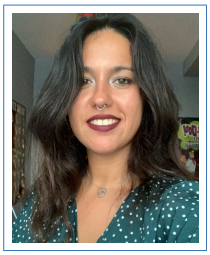
EVA DURÁN CAMACHO

Researcher in astrophysics with a passion for star formation and evolution

Cardiff Hub for Astrophysics Research and Technology (CHART)
Cardiff University
✉ *durancamachoe@cardiff.ac.uk*



Education

2020–present **PhD, Astrophysics**, *Cardiff University*, Cardiff, United Kingdom.
Star formation in the Milky Way - observing numerical models using AREPO

Supervisors : Dr. Ana Duarte Cabral & Dr. Paul Clark

2019–2020 : **MASt in Astrophysics**, *University of Cambridge*, Cambridge, United Kingdom.

2015–2019 : **Grado en Física**, *Universidad Autónoma*, Madrid, Spain.

Courses

July 2021 : **International Summer School on the Interstellar Medium of Galaxies, from the Epoch of Reionization to the Milky Way**, Virtual Edition.

October 2020 : **An Introduction to Linux with Command Line**, *Cardiff University*.
How to use Linux command line interface effectively by ARCCA

October 2020 : **Supercomputing for Beginners**, *Cardiff University*, .
Accessing systems, using SLURM, loading software, file transfer and optimising resources, by ARCCA

November 2020 : **Introduction to Parallel Programming OpenMP and MPI**, *Cardiff University*, .
OpenMP and shared memory parallelism, MPI and distributed memory parallelism by ARCCA

March-May 2020 : **Astronomical Programming**, *Universidad Autónoma*, Madrid, Spain.
Programming skills for astronomy using both Python and Matlab. Imparted by Prof. Enrique Velasco

Conferences & Talks

January 2021: **UKRI STFC Introductory Course in Astronomy for New Research Students**, *Armagh Observatory and Planetarium*, Virtual Editon , Talk.

June 2021: **Conference for Astronomy and Physics Students (CAPS '21)**, *University of Birmingham*, Virtual Editon , Poster.

November 2021: **10th IRAM 30-meter School on Milimiter Astronomy**, *Institut de Radioastronomie Millimétrique*, Virtual Editon , Attendee.

Research Projects

2020–2022: **The Milky Way structure: observations and simulations**, *Cardiff University*.
Numerical simulations of Milky Way type Galaxies using the state-of-the-art moving mesh code AREPO. Studying the structure of our Galaxy and zooming into smaller regions where star formation processes can be studied. Statistical comparison of our models with observations.

Supervisors : Dr. Ana Duarte Cabral, Dr. Paul Clark

Summer 2020: **Evolution of T Tauri Stars**, *University of Cambridge*.
Studying the effects of magnetic fields and rotation on the evolution of the early type of stars T Tauri using the STARS code created at the University of Cambridge

Advisors : Prof. Christopher Tout

2019–2020 : **Searching for extremely metal-poor stars with GAIA**, *University of Cambridge*, Cambridge, United Kingdom.
MASt research project. Based on the usage of Gaia as a database to find extremely metal-poor stars in the Galactic Halo. Artificial Neural Networks were the main technique applied in the study

Advisors : Dr. Giorgia Busso, Dr. Francesca D'Angeli and Prof. Mike Irwin

2018–2019 : **Intermediate-mass T Tauri stars**, *Universidad Autónoma*, Madrid, Spain.
BA research project. Study and comparison of intermediate-mass T Tauri and its counterparts the Ae/Be stars based on their spectra and position in the Hertzsprung-Russel diagram.

Advisors : Prof. Gwendolyn Meeus

2018–2019 : **Observations and data analysis of a point source**, *Universidad Autónoma*, Madrid, Spain.
BA research project. Observations of the star AE UMA at Calar Alto Observatory, Almería (Spain). Data reduction and analysis.

Advisors : Dr. Yago Ascasibar

Working Experience

July–August 2018 : **Researcher**, *University of Cambridge*, Cambridge, United Kingdom.
Internship at the Institute of Astronomy. I worked on the evolution of T Tauri stars using the STARS code. Supervisor: Christopher Tout

January–June 2018 : **Laboratory Technician**, *Universidad Autónoma*, Madrid, Spain.
Laboratory technician at the Condensed Matter Department. Worked for a PhD student extracting graphene samples from graphite

November 2016–May 2019 : **Tutoring**, Madrid, Spain.
High school students. Subjects: Physics, Mathematics and Chemistry

Teaching Assistantship

2020-2021: **The Physics Mentor Project**, Mentor, Cardiff, United Kingdom.

2020-2022 : **Environmental Physics, Introduction to Astrophysics, Computational Physics, Atomic and Nuclear Physics, Optics**, *1st-3rd year Physics*, Marking and Demonstrating, Cardiff University.

Academic Achievements & Recognitions

2015–2019 : **Distinctions**, *Physics Degree*, Universidad Autónoma, Madrid, Spain.
Distinction in a series of subjects: Análisis I (1st year), Electromagnetismo I (2nd year), Métodos Matemáticos Avanzados and Electrodinámica Clásica (3rd year), Física Atómica y Molecular and Física del Cosmos (4th year)

Computational skills

Programming: Python, Matlab, C++

Documents: LaTeX, Adobe, Word, Excel, PowerPoint

Plotting: DataStudio, TopCat, SciDavis, CARTA, SAOImageDS9

Languages

1st **Spanish**, *Native*.

2nd **English**, *Cambridge Advanced Certificate (2014) IELTS Academic (Grade: 8.0/9.0) (2019)* .

3rd **French**, *Four years at high school, equivalent to a B1 level*.

4th **Italian**, *Currently undertaking the course Italian for Beginners - Stage A at Cardiff University.*