

# ELENI KOUTSIONA

 Eleni Koutsiona |  [elenikt.github.io](https://elenikt.github.io)

## EDUCATION

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- **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

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- **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

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- 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

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- **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

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- **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 Oct 2023 - March 2024  
Supervisor: Prof. Keiichi Maeda
- **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

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- **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

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- **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

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- 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<sup>A</sup>T<sub>E</sub>X
- 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

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- 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

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- **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

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- **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"