

Emilie PERNET

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WORK EXPERIENCE

Student researcher

06/02/2023 – 08/12/2023

Instituto de Astrofísica de Canarias

La Laguna, Santa Cruz de Tenerife, Spain

Supervisor: Dr. Ignacio Martín Navarro

- “The evolution of galaxies through their stellar populations”
- Oral presentation of the results at the international conference “A life devoted to stellar populations” (October 2023); first author of an A&A Letter (accepted); co-author of an A&A Main Journal paper (submitted)
- Use of Python, pPXF, astropy, spectral analysis

“Discovery” internship (stage de découverte)

October 2017

Université Grenoble Alpes

La Tronche, Isère, France

Supervisor: Mikael Martin, Lab Manager

- Discovery of a research lab environment (technicians, engineers, researchers)
- I took part in: bacterial experiments, preparation of media for bacteria and yeast, polymerase chain reaction (PCR) and agarose gels.
- I learnt: how a research team works, how to work within a team, what is to be a researcher

PUBLICATIONS & CONFERENCES

Pernet et al. 2024. *[Mg/Fe] & variable IMF: a revision of $[\alpha/Fe]$ for massive galaxies*. *Astronomy & Astrophysics* (accepted)

Iglesias-Navarro et al. 2024. *Deriving Star Formation Histories of Galaxies from Spectra with Simulation-based Inference*. *Astronomy & Astrophysics* (submitted)

Pernet Emilie (October 2023) *$[\alpha/Fe] \neq [Mg/Fe]$: misleading trends for massive galaxies*. Oral presentation at the conference “A life devoted to stellar population”, Tenerife Spain

EDUCATION

University of Surrey

Guildford, UK

Master : MPhys with Nuclear Astrophysics

09/2020-06/2024

- Master awarded with First Class Honours
- Four-year course, including 10 months of research (Feb-Dec 2023)
- Year 1: 82.6% *; Year 2: 82.8% *; Year 3: 78% *; Year 4: 71% *
- Modules including, in particular: Quantum Physics, Atoms to Lasers, Electromagnetic Waves, Special Relativity, General Relativity, Nuclear Astrophysics, Explosive Stellar Phenomena, Modern Computational Techniques, Research Techniques in Astronomy, Principles of Data Science
- Awards: ‘The NPL MPhys prize in Physics’ for the best overall MPhys performance at FHEQ Level 7, ‘The Department of Physics Level 5 Prize’ for the best overall performance at Level 5 of the Physics UG Programmes and ‘The Dr. Chris Sullivan Prize’: for the best performing second-year student in Atoms to Lasers

CNED (online school) & ASPEN (private structure)

Meylan, France

French Baccalauréat, Scientific

2018-2020

- Final grade (weighted average): 16.88/20, “Mention très bien” (with highest honour)
- Detailed grades: Physics-Chemistry: 20/20, Mathematics: 19/20, Biology: 17/20, History: 17/20, English: 14/20, Philosophy: 14/20, German: 14/20, French: 12.5/20
- I completed the three years of high school in two years

*UK grades equivalence to other countries:

<https://www.mastersportal.com/articles/2290/how-to-convert-uk-grades-for-masters-degrees-in-other-countries.html>

SKILLS

Computing

- Fluent in Python, main libraries (e.g., NumPy, Matplotlib) and specific libraries (e.g., pPXF, astropy)
- Competent with Microsoft 365, especially Excel, used for data analysis
- Competent with Latex/Overleaf, used to write reports, papers, and other documents
- Basic knowledge of C, online courses

Communication and team work

- Served as class representative for 3 years, facilitating communication between students and teachers in secondary school
- Active member of the Administration Board in secondary school
- Led university group projects, including studies on white dwarfs, asteroid trajectory and interception, and experiments with a Fabry-Perot Interferometer
- Demonstrated communication skills within a research team through active participation in group meetings, journal clubs, and related activities

LANGUAGES AND HOBBIES

Languages

- French, mother tongue
- English, fluent
- German, learned at school, beginner level
- Spanish, self taught, beginner level

Hobbies

- Diving (since 2017): member of the University Scuba Diving Society's Committee
- Badminton (since 2015): competitions at school, then university level
- Board games: strategic and cooperative games; involved in the University Board Games Society
- Photography
- Reading

REFERENCES

Name	Employer	Title	Email
Ignacio Martín Navarro	Instituto de Astrofísica de Canarias	Dr.	imartin@iac.es
Lisa Morrison	Physics Department, University of Surrey	Dr.	l.n.morrison@surrey.ac.uk