

ELENI KOUTSIONA

 Eleni Koutsiona |  elenikt.github.io

EDUCATION

- **Heidelberg University**, Master of Science in Physics (Astrophysics) **Oct 2024 - present**
- **University of Crete**, Bachelor of Science in Physics **June 2024**
- **Aarhus University**, Erasmus Exchange - Studies **Feb - June 2021**
Enrolled in advanced elective courses: Advanced Cosmology (Graduate Level), Lasers & Optics Laboratory

EXPERIENCE

- **Internship**: Max Planck Institute for Astronomy **July - Aug 2024**
Analysis of optical spectra of distant star-forming dusty galaxies to determine spectroscopic redshifts, metallicities, and kinematics
Supervisor: Dr Ugne Dudzeviciute
- **Internship**: Kyoto University, Okayama Observatory **Oct 2023 - March 2024**
Spectroscopic and photometric observations using 3.8m Seimei telescope, data reduction and analysis for transients, with a focus on supernovae. Classification of [SN2023uta](#), [SN2023ucy](#), and [SN2024dop](#)
KyotoNova group, Supervisor: Prof. Keiichi Maeda
- **Internship**: Skinakas Observatory, Institute of Astrophysics, FORTH **May - Oct 2023**
Polarimetric, spectroscopic, photometric observations using 1.3m telescope

PUBLICATIONS

- Kangas, T., et al., The enigmatic two-peaked stripped-envelope SN 2023aew. [A&A](#) **Sept 2024**
- Mandarakas, N., et al., Zero-polarization candidate regions for calibration of wide-field optical polarimeters. [A&A](#) **April 2024**

AWARDED OBSERVING TIME

- **NOEMA - spectroscopy**: 39 hours of observing time for the proposal *The ISM conditions in the dominant star-forming population at z 1-2*. PI: Dr Ugne Dudzeviciute **May 2025**

PROJECTS

- **Thesis**: Spatially resolved dust attenuation in Luminous Infrared Galaxies **Feb 2023 - June 2024**
Supervisor: Dr. T. Diaz-Santos
- **Research Project**: Spectral characterisation and estimate of basic properties of Type II supernova 2023rky Supervisor: Prof. Keiichi Maeda **Oct 2023 - March 2024**
- **Seminar**: Radiative Transfer **June - Sept 2023**
Organised and instructed an online, biweekly seminar on radiative transfer targeted towards graduate students, under the supervision of Prof. Keiichi Maeda
- **Research Project**: Enhanced Urban Area Mapping Across Pan-European Landscapes using Sentinel-2 Imagery. **2021 - 2024**
Application of cloud masking and creation of a spectral library to train an X-SVM algorithm, improved with DTM data, to develop a land cover map of Europe
[RSLab](#) - FORTH, Supervisors: Dr. N. Chrysoulakis, I. Lantzanakis
- **Experimental Design Project**: Experimental setup for high-accuracy measurement of the width and distance between interference fringes **Sept 2021 - Feb 2022**
Designed setup has since been implemented in the Undergraduate Optics Lab
Supervisor: Prof. P. Rakitzis
- **Citizen Science Project**: Supernova Hunters **Oct 2022**
Contributed to discovery of PSN transients [2022ynb](#) and [2022xwl](#)

CONFERENCES & WORKSHOPS

- **Summer Schools:**
 - [WE-Heraeus and NARIT Cosmology School 2025 – Galaxies and Beyond](#) **Oct 2025**
 - [High Redshift Transients with JWST - STScI](#) **Aug 2025**
Received ESA scholarship to support participation
 - [EXCOSM Summer School](#) **July 2025**
 - [Astrostatistics in Crete](#) **June 2025**
 - [jAG Meeting 2025](#) **June 2025**
- **Conferences:**
 - [Transient and Supernova WS 2023](#) **Dec 2023**
Presentation Title: 'Support Vector Machines: From Remote Sensing to Supernovae Classification'
 - [Workshop of Theoretical Astronomy 2023](#), Kyoto University **Dec 2023**
Presentation Title: 'Near and mid-infrared line emission analysis of starburst galaxy NGC7469'
- **Workshop:** Machine Learning, University of Crete **July - Aug 2023**
An intensive hands-on seminar on Machine and Deep Learning techniques, covering fitting methods, classification, clustering, regression, and others
- **Workshop:** Introduction to Data Analysis with Python, University of Crete **Oct 2022**
A 6-week intensive course on implementation of Python methods for data pre-processing (data cleaning, handling of missing values, feature representation etc), analysis, and visualisation.

GRANTS & FUNDING

- **ESA Grant**, JWST Summer School **2025**
Scholarship awarded by the European Space Agency to fund travel and participation
- **Fee Waiver by University of Tartu**, EXCOSM Summer School **2025**
Full tuition waiver awarded for academic merit
- **MPIA Travel Grant** **2024**
Funding support for internship-related travel
- **Erasmus+ Scholarship** for MPIA Internship **2024**
- **Erasmus+ Scholarship** for Kyoto University Internship **2023**
- **Erasmus Scholarship** for studies at Aarhus University **2021**

SKILLS

- Lasers and Optics Laboratory: Continuous-wave (CW), Q-switched (nanosecond), and mode-locked (femtosecond) lasers, non-linear optical methods, UV-Vis spectroscopy
- Programming Languages: Python, C
- Scientific Programming Tools: IRAF/PyRAF, DS9, Origin, LAMMPS, OVITO, Matlab, QGIS, L^AT_EX
- Amateur Telescope Operation: 8 inches diameter Dobsonian Telescope (regular user), 9.8 inches Schmidt – Cassegrain Telescope (regular user), 12 inches Meade LX200 Telescope (beginner user)
- Diving Certifications: PADI Advanced Open Water, PADI Open Water
- Basic Life Support Provider, European Resuscitation Council

LANGUAGES

- Greek: Native Speaker
- English: IELTS Academic score: 8.5/9 (Nov 2023), TOEFL-iBT score: 114/120 (Oct 2020), & Certificate of Proficiency by the University of Michigan (2015)
- German: GOETHE Zertifikat B2 (2016)

VOLUNTEERING & ACTIVITIES

- **Content writer for Uni-mag** May 2023 - present
Wrote and published two articles of scientific content for astronomy themed online magazine Uni-mag
- **FIRST LEGO League, Robotics Competition** Feb 2023
Participated as a referee
- **IAU NameExoworlds** Dec 2022
Assembled and led participating group, organised outreach event
- **Student Astronomy Club, University of Crete** Sep 2018 - present
Responsible for group logistics, organising and participating in weekly meetings, presentations, public observations, lectures, and various events including European Researchers' Night and World Space Week
- **Tutoring** 2019 - present
Tutoring peers in physics and programming related courses
- **Local animal shelter** 2018 - present
Fostering stray animals, assisting in adoption process
- **Scouts of Greece** 2007 - present

AWARDS & COMPETITIONS

- **ESA's Space Juice Contest: Runner-up** 2023
- **LaSciL - Picture of the month** 2022
- **Regional EUSO – PANEKFE: Third Place** 2017
Third place in Physics, Chemistry, and overall in the Regionals of the European Union Science Olympiad
- **Regional EUSO – PANEKFE: Third Place in Biology** 2016
- **National Mathematics Competition "Euclid" – Hellenic Mathematical Society** 2014 Qualified through competing in preliminary competition "Thales"