

# Chrysa Avdellidou (Orcid: <https://orcid.org/0000-0001-8228-8789>)

**Address:** Laboratoire Lagrange, Observatoire de la Côte d'Azur, Bd de l'Observatoire, Nice, France

**Email:** [chrysa.avdellidou@oca.eu](mailto:chrysa.avdellidou@oca.eu)

**Personal Webpage:** [www.oca.eu/en/chrysa-avdellidou](http://www.oca.eu/en/chrysa-avdellidou)

**Project *Flash*:** <https://lagrange.oca.eu/fr/flash>

**Project *MP3C*:** <https://mp3c.oca.eu>

**Visitor Webpage:** <https://research.kent.ac.uk/astrophysics-and-planetary-science/person/chrysa-avdellidou/>

**Date of birth:** 29/01/1987, **Nationality:** Greek

---

## POSITIONS

**Lecturer in Planetary Science** **2023**  
School of Physics and Astronomy, University of Leicester, UK

**Postdoctoral Researcher** **2021–2022**  
Laboratoire Lagrange, Observatoire de la Côte d'Azur, Nice, France  
*Characterisation of collisional asteroid families of the Main Belt*

**Research Fellowship “Individual Support for Young Researchers”** **2018–2020**  
Laboratoire Lagrange, Observatoire de la Côte d'Azur, Nice, France  
*Development of the Minor Planet Physical Properties Catalogue ([mp3c.oca.eu](http://mp3c.oca.eu))*

**ESA Internal Research Fellowship** **2016–2018**  
Directorate of Science, ESTEC, European Space Agency, Noordwijk, Netherlands  
*Study of the meteoroid impacts on the Moon*

**Graduate Teaching Assistant** **2013–2016**  
Centre of Astrophysics and Planetary Science, University of Kent, Canterbury, UK

### Research Visiting Positions

Impact Lab, Centre of Astrophysics and Planetary Science, University of Kent, Canterbury, UK **2016–now**  
Physics Department, Aristotle University of Thessaloniki **2020–now**  
Lunar and Planetary Laboratory, The University of Arizona, USA **2019**  
Laboratoire Lagrange, Observatoire de la Côte d'Azur, Nice, France **2016**

---

## EDUCATION

**National Qualification** for University teaching in Astronomy and Astrophysics, France **2021**

**Ph.D. & Graduate Teaching Assistant** in Physics at University of Kent, Canterbury, UK **2016**  
Thesis: Hypervelocity impacts in the Solar System: An experimental investigation on the fate of the impactor.  
Supervisor: Dr. Mark C. Price, Associate Supervisor: Prof. Mark J. Burchell

**Physics Degree** at Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece **2012**  
Thesis: Calculation of the rotation period of Main Belt Asteroids.  
Supervisor: Prof. John H. Seiradakis, Associate Supervisor: Prof. Kleomenis Tsiganis

---

## SKILLS

### Languages

Greek (Mother tongue), English

### Experimental Techniques

Instruments: Impact experiments with a 2-stage light-gas gun, Scanning Electron Microscope, RAMAN spectroscopy, optical microscopy.

### Observational Experience 2008–now

Telescopes: • NASA Infrared Telescope, Hawaii, US • Lowell Discovery Telescope, Flagstaff, AZ, US • McDonald Observatory (MONET/North 1.2 m), Texas, US • Observatoire Haute Provence (1.2 m), St. Michele, France • CAHA (Schmidt 80 cm), Calar Alto, Spain • Skinakas Observatory (main telescope 1.3 m), Crete, Greece • Kryoneri Observatory (main telescope 1.2 m), Peloponnese, Greece • Holomon Astronomical Station, Greece • Observatory of Thessaloniki, Greece

Projects: • Asteroid spectroscopy & photometry for physical characterisation of asteroids, rotational periods, confirmation of newly discovered near-Earth asteroids • Follow up observations on extrasolar planets, detection of new variable and binary stars, atmospheric seeing measurements • Outreach Solar Observations.

### Computer skills

MacOS, Linux, Latex, Python, IDL SpexTool (spectra analysis), SWIFT and MERCURY numerical orbit integrators

## SPACE MISSIONS, NATIONAL & INTERNATIONAL PROJECTS

- Member of the Science Team of Lunar Meteoroid Impact Observer (LUMIO) CubeSat to observe, quantify, and characterise the meteoroid impacts by detecting their flashes on the lunar farside.
- Collaborator on the NASA OSIRIS-REx sample return space mission. Member of the Imaging & Regolith Development working group (imaging and thermal infrared data) and Sample Physical and Thermal Analysis working group.
- Collaborator on the JAXA Thermal Infrared Imager (TIRI) instrument onboard ESA HERA mission. Member of ESA HERA Working Group 4 DATA ANALYSIS, EXPLOITATION, INTERPRETATION.
- Coordinator of an international team for lunar impact detection and crater discovery with Lunar Reconnaissance Orbiter. Team: C. Avdellidou, M. Delbo, J.P. Rivet, M. Wicczorek (Nice Observatory), J. Vaubaillon (IMCCE, Paris Observatory), A. Cook & D. Sheward (Aberystwyth University), P. Hayne (University of Colorado).
- CoI of the French Agence National de la Recherche project ‘*ORIGINS*’, PI Dr. M. Delbo, Observatoire de la Côte d’Azur
- CoI of the NASA SSERVI project *Center for Lunar and Asteroid Surface Science (CLASS)*, PI Prof. D. Britt, Exolith Lab, University of Central Florida
- Member of the development team of the Minor Planet Physical Properties Catalogue, Observatoire de la Côte d’Azur

## GRANTS

### Funded Projects

1. PI *Flash!* (4,500€) 2022  
Source: Programme National de Planetologie, FR
2. PI *PriSMa* (unconstraint) 2021  
Source: Europlanet2024-RI
3. PI *Flash!* (6,000€) 2021  
Source: Programme National de Planetologie, FR
4. PI *Hypervelocity impacts on the Moon & in laboratory, towards a new lunar exploration era (cont)*. (4,500€) 2020

Source: Programme National de Planetologie, FR	
<b>5. CoI CNES - MMX Infrared Spectrometer (MIRS) grant</b>	<b>(12,000€) 2020</b>
Source: Centre National d'Etudes Spatiales (CNES), FR	
<b>6. CoI Study of asteroid densities using spectra analysis &amp; mass determination,</b>	<b>(5,000€) 2020</b>
Source: Bonus Qualité Recherche of Observatoire de la Côte d'Azur, FR	
<b>7. PI Flash!</b>	<b>(11,450€) 2019</b>
Source: Credits Scientifiques Incitatifs from University Nice Sophia-Antipolis, FR	
<b>8. PI Hypervelocity impacts on the Moon &amp; in laboratory, towards a new lunar exploration era.</b>	<b>(4,500€) 2019</b>
Source: Programme National de Planetologie, FR	
<b>9. PI Study of the energy partitioning during a hypervelocity impact event</b>	<b>(5,000€) 2018</b>
Source: Directorate of Science, ESTEC/ESA	
<b>10. PI Catch a Flash!</b>	<b>(600€) 2017</b>
Source: Directorate of Science, ESTEC/ESA	
<b>11. CoI ORIGINS</b>	<b>(475,000€) 2019-2022</b>
Source: Agence National de la Recherche (ANR), FR	
<b>12. CoI Planetary Global Deformation Model: Grail, Insight, Envision</b>	<b>(5,000€) 2019</b>
Source: Bonus Qualité Recherche of Observatoire de la Côte d'Azur, FR	
<b>13. CoI Origin of the regolith of space mission target asteroids</b>	<b>(7,000€) 2018</b>
Source: Bonus Qualité Recherche of Observatoire de la Côte d'Azur, FR	
<b>14. CoPI Space Exploration sans Frontiers for the construction of a new fully equipped telescope and dome at the University of Kent</b>	<b>(£110,000) 2014</b>
Source: Beacon grant of the University of Kent, UK	

### Grants for organisation of meetings

<b>1. CoI for organisation of Cometary Science: From Rosetta to Comet Interceptor</b>	<b>(2000€) 2020</b>
Source: Bonus Qualité Recherche of Observatoire de la Côte d'Azur, FR	
<b>2. PI of grants for organisation of 12<sup>th</sup> UK Planetary Forum Earth Career Scientists' Meeting</b>	<b>(£3,300) 2014</b>
Sources: Royal Astronomical Society, SEPnet, Faculty of Science and School of Physical Sciences of University of Kent, UK	
<b>3. PI of grant for organisation of HOYS-CAPS outreach workshop</b>	<b>(£2,000) 2014</b>
Source: Public Engagement with Research Fund, University of Kent, UK	

### Travel Grants

- ASTERICS VO school (FR) **(460€) 2018** • Royal Astronomical Society (UK) **(total £2,800) 2015–2014** • ACM Conference award **2014** • UK Space Agency award (UK) **2013** • Carl Sagan award (USA) **2011** • Fizeau Program grant (FR) **2010**

## AWARDS

### Positions

• INAF ASTROFIT Fellowship–declined	<b>2023</b>
• Marie Skłodowska-Curie Postdoctoral Fellowship–declined	<b>2023</b>
• UCA <sup>JEDI</sup> Individual Support for Young Researchers, Université Côte d'Azur, FR	<b>2018–2020</b>
• Extension of ESA Internal Research Fellowship for 2018-2019–declined	<b>2017</b>
• ESA Internal Research Fellowship, Science Support Office, ESTEC/ESA	<b>2016–2018</b>

### Distinctions

- IAU named asteroid (45846) Avdellidou **2021**
- *Lunar and Planetary Institute (LPI) Career Development Award (\$1500)* for top first postgraduate-author abstract at 47<sup>th</sup>

Lunar and Planetary Science Conference (LPSC)	<b>2016</b>
• Prize <i>Outstanding physics postgraduate student</i> , School of Physical Sciences, Uni. of Kent, UK	<b>2015</b>
 Observing time	
• CoI of one proposal at ESO-VLT, Chile	<b>2023</b>
<i>Target of Opportunity for asteroid science during the JUICE cruise phase.</i>	
• PI of one proposal at NASA Infrared Telescope Facilities (IRTF), Hawaii, US	<b>2023A</b>
<i>The characterisation of the potentially differentiated Kalliope asteroid family.</i>	
• CoI of one proposal at NASA Infrared Telescope Facilities (IRTF), Hawaii, US	<b>2023A</b>
<i>Taxonomic constraints on the inner-Main Belt Primordial Family</i>	
• CoI of one proposal at NASA Infrared Telescope Facilities (IRTF), Hawaii, US	<b>2023A</b>
<i>A new asteroid family as a potential source of L-chondrites</i>	
• CoI of one proposal at NASA Infrared Telescope Facilities (IRTF), Hawaii, US	<b>2022A</b>
<i>Constraining the connection of the primordial family to other asteroid families in the inner Main Belt.</i>	
• CoI of two proposals at NASA Infrared Telescope Facilities (IRTF), Hawaii, US	<b>2021B,2022A</b>
<i>SpeX validation of the high abundance of olivine-rich asteroids from Gaia spectra.</i>	
• CoI of observing proposal OPTICON (TNG)	<b>2021B</b>
<i>Spectroscopic survey of inner Main Belt primordial asteroids: recording the original composition of planetesimals</i>	
• CoI of two observing proposals at Helmos Observatory	<b>2021,2022</b>
<i>Ancient Asteroids: Photometric observations of members of the oldest asteroid families of our Solar System.</i>	
• CoI of observing proposal Copernico Telescope Asiago, IT	<b>2020–2022</b>
<i>Spectroscopic survey of primordial asteroids: recording the original composition of planetesimals</i>	
• CoI of observing proposal Lowell Discovery Telescope, USA	<b>2019–2021</b>
<i>Characterisation of the newly discovered asteroid families Athor and Zita.</i>	
• PI of two observing proposals at NASA Infrared Telescope Facilities (IRTF), Hawaii, US	<b>2017B,2019B</b>
<i>Characterisation of the newly discovered asteroid families Athor and Zita. Are they the source of enstatite chondrite meteorites?</i>	
• PI of one proposal at Skinakas Observatory, Crete, Greece	<b>2010</b>
<i>Calculation of the rotation period of Mars-crosser asteroids</i>	

## ORGANISATION of CONFERENCES, MEETINGS & SEMINARS

• Co-Convener <i>Lunar Science, Exploration &amp; Utilisation</i>	<b>2023</b>
European Geoscience Union (EGU), Vienna, AU	
• Co-Convener <i>Impact processes in the solar system</i>	<b>2022</b>
Europlanet Science Congress (EPSC), Granada, SP	
• Co-Convener <i>Impact processes in the solar system</i>	<b>2021</b>
Europlanet Science Congress (EPSC), virtual	
• Convener <i>Physical properties of small bodies: processes and space materials</i>	<b>2020</b>
Europlanet Science Congress (EPSC), virtual	
• Convener <i>Collisions among small bodies, on planetary surfaces and with atmospheres (meteors)</i>	<b>2019</b>
Europlanet Science Congress/Division for Planetary Science (EPSC/DPS) joint meeting, Geneva, CH	
• Co-Convener <i>Science and Innovation for the Moon Village and beyond</i>	<b>2018</b>
Europlanet Science Congress (EPSC), TU Berlin, DE	
• Co-Convener <i>Lunar Science, Exploration and Utilisation</i>	<b>2018</b>
EGU General Assembly, Vienna, AU	
• LOC <i>Extreme Habitable Worlds</i>	<b>2017</b>
51 <sup>st</sup> ESLAB Symposium, ESTEC/ESA, Noordwijk, NL	
• Organiser of the <i>Internal Seminars</i> , Scientific Support Office, ESTEC	<b>2016–2018</b>
• LOC <i>12<sup>th</sup> Hellenic Astronomical Conference</i> , Thessaloniki, Greece	<b>2015</b>
• Organiser <i>12<sup>th</sup> Early Career Planetary Scientists' Meeting</i>	<b>2015</b>
UK Planetary Forum, University of Kent, Canterbury, UK	

- *HOYS-CAPS: Hunting Outbursts from Young Stars with the Centre for Astrophysics and Planetary Science* **2014**  
University of Kent, Canterbury, UK

---

## ACTIVITIES/RESPONSIBILITIES for the COMMUNITY

- Development and maintenance of the Minor Planet Physical Properties Catalogue ([mp3c.oca.eu](http://mp3c.oca.eu)) **2018-now**
  - Member of the Board of Advisory Editors of Planetary and Space Science journal **2023-now**
  - Reviewer of NASA and Swiss National Science Foundation grants **2019-now**
  - Reviewer of MNRAS, ICARUS, Scientific Reports, Planetary and Space Science, Remote Sensing **2016-now**
  - Mentor of Europlanet **2022-now**
- <http://www.europlanet.tfai.vu.lt/homepage/mentorship/mentors/our-mentors/>
- Member of Europlanet, European Astronomical Society, Royal Astronomical Society, Hellenic Astronomical Society, Meteoritical Society
  - Developer of a new Observatory for undergraduate and postgraduate students at University of Kent **2014**
  - President of the Student Union of the Physics Department and Student representative at the senate of Aristotle University of Thessaloniki. **2005-2006**

---

## OUTREACH & PUBLIC ENGAGEMENT ACTIVITIES

- *SETI Public Talk, Bennu visited by OSIRIS-REx: surprises and more*, Invited speaker **2022**
  - *ESA's digital celebration of space safety and Asteroid Day*, Invited speaker **2021**
  - *Lunar Marathon on the Moon Again*, Invited speaker **2021**
  - *Ancient Asteroids*, Observational campaign of asteroids with amateur astronomers from 3 countries **2021-now**
  - *On the Moon again!* Responsible for organisation of observations and public talks in Nice for the 50<sup>th</sup> anniversary of the Apollo landing on the Moon **2019**
  - *Public Engagement with Research Fund*, a collaboration between the Centre for Astrophysics and Planetary Science (CAPS) of the University of Kent and local groups of amateur astronomers. **2014**
- Project:*HOYS-CAPS: Hunting Outbursts from Young Stars with the Centre for Astrophysics and Planetary Science*
- Ice Worlds, Royal Society Summer Science Exhibition, London **2013**
  - *Aristotle University of Thessaloniki on Sunday*, Public lectures and presentation of Aristotle University's Observatory and sunspots observation **2012**
  - Public lectures and presentation of Aristotle University's Observatory for school classes **2011-2012**
  - Assistant in the *100 Hours of Astronomy*, International Year of Astronomy, Observatory of Thessaloniki. **2009**
  - Assistant in the *Monthly Public Nights* in the Observatory of Thessaloniki. **2010-2012**

---

## MEDIA

- Interview at Athens Voice daily journal **2021**
  - Invited Press Conference at Division for Planetary Sciences (DPS) conference for a conference contribution (US) **2017**
  - Interview and article in SKY AND TELESCOPE magazine about the work on lunar impact flashes **2017**
  - Interview at the national greek news agency about the work on lunar impact flashes **2017**
  - Interview at a national greek TV-channel about the work on lunar impact flashes **2017**
-

## CONFERENCES & WORKSHOPS

### Conference participation (physically or virtually)

41. Japanese Geological Union (JpGU) 2023, virtual	2023
40. European Geological Union (EGU) 2023, Vienna, AU	2023
39. Europlanet Science Congress (EPSC), Granada, ES	2022
38. METSOC 2022, Glasgow, UK	2022
37. Europlanet Fireball Workshop #3, Glasgow, UK	2022
36. 44 <sup>th</sup> COSPAR Scientific Assembly, Athens, GR	2022
35. National Programme of Planetology, Lyon, FR	2022
34. Meteoroids 2022, virtual	2022
33. HERA community workshop, Nice, FR	2022
32. Europlanet Fireball Workshop #2, virtual	2022
31. Hellenic Astronomical Society Conference, virtual	2021
30. Europlanet Science Congress (EPSC), virtual	2021
29. Europlanet Science Congress (EPSC), virtual	2020
28. 2020 NASA Exploration Science Forum, USA virtual	2020
27. European Planetary Science Congress (EPSC), Geneva, SW	2019
26. TherMoPS III, Boudapest, HU	2019
25. European Planetary Science Congress (EPSC), TU Berlin, DE	2018
24. Programme National de Planetologie (PNP), Nice, FR	2018
23. Catastrophic Disruption (CD9), Kobe, Tokyo, JP	2018
22. 51 <sup>st</sup> ESLAB Extreme Habitable Worlds, ESTEC/ESA, Noordwijk, NL	2017
21. 49 <sup>th</sup> Division for Planetary Science (DPS), Salt Lake City, USA	2017
20. Astrometry and Astrophysics in the Gaia Sky, IAU Symposium, Nice, FR	2017
19. Asteroids Comets and Meteors (ACM) 2017, Montevideo, UY	2017
18. Formation of the Solar System and the Origin of Life, Lorenz Centre, Leiden, NL	2017
17. 47 <sup>th</sup> Lunar and Planetary Science Conference (LPSC), The Woodlands, Texas, USA	2016
16. European Planetary Science Congress (EPSC), La Cité des Congrès, Nantes, FR	2015
15. 12 <sup>th</sup> Hellenic Astronomical Conference, AUTH, Thessaloniki, GR	2015
14. Lunar Impact Workshop, ESTEC, NL	2015
13. 22 <sup>nd</sup> PhD Student Meeting at the Institute de Physique du Globe de Paris (IPGP), Paris, FR	2015
12. 12 <sup>th</sup> Earth Career Scientists' Meeting, UK Planetary Forum, University of Kent, Canterbury, UK	2015
11. STARDUST INT Local training workshop: Collisions in the Solar System, Belgrade, RS	2015
10. European Planetary Science Congress (EPSC), Centro de Congressos do Estoril, Cascais, PT	2014
9. Asteroids Comets and Meteors (ACM) 2014, Marina Congress Center, Helsinki, Finland	2014
8. 11 <sup>th</sup> Earth Career Scientists' Meeting, UK Planetary Forum, Open University, Milton Keynes, UK	2014
7. European Planetary Science Congress (EPSC), UCL, London, UK	2013
6. Sagan Exoplanet Summer Workshop, "Working with Exoplanet Light Curves", NASA Exoplanet Science Institute, CalTech, Pasadena (CA), USA	2012
5. 10 <sup>th</sup> Hellenic Astronomical Conference, Ioannina, GR	2011
4. Sagan Exoplanet Summer Workshop, "Exploring Exoplanets with Microlensing", NASA Exoplanet Science Institute, CalTech, Pasadena (CA), USA	2011
3. HEP, Workshop on "Recent Advances in Particle Physics and Cosmology", AUTH, Thessaloniki, GR	2010
2. Youth World Space Congress, Athens, GR	2008
1. HEP, Workshop on "Recent Advances in Particle Physics and Cosmology", AUTH, Thessaloniki, GR	2005

### School Participation (\*travel paid by the organisers)

*6. ASTERICS 4 <sup>th</sup> VO School, Observatory of Strasbourg, FR	2018
5. School on Shock Physics at Imperial College London, London, UK	2015
4. European Single Dish School in the Era of Array, MPI for Radioastronomy, Bonn, DE	2010
3. 3 <sup>rd</sup> Advanced Astronomy School <i>The Obscured Universe</i> , National & Kapodistrian Univ. of Athens, GR	2010

- \*2. VLT 2010 training School, Porquerolles, FR **2010**  
 1. Novicosmo'09 Summer School, "Highlights in Astrophysics", Rabac, HR **2009**

Invited Presentations at International Conferences (\*travel paid by the organisers)

6. *Lunar impact flash observations from France*, Europlanet Fireball Workshop #2, virtual **2022**  
 5. *20 years of ground-based lunar impact flash observations*, EPSC-DPS, Geneva, SW **2019**  
 4. *Impact laboratory experiments and extreme habitability*, 51<sup>st</sup> ESLAB, ESTEC, Noordwijk, NL **2017**  
 3. *Temperatures of Lunar impact flashes measured for the first time*, Press Conference at the 49<sup>th</sup> Division for Planetary Sciences (DPS), Salt Lake City, USA **2017**  
 \*2. *Temperatures of lunar impact flashes*, SAKURA meeting on lunar impact flashes, Paris, FR **2017**  
 \*1. *Survival of the impactor during hypervelocity collisions*, 22<sup>nd</sup> PhD Student Meeting at the Institute de Physique du Globe de Paris (IPGP), Paris, FR **2015**

Invited Seminars (\*travel paid by the organisers)

15. *Meteorites that built Earth reveal the early stages of the evolution of our solar system*, Hellenic Astronomical Society **2023**  
 14. *Impacts in the Solar System*, Institute Origins, Aix Marseille University, France **2023**  
 13. *Linking meteorites with their main belt sources*, CAPS, University of Kent, UK, virtual **2022**  
 12. *Impacts on primitive space materials*, Lagrange, OCA, FR, virtual **2022**  
 11. *Asteroid materials and impact process*, IPAG, Université Grenoble Alpes, FR, virtual **2022**  
 10. *Hypervelocity impacts on asteroid simulants*, CAPS, University of Kent, UK, virtual **2022**  
 9. *Observation and interpretation of lunar impact flashes*, Taiwan Space Union, virtual **2021**  
 8. *Identification of asteroid families*, CAPS, University of Kent, UK, virtual **2021**  
 7. *Material mixing among asteroids*, CAPS, University of Kent, UK **2019**  
 \*6. *Impact Flashes on the Moon*, LESIA, Observatoire de Paris Meudon, FR **2019**  
 \*5. *Impact flashes on the Moon and in lab*, ISAS/JAXA, Tokyo, JP **2018**  
 \*4. *Impacts in the Solar System: a hypervelocity impact facility for France*, Mines ParisTech, FR **2018**  
 \*3. *Observing the Moon: A large-scale hypervelocity impact laboratory*, OCA, Nice, FR **2017**  
 2. *Delivery of exogenous material on asteroid surfaces via impacts*, National Obs. of Athens, GR **2017**  
 \*1. *Survival of the impactor during hypervelocity collisions*, Planetary and Space Science Group at Université Paris Diderot, FR **2015**

Conference Contributions (\*presented by myself; o:oral; p:poster)

- \*64. Avdellidou et al., *The discovery of the source of the EL meteorites*, JpGU, virtual **(2023)** o  
 \*63. Avdellidou et al., *Linking enstatite meteorites to a unique source*, EGU, Vienna **(2023)** o  
 \*62. Avdellidou et al., *On the discovery of the main belt source of the enstatite chondrites*, Europlanet Science Congress (EPSC), Granada **(2022)** o  
 \*61. Avdellidou et al., *Impact contamination on Bennu: an experimental investigation*, Europlanet Science Congress (EPSC), Granada **(2022)** p  
 60. Athanasopoulos et al. *Asteroid spin-states of a 4 Gyr-old collisional family*, Europlanet Science Congress (EPSC), Granada **(2022)** o  
 59. Bourdelle de Micas et al. *Composition of Inner Main Belt Planetesimals*, Europlanet Science Congress (EPSC), Granada **(2022)** o  
 58. Sheward et al. *J-Band Measurements for All-Hours Lunar Impact Flash Observations*, Europlanet Science Congress (EPSC), Granada **(2022)** o  
 \*57. Avdellidou et al., *On the Discovery of the Main Belt Source of the Enstatite Chondrites*, METSOC 2022, Glasgow UK **(2022)** o  
 56. Delbo et al., *Distribution of fractures on boulders on (101955) Bennu and their implication for asteroid surface evolutionary processes* 44<sup>th</sup> COSPAR Scientific Assembly **(2022)** o  
 \*55. Avdellidou et al., *Characterisation of the main belt asteroid (223) Rosa, a proposed flyby target of ESA's JUICE mission.*, 44<sup>th</sup> COSPAR Scientific Assembly **(2022)** p

- \*54. Avdellidou et al., *Lunar impact flashes: Physical properties of the impactor and link to craters.*, National Programme of Planetology, Lyon (2022) o
- \*53. Avdellidou et al., *Lunar Impact Flashes: Physical Properties of the Impactor and Link to Craters*, Meteoroids 2022 virtual (2022) o
52. S. Cambioni et al., *Fine-regolith production on asteroid controlled by rock porosity*, 53<sup>rd</sup> Lunar and Planetary Science Conference (LPSC)(2022) o
51. S. Cambioni et al., *Machine learning thermophysical analysis of asteroid (101955) Bennu*, 53<sup>rd</sup> Division for Planetary Science (DPS) (2021) o
50. Z. Dionnet et al., *FTIR Spectroscopy and X-CT Characterization of the New CM Aquas Zarcas*, 84<sup>th</sup> Annual Meeting of the Meteoritical Society (2021) o
49. D. Athanasopoulos et al., *Rotational state of the most ancient asteroids as an observational constraint for asteroid family membership*, HelAS Conference virtual (2021) o
- \*48. Avdellidou et al., *Identification and Characterisation of Asteroid Families*, HelAS Conference virtual (2021) o
47. J. Bourdelle de Micas et al., *A survey of Inner Main Belt planetesimals : composition and mineralogy*, Europlanet Science Congress (EPSC) virtual (2021) o
46. D. Athanasopoulos et al., *Ancient Asteroids: An international observing campaign for the characterisation of the oldest asteroid collisional families*, Europlanet Science Congress (EPSC) (2021) p
45. D. Sheward et al., *Lunar Surface Change Detection with PyNAPLE: The 2017-09-27 Lunar Impact Flash and Impact Crater*, Europlanet Science Congress (EPSC) (2021) o
44. R. Ballouz, et al., *Craters on (101955) Bennu's boulders*, 52<sup>nd</sup> Division for Planetary Science (DPS) (2020) o
43. D. DellaGiustina et al., *Material from (4) Vesta on (101955) Bennu*, 52<sup>nd</sup> Division for Planetary Science (DPS) (2020) o
42. D. Sheward, A. Cook, **C. Avdellidou**, *Preliminary Results from Lunar Surface Change Detection with PyNAPLE: The 2019-01-21 Lunar Impact Flash*, Europlanet Science Congress (EPSC) (2020) p
41. R. Ballouz et al., *Craters on (101955) Bennu's boulders*, Europlanet Science Congress (EPSC) (2020) o
40. J. Tandy et al., *The Effect of Projectile Material on the Impact Flash from Carbon Dioxide Ice*, Europlanet Science Congress (EPSC) (2020) o
39. E. Munaibari, **C. Avdellidou**, et al., *Lunar impact flashes: analysis methods*, Europlanet Science Congress (EPSC) (2020) o
- \*38. **C. Avdellidou** et al., *Lunar impact flashes: first detection from the Observatory of Nice*, Europlanet Science Congress (EPSC) (2020) p
- \*37. **C. Avdellidou** et al., *Hypervelocity impacts on carbonaceous asteroid simulants: comparison with observations*, Europlanet Science Congress (EPSC) (2020) o
- \*36. **C. Avdellidou** et al., *Hypervelocity impacts on carbonaceous asteroids analogue materials*, NASA Exploration Science Forum, US (2020) o
35. A. R Rhoden, K. J Walsh, G. M Gattelle, **C. Avdellidou**, M. Delbo, *On the Origin of the Largest Inner Main Belt D-Type Asteroid*, 53<sup>rd</sup> Lunar and Planetary Science Conference (LPSC) (2020) o
- \*34. E. Munaibari, **C. Avdellidou**, R. Larson, *Real-time detection of impact flashes on the lunar surface*, EPSC-DPS, Geneva, SW, (2019) p
33. J. Tandy, M. Price, P. Wozniakiewicz, M. Cole, R. Hibbert, **C. Avdellidou**, *Observations of impacted, frozen Lunar and Martian regolith simulants* EPSC-DPS, Geneva, SW (2019) p
32. A. Di Donna, **C. Avdellidou** et al., *Mechanical properties of asteroids analog materials*, EPSC-DPS, Geneva, SW (2019) p
31. R. Larson, P. Hayne, **C. Avdellidou**, *Automating the detection and coordinate identification of impact flashes on the Lunar surface*, EPSC-DPS, Geneva, SW (2019) p
- \*30. D. Sheward, **C. Avdellidou**, E. Sefton-Nash, *PyNAPLE: Automated Lunar Impact Flash Crater Detection*, EPSC-DPS, Geneva, SW (2019) p
29. M. Delbo, K. Walsh, **C. Avdellidou** et al., *The search for the most ancient asteroid collisions reveals the original planetesimals of our solar system*, EPSC-DPS, Geneva, SW, (2019) o
- \*28. **C. Avdellidou** et al., *Hypervelocity impacts on carbonaceous asteroids analogue materials*, EPSC-DPS, Geneva, SW (2019) o
27. **C. Avdellidou** et al., *Mechanical properties of very weak carbonaceous asteroid analogues I: response to hyper-velocity impacts*, The Main Belt, Sardinia, IT (2019) o
26. R. Yamada et al., *The international observation of lunar impact flashes and application of the results to future lunar*

- seismic experiments*, 50<sup>th</sup> Lunar and Planetary Science Conference (LPSC), Houston, TX, US (2019) o
25. L. Alesbrook et al., *Simulating the Atmospheric Entry of Micrometeorites Using a Two Stage Light Gas Gun*, 50<sup>th</sup> Lunar and Planetary Science Conference (LPSC), Houston, TX, US (2019) o
- \*24. C. Avdellidou et al., *Thermophysics of lunar impact flashes*, ThermopsIII, Budapest, HU (2019) o
- \*23. C. Avdellidou, *Lunar Impact Flashes*, European Planetary Science Congress (EPSC), TU Berlin, DE (2018) o
- \*22. C. Avdellidou, F. Topputo and the LUMIO team, *LUMIO: a CubeSat at Earth-Moon L2*, European Planetary Science Congress (EPSC), TU Berlin, DE (2018) o
21. L. Alesbrook et al., *Simulating Atmospheric Alteration to Micrometeorites using a Two Stage Light Gas Gun*, European Planetary Science Congress (EPSC), TU Berlin, DE (2018) o
20. M. Delbo, K. Walsh, B. Bolin, C. Avdellidou, A. Morbidelli, *The discovery of a primordial asteroid family help us to identify the original planetesimal population of our solar system*, 42<sup>nd</sup> COSPAR Scientific Assembly, Pasadena, CA, US (2018) o (invited)
- \*19. C. Avdellidou, *The Moon as a large scale impact laboratory*, Catastrophic Disruption 9 workshop, Kobe, JP (2018) o
18. M. Delbo, K. Walsh, B. Bolin, C. Avdellidou, A. Morbidelli, *A primordial inner Main Belt asteroid family that predates the giant planet instability*, 49<sup>th</sup> Division for Planetary Science (DPS), Salt Lake City, US (2017) o
17. K. Walsh, M. Delbo, B. Bolin, C. Avdellidou, A. Morbidelli, *Beyond the families - the size distribution of non-family asteroids in the inner main belt*, 49<sup>th</sup> Division for Planetary Science (DPS), Salt Lake City, US (2017) o
- \*16. C. Avdellidou, D. Koschny and the NELIOTA team, *Lunar impact flashes - tracing the NEO size distribution*, 49<sup>th</sup> Division for Planetary Science (DPS), Salt Lake City, US (2017) o
- \*15. C. Avdellidou & M. Delbo, *Impact water delivery to anhydrous asteroids*, Asteroids, Comets and Meteors (ACM), Montevideo, UY, (2017) o
- \*14. C. Avdellidou, D. Koschny and the NELIOTA team, *NELIOTA-Ground based observations of lunar impact flashes*, Asteroids, Comets and Meteors (ACM), Montevideo, UY (2017) o
- \*13. C. Avdellidou, M.C. Price, M. Delbo, M. J. Cole, *The effect of target's porosity on the fate of the impactor in hypervelocity collisions*, 47<sup>th</sup> Lunar and Planetary Science Conference (LPSC), Houston, TX, US (2016) o (best abstract award)
- \*12. C. Avdellidou, M.C. Price, M.J. Cole, *Survival of the impactor during hypervelocity collisions: An analogue for icy bodies*, European Planetary Science Congress (EPSC), La Cité des Congres, Nantes, FR (2015) o
- \*11. C. Avdellidou, M.C. Price, M. Delbo, M.J. Cole, *Survival of the impactor during hypervelocity collisions: An analogue for icy bodies*, 12<sup>th</sup> Hellenic Astronomical Conference, Thessaloniki, GR (2015) o
- \*10. C. Avdellidou, *Survival of the impactor during hypervelocity collisions*, STARDUST INT workshop, Belgrade, RS (2015) o
- \*9. C. Avdellidou, M.C. Price, T. Kinnear, *Dynamical simulations of the impact rate, velocities, and angles of Mars-crossing asteroids*, Asteroids, Comets and Meteors (ACM), Helsinki, FI (2014) o
- \*8. C. Avdellidou, M.C. Price, T.M. Kinnear, *Dynamical simulations of the impact rate, encounter and impact velocities of Mars-crossing asteroids and NEAs*, European Planetary Science Congress (EPSC) Centro de Congressos do Estoril, Cascais, PT (2014) p
- \*7. P. Ioannidis, J.H.M.M. Schmitt, C. Avdellidou, C. von Essen, E. Agol, *KOI-676: An active star with at least two planets*, 11<sup>th</sup> UK Planetary Forum Earth Career Scientists' Meeting, OU, Milton Keynes, UK (2014) o
6. P. Ioannidis, J.H.M.M. Schmitt, C. Avdellidou, C. von Essen, E. Agol, *KOI-676: An active star with two transiting planets and a third possible candidate detected with TTV*, The 11<sup>th</sup> Hellenic Astronomical Conference, Athens, GR (2013) o
- \*5. C. Avdellidou, P. Ioannidis, K. Tsiganis, J.H. Seiradakis, G. Apostolovska, *Calculation of the rotational period of the Mars Crosser asteroid (32910)1994TE15*, The 10<sup>th</sup> Hellenic Astronomical Conference, Ioannina, GR (2012) p
- \*4. C. Avdellidou, P. Ioannidis, K. Kouroubatzakis, A. Nitsos, J. Vakoulis, J.H. Seiradakis, *Aristotle University Astronomical Station at Mt Holomon*, The 10<sup>th</sup> Hellenic Astronomical Conference, Ioannina, GR (2010) p
3. P. Ioannidis, V. Karamanavis, C. Avdellidou, D. Mislis, J. Antoniadis, J.H. Seiradakis, *Survey for variable stars and exoplanetary transits from Holomon Astronomical Station*, The 10<sup>th</sup> Hellenic Astronomical Conference, Ioannina, GR (2010) p
2. P. Ioannidis, D. Mislis, C. Avdellidou, *Planetary existence around M type main sequence stars*, The 10<sup>th</sup> Hellenic Astronomical Conference, Ioannina, GR (2010) p
1. D. Mislis, R. Heller, J. Fernandez, U. Seemann, P. Ioannidis, C. Avdellidou, *The Photometric Software for Transits (PhoS-T)*, The 10<sup>th</sup> Hellenic Astronomical Conference, Ioannina, GR (2010) p

## TEACHING EXPERIENCE (taught courses)

**Université Côte d’Azur**

*Impacts in the Solar System*, Material Preparation and Lecturer, Masters course (MAUCA) **2019–now**  
[https://mauca.oca.eu/images/OCA/FR/Master\\_Mauca/meteors/planets/impacts\\_syllabus.pdf](https://mauca.oca.eu/images/OCA/FR/Master_Mauca/meteors/planets/impacts_syllabus.pdf)

**University of Kent**

*PH617-Physics Lab*, Demonstrator, undergraduate course **2013-2016**  
*PH302-Computing Skills*, Demonstrator, undergraduate course **2013-2014**  
*PH020-Algebra and Arithmetics* Workshop, Demonstrator, Foundation Year **2013**

**Aristotle University of Thessaloniki**

Teaching Assistant of the Greek team, International Astronomy & Astrophysics Olympiad (IOAA), Poland **2011**  
 Teaching Assistant of the Greek team, International Astronomy & Astrophysics Olympiad (IOAA), China **2010**  
 Teaching Assistant *Introduction to Astronomy*, 3<sup>rd</sup> Year **2009**

**High School**

*Astronomy and General Physics*, Teaching Assistant during practice placement **2009**

## STUDENT ADVISORY (\*supported by my grants)

Summary: • Supervisor of Master Thesis: 1 (E. Munaibari) • Co-Advisor of PhD Thesis: 1 (D. Sheward) • Offered Internships: 6

• \*Daniel Sheward (PhD–Aberystwyth University/OCA, co-supervised by Drs. Cook and Avdellidou) **2019–2023**

**PhD:** *Discovery of fresh, small, lunar craters using LRO/NAC data.*

**Project:** The topic of this PhD research is Change Detection on the Lunar Surface, specifically the impacting of material, which give off an observable flash of light, excavate craters, and distribute ejecta. These impacts take place at higher velocities (>10 km/s) than can be reproduced in laboratories (<8 km/s), and therefore offer a unique insight into impacts at these higher velocities. It also provides an opportunity to study the impactors themselves, which due to the shared Earth-Moon environment, can pose a threat to Earth orbiting satellites, and in the case of larger impactors, can cause damage to ground-level infrastructure. By utilising software that the students developed, PyNAPLE, to locate the resultant crater formed from an observed lunar impact flash (LIF), the crater diameter can be obtained. By linking the impactor to a parent stream, the kinetic energy of the impactor can be estimated; by linking the kinetic energy to the crater diameter and the magnitude of the LIF, refinements can be performed to both the luminous efficiency, the proportion of kinetic energy which is converted into the LIF, and the crater scaling laws, which currently are not known to be accurate for the sub-kilometre scale of impact craters most commonly observed. As part of this work, the student is also developing methods to observe LIFs during local daytime, and on the lunar day-side, as current LIF observation techniques only allow for observations during local night-time, on the lunar night-side. These constraints severely limit the observable hours for LIFs, thereby limiting the number of events observed. By increasing the proportion of time in which LIFs can be observed, the dataset of observed events increases, allowing any statistical analyses performed using these events to provide a more accurate view of the Earth-Moon environment.

• \*Edhah Munaibari (Master–Université Côte d’Azur) **2020**

**Summer Internship at OCA:** *Curve-matching between asteroid spectra and meteorite laboratory spectra*

**Project:** During this summer internship the student collected the meteorite spectral databases of RELAB (Brown University, Canada) and PSF (University of Winnipeg, Canada), where he re-organised the latter in a way that can be easily searched. Edhah produced a code with which we are able to compare a given asteroid spectrum to the existing laboratory spectra. It includes several features such as: narrowing down the search according to the meteorite type the user likes, use in the fitting process the telluric regions or not, perform chi2 fitting following two different approaches, plot the number of best-matches the user wants, output the number of matches the user wants, produce the reduced chi2 result for each matching. This tool has been used to my latest paper regarding the spectroscopic characterisation of the X-types families Athor and Zita (see publication list). Edhah is a co-author.

- \*Edhah Munaibari (Master–Université Côte d’Azur) 2020  
**Master Thesis:** *Observations and analysis of lunar impact flashes.*  
**Project:** During this master thesis the student derived the size distribution of small meteoroids of the near Earth space. He analysed archived ground-based lunar observations. He identified the selenographic coordinates of the impacts and develop an algorithm to link each impactor to a meteoroid stream. He derived from the confirmed potential impact events the masses and sizes of the small impactors (cm-sized). During his thesis we detected the first lunar impact flash from France and LRO is searching for the new crater. This work is included in my 2021 publication in PSS (see publication list). The student was accepted for a PhD position at the same University.
- \*Edhah Munaibari (Master–Université Côte d’Azur) 2019  
**Summer Internship at OCA:** *Real-time impact lunar flash detection.*  
**Project:** The student developed an algorithm to detect in real time impact flashes in observational data (fits files). The goal of this super-fast detection is to inform LRO/Diviner instrument to detect the thermal tail of the impact event. This is a unique project.
- \*Raven Larson (Master–University of Colorado Boulder) 2019  
**Internship at OCA:** *Extraction of lunar coordinates of lunar impact flashes & detection of events with LRO/DIVINER.*  
**Project:** The student developed an algorithm to identify the lunar impact flash coordinates. The accurate coordinates are crucial for the subsequent discovery of the small fresh craters on the lunar surface. The student discovered that the majority of the coordinates of the archival data are inaccurate and several are incorrect. Furthermore, the best impact coordinates are mandatory to perform the link of the impactor to a meteoroid stream and infer the correct impact speed. This work is included in my 2021 publication in PSS (see publication list) and the student is a co-author.
- \*Daniel Sheward (Master–Aberystwyth University) 2018 & 2019  
**Summer Internship at OCA:** *Discovery of fresh, small, lunar crater using LRO/NAC data.*  
**Summer Internship at ESTEC/ESA:** *Corroborating lunar impact flash locations with evidence for impacts in visible and infrared observations from Lunar Reconnaissance Orbiter.*  
**Project for both internships:** 12 years after the man-made impact of the SMART-1 lunar satellite on the lunar surface and the study of the resulted crater, we are in a position to have detected hundreds of these events produced by small near-Earth objects (origin from asteroids and comets) hitting the Moon. The ESA-funded project NELIOTA has detected tens of new impact events on the lunar surface. These detections were possible by operating a telescopic monitoring survey of the flashes that are generated during an impact event. We have developed methods to estimate the size of the impacting body and, with the help of scaling laws, the size of the formed crater. In that way we will have an excellent dataset of impact events, knowing several parameters, enabling us to study the impact physics and the impacting population. Since 2009 NASA’s Lunar Reconnaissance Orbiter has acquired high resolution visible images and thermal infrared measurements of the lunar surface and these will be the input of the study. This project is to develop an implement a methodology using LRO data to search the lunar surface around the locations of each impact to detect the craters formed, such that their sizes can be measured. After both internships the student was enrolled for a PhD at the Aberystwyth University. I am invited to be the co-advisor of the student. This work is the subject of the first paper of the student which is in preparation.
- Chrysovalantis Sarakis (Undergraduate–Aristotle University of Thessaloniki) 2017  
**Summer Internship at ESTEC/ESA:** *Shapes and Sizes of asteroids.*  
**Project:** During the two months of the project, in collaboration with the Leiden Observatory, the student had to learn the principles and implement telescopic data reduction and photometry. The software he used was provided in advance by myself. Another task was the student to develop a code to identify moving targets in the sky field and collect the output of photometry. This can be applied to asteroid and comets observations. Data for this project were acquired by myself from the Observatoire Haute Provence (OHP), France and the ESA funded Schmidt Telescope, Calar Alto Observatory, Spain. The later observations were done remotely and during one run the student was present in order to understand the observing procedures. The scientific objective was to extract asteroids lightcurves (flux vs. time). Long-term observations will lead to the construction of the asteroids shape and the determination of the spin-pole alignment. There are international collaborators from the Charles University in Prague who will help on that. A second objective for the student was to work on occultation data, which were obtained and given by Detlef Koschny (ESTEC/ESA), using the Kryoneri telescope, Greece. Occultation is the event where an asteroid passes exactly in front of a background star and makes its light to disappear or

dim. Several simultaneous observations from observers at different locations on the occultation path will help to determine the asteroids diameter. This LEAPS summer project was part of the students undergraduate thesis in order to obtain his Physics degree. The student was selected for the Masters degree in Physics at the Aristotle University of Thessaloniki (GR).

Last updated: April 19, 2023