2022.
- “Spectroscopy of Planetary and Atmospheric particulate by optical Tweezers – SPACE Tweezers”, (Responsible of the Research Unit), project funded in the frame of the call of the Italian Space Agency, “Attività di Studio per la comunità scientifica nazionale SOLE, SISTEMA SOLARE ED ESOPIANETI”, 2019 - 2021.

## **Career**

- 1990 BS degrees in Physics (110/110) at University of Rome “La Sapienza”
- 1991 Fellowship to work for HASI, instrument part of the Cassini space mission.
- 1991 ESA Fellowship awarded in the frame of the Cassini space mission, but declined for the PhD fellowship in Naples, Italy.
- 1991 - 1994 PhD in Aerospace Engineering at University of Naples “Federico II”.
- 1995 Post Doc Fellow at INAF – Naples Astronomical Observatory.
- 1996 fellowship to work for one month at the Department of Earth and Planetary Sciences, University of New Mexico, Albuquerque, USA.
- 1996 Research contract at INAF – Naples Astronomical Observatory.
- 1996 Researcher at the University of Naples “Parthenope”, Dept. of Applied Sciences.
- 2007 Professor at the University of Naples “Parthenope”, Dept. of Applied Sciences.
- 2013 – present Full Professor at the University of Naples “Parthenope”, Dept. of Science and Technology

## **Awards:**

- “Premio Leonardo Renaissance Mediterraneo”, January 2007, <http://ricerca.repubblica.it/repubblica/archivio/repubblica/2007/01/25/il-premio.html>.
- Appointed by “Corriere della Sera” as one of the 50 women in the world who stood out in 2017 for their work results, <http://www.corriere.it/eventi-2017/donne-del-2017/index.shtml#0>.

## **Language Skills:**

- English                      Fluent
- French                      Good
- Spanish                      Basic

## **Principal Investigator of the following projects:**

- National Co-PI of the Comet Interceptor/ESA Space Mission.
- GIADA (Grain Impact Analyser and Dust Accumulator) instrument on-board the ESA/Rosetta space mission for cometary dust characterization.
- LANDS, the only Italian project selected by NASA as part of the Stardust space mission Preliminary Examination Team (PET).
- Production & Characterisation of Comet Dust Analogues for the ESA/Rosetta space mission.
- Laboratory characterization of Interplanetary Dust Particles (IDPs) collected/assigned by NASA.
- Morphological, structural and chemical properties of cosmic dust analogues.
- Combined non-destructive analytical techniques on Stardust cometary samples after PET.

## **Participating to the following projects:**

- **Co-I** of the SimbioSys instrument on-board the BepiColombo/ESA space mission (since 2004).
- **Science Manager** of the DUSTER instrument on-board stratospheric balloons to collect extra-terrestrial dust (since 2005).
- **Co-I** of the CORSAIR/NASA proposal for a comet sample return space mission (2011-2017).
- **Co-I** of two ISO (Infrared Space Observatory) observational program (1997-1998).

## **Abroad Research Activity, Measurements & Observational Campaigns:**

- June 1989              Research Activity for the Cassini/ESA space mission, at ESTEC (European Space Research and Technology Centre), Noordwijk, The Netherlands.
- October 1989        Research Activity for the Cassini/ESA space mission, at Observatoire de Meudon, Paris, France.
- 1990-1992            4 Astronomical Observational Campaigns (comets and asteroids) at ESO (European Southern Observatory), La Silla, Chile.
- 1994                    Research Activity for the Rosetta/ESA space mission, at UNIT for Space Science, University of Kent, Canterbury, England.
- October 1996        Transmission Electron Microscope Measurement Campaign at the Department of

Nov. 1996	Earth and Planetary Sciences, University of New Mexico, Albuquerque, USA. Astronomical Observation Campaign (comets) at SAAO (South African Astronomical Observatory), Sutherland, South Africa.
Feb/Mar 2004	Rosetta/ESA space mission Launch Campaign, Kourou, French Guyana.
Jan. 2006	Stratospheric Balloon Flight Campaign for the DUSTER instrument, “Esrangle” space launch base, Kiruna, Sweden.
March 2006	Analyses Planning and Stardust cometary particles withdrawal, at NASA/“Johnson Space Center”, Houston, Texas, USA.
June 2008	Stratospheric Balloon Flight Campaign for the DUSTER instrument, Svalbard islands, Norway.
June 2009	Stratospheric Balloon Flight Campaign for the DUSTER instrument, Svalbard islands, Norway.
Mar./Apr 2011	Stratospheric Balloon Flight Campaign for the DUSTER instrument, “Esrangle” space launch base, Kiruna, Sweden.
June 2014	Stratospheric Balloon Flight Campaign for the DUSTER instrument, Svalbard islands, Norway
July 2017	Micrometeorites Measurements at synchrotron, “SOLEIL”, Orsay, France.
Sept. 2019	Stratospheric Balloon Flight Campaign for the DUSTER instrument, “Esrangle” space launch base, Kiruna, Sweden.

### **Congress/Conferences**

- 33 Public/Educational Invited Conferences
- 33 International Congresses Invited Oral Presentations
- 12 International Congresses Invited to be part of the Scientific Organising Committee/Session Convener.
- 5 International Congresses/Workshops as part of the Organising Committee.

### **Didactics**

- Since 1989 teaching 3 courses on Physics every year at the University of Naples, “Parthenope”.
- In 2007, 2009 and 2012 Lecturer for the ESA/ABCnet Astrobiology Network course involving 18 European Universities.

### **Member of Committees**

- Member of the *Collegio di Dottorato* in 2010, Università di Napoli "Federico II", Aerospace Engineering.
- Member of the *Collegio di Dottorato*, from 2010 to 2020, Università di Napoli Parthenope, “Environment, Resources and Sustainable Development”.
- 6 times member of the evaluation committee for the PhD thesis defense, from 2007 to 2012.
- 50 times member/president of evaluation committees for researchers, technologists, associated professors’ selection (University and INAF), from 2008 to 2020.

### **Referee for the following International Journals:**

Monthly Notices of the Royal Astronomical Society, Meteoritic & Planetary Science, Planetary and Space Science, Astronomy & Astrophysics, Atmospheric Measurements Techniques Discussion, Icarus, Astrophysical Journal Lett, IEEE Transactions on Aerospace and Electronic Systems.

### **Publications**

- 116 papers on referred international journals
- 5 papers under review on referred international journals
- 155 non-referred international publications
- 6 Public Outreach papers (1 in French, 5 in Italian)