EVA DURÁN CAMACHO

Researcher in Astrophysics

Cardiff Hub for Astrophysics
Research and Technology
(CHART)
Cardiff University
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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.

Summer Schools

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

Honours & Awards

March 2023 ***Taith Mobility Grant*** (1280€), Higher Education – Research Mobility in Heidelberg (Germany)

August 2022 ***IAU Travel Grant*** (1682€), International Astronomical Union (IAU)

August 2022 ***KAS Travel Grant*** (318€, accommodation), Korean Astronomical Society (KAS)

June 2022 ***Travel Grant*** (1594$), Flatiron Institute (New York, USA)

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)

Conferences & Talks

August 2022: **Star Formation in Different Environments 2022**, *ICISE*, Contributed Talk.

August 2022: **IAU Symposium 373: Resolving the Rise and Fall of Star Formation in Galaxies**, *IAU General Assembly XXXI*, Poster .

June 2022: **From Stars to Galaxies II: Connecting our understanding of star and galaxy formation**, *Chalmers*, Poster.

June 2022: **Computational Astrophysics in the ngVLA Era: Synergistic Simulations, Theory, and Observations**, *Flatiron Institute*, Poster.

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

Publications

Publications in preparation

Durán-Camacho. E. , Duarte-Cabral, A. et al., *Self-consistent modelling of the Milky Way structure using live potentials*.

Yifei Ge, et al. (including **Durán-Camacho. E.**), *Large-scale Velocity-coherent filaments in the SEDIGISM survey: invariant dense gas fraction*.

Conference Proceedings

2022 **Durán-Camacho. E.** , Duarte-Cabral, A., *Milky Way: structure via live potentials*.
International Astronomical Union Proceedings Series

Research Projects

2020–2023: **Self-consistent modelling of the Milky Way structure using live potentials**, *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

Teaching Assistantship

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

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

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

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)* .

4th **Italian**, *Currently undertaking the course Italian for Beginners - Level A2 at Cardiff University*.

3rd **French**, *High School Level A2*.