# **Dr. Elias Roussos** (ORCID ID: 0000-0002-5699-0678)

#### **Contact details:**

Date of birth: April 13<sup>th</sup>, 1979

Nationality: Greek

Max Planck Institute for Solar System Research Justus-von-Liebig-Weg, 3, 37077, Göttingen Germany

+49 (0) 551 384 979 457(office) +49 (0) 175 204 9184 (mobile)

roussos@mps.mpg.de

## **CAREER SUMMARY**

My research covers a wide range of topics in the magnetospheres of outer planets and plasma interactions in the solar system. Since 2005, I have authored or co-authored 82 studies, reviews or book chapters on planetary radiation belts, moon-magnetosphere interactions, space weathering and planetary rings. My work has been published in many leading journals, including Science and Nature and has received 1119 citations. One of my key strengths is the ability to combine data analysis, advanced simulations and multi-instrument dataset exploitation. I gained rich experience with several Cassini, Galileo and Juno data sets, I am a Co-I on two instrument teams on ESA's JUICE and on one of NASA's Europa mission, and have ongoing collaborations with many scientists internationally. Since 2010 I am also becoming increasingly active in more practical fields of space science, such as instrumentation and mission support. I am the recipient of two prestigious scientific awards by the Max Planck Society and the European Geophysical Union. In terms of service to the field, I am an editor for Annales Geophysicae (edited more than 90 manuscripts edited since 2013), I have been a supervisor of 6 PhD students since 2009, I am regular reviewer for four different journals or research proposals and recipient of an "Excellence in Refereeing" award by Geophysical Research Letters. My long-term goal is to continue to make innovative interdisciplinary contributions to space science and to actively search for new opportunities involving collaborations, instruments and missions.

#### **EDUCATION**

5/2009 – present: Research Fellow, Max Planck Institute for Solar System Research, Germany 2/2005 – 03/2008: PhD in Space Plasma Physics, Technical University Braunschweig, Germany

9/2003 – 9/2004: MSc in Space Studies, International Space University, France

9/1998 – 3/2003: Ptychion in Physics, University of Athens, Greece

#### **AWARDS AND DISTINCTIONS**

Dec. 2012: Editors' Citation for Excellence in Refereeing - Geophysical Research Letters
April 2011: EGU Outstanding Young Scientist Award, Division Planetary and Solar System Sciences
May 2009: Max Planck Society's Otto-Hahn Medal for outstanding results during PhD research

# **FELLOWSHIPS**

2005 – 2008: International Max Planck Research School Scholarship for PhD studies

2003 – 2004: SES Global (Luxemburg) Scholarship for MSc studies

## SUPERVISION OF GRADUATE STUDENTS

- **1. P. Kollmann:** Average structure of Saturn's radiation belts (graduated 03/12)
- **2. M. Andriopoulou:** Plasma flows in Saturn's magnetosphere (grad. 01/14)
- **3. A. Kotova** Galactic Cosmic Ray access at Saturn (grad. 09/16)
- 4. L. Regoli (Collaboration with MSSL/UK): Titan's space environment (grad. 06/16)
- **5. B. Palmaerts (Collaboration with LPAP/Belgium):** Pulsed electron acceleration at the outer planets (grad. 06/17)
- **6. H. Huybrighs (collaboration with IRF/Sweden):** Europa's plumes: simulations and observations (grad. expected: 05/18)
- **7. G. Rusty (MSc collaboration with IRF/Sweden):** CAD model of Galileo/EPD instrument (grad. 09/16)

## ORGANIZATION OF SCIENTIFIC MEETINGS

**2013:** Magnetospheres of Outer Planets 2013 conference, Athens-Greece (7/2013) (lead organizer)

**2012:** Europlanet workshop on Planetary Auroras, Santorini-Greece (5/2012) (lead organizer)

2008 – present: Organizational support for three Cassini Project Science meetings in Germany

**2013** – **present:** Session coordinator (EGU 2013, EPSC 2014, Magnetospheres of Outer Planets 2015)

## INSTITUTIONAL AND SCIENTIFIC RESPONSIBILITIES

2005 – present: Outer planet magnetospheres research, with data from Cassini's Magnetospheric Imaging Instrument (MIMI), including in-flight calibration of the MIMI/LEMMS energetic particle detector 2015 – present: Co-Investigator on Plasma Instrument for Magnetic Sounding (PIMS) experiment on NASA's Europa mission/science support

2013 – present: Co-Investigator on Plasma Environment Package (PEP) of ESA's JUICE mission to Jupiter: radiation shielding design for the PEP/JEI thermal electron detector and representation of the PEP team in the Magnetospheric Science Working Group for the science planning of the JUICE operations 2013 – present: Co-Investigator on J-MAG magnetometer of ESA's JUICE mission to Jupiter: science support

2013 – 2017: Developer of Jupiter environment models (JUICE Charging Analysis Tool, ESA project)
2013 – present: Topical Editor (Magnetospheric science) in Annales Geophysicae (EGU journal), edited more than 80 manuscripts

**2005** – **present:** Reviewer of scientific articles and book chapters (journals: Geophysical Research Letters, Journal of Geophysical Research, Icarus, Planetary and Space Science, Annales Geophysicae, AGU books) **2012:** Summer School Tutor (Alpbach, Austria 2012: Exploration of Giant Planets and their Systems)

**2009 – present:** Reviewer of scientific proposals (NASA, European funding agencies) and dataset submissions (Juno/JEDI dataset submission to the NASA's Planetary Data System)

**2016 – present:** Thesis examiner (Univ. of Umea, Sweden; Univ. of Toulouse, France, Univ. of Liege, Belgium)

**2016 – present:** Deputy point of contact for the Max Planck Institute for Solar System Research, for the Europlanet/ H2020 project, Networking Activity 1 (Science through Networking)

#### **MAJOR COLLABORATIONS**

- 1. Magnetospheric Imaging Instrument (MIMI): NASA/ESA Cassini mission (2005 present), Researcher
- **2. Plasma Instrument for Magnetic Sounding (PIMS):** NASA Europa mission (2015 present), Co-Investigator
- **3. Plasma Environment Package (PEP), J-MAG magnetometer:** ESA JUICE mission (2013 present), Co-Investigator
- 4. Jupiter Charging Analysis Tools (JCAT): ESA sponsored project (2014 2017), Co-Investigator
- **5.** Analyzer of Space Plasma and Energetic Atoms (ASPERA-3): ESA Mars Express (2005 2008), Researcher
- 6. International Space Science Institute (ISSI) Team Memberships:
  - Structure and Dynamics of Jupiter's Magnetosphere and Boundary Regions (2015-2017)
  - Plasma Surface Interactions with Airless Bodies in Space and the Laboratory (2015 2017)
  - Modes of Radial Plasma Motion in Planetary Systems (2013-2015)
  - Kinetic Plasma Processes at Airless Bodies (2013 -2015)

# PUBLICATIONS AND PRESENTATIONS

Refereed Publications (2005 - present): 84 (17 lead author), including six in Nature or Science (79 articles, 2 book chapters, In press: 2 book chapters, 1 article, Under Review: 3 articles)

Citations: 1155, h-index of 20 (Scopus, Web of Science, NASA ADS) or 23 (Google Scholar)

Presentations (2005 - present): >80 oral or poster contributions to international conferences, workshops or seminars, including 16 invited

#### **PUBLIC ENGAGEMENT**

**2002-2003:** Leading member of European LunarSat project in Greece (LunarSat Distributed Team/Greece) **2005:** Translated into Greek educational books about Cassini, published by ESA

2008 – present: Interviews on newspapers, TV channels and school magazines in Greece and Germany 2012 – present: Popular science articles for the Cassini website and for local newspapers in Goettingen, Germany

Latest Update: October 17, 2017