Dr. Constantina M. Fotopoulou

Ph.D. in Computational Astrophysics

Details & Contact

August 10, 1993

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About me

I am a motivated computational astrophysics researcher transitioning into the dynamic IT industry. I bring over 4 years of invaluable experience in scientific programming, extensive data analysis, model development and implementation, as well as adept statistical analysis of big data. My high-level academic background empowers me to efficiently tackle complex problems and rapidly adapt to new programming tools and software development methodologies. As a highly skilled researcher with a global perspective, my multilingual expertise and deep understanding of diverse cultural perspectives enable seamless connections with colleagues and audiences worldwide. Highly driven and eager for new opportunities, I seek to apply my knowledge and analytical thinking to real-world data challenges. I am excited to embrace a new role in IT, leveraging my passion for data analysis and problem-solving to drive innovation and contribute to cutting-edge advancements in the industry.

Languages

Greek - Native Language

English - Full Professional Proficiency - C2

French - Full Professional Proficiency - C2

German - Limited Working Proficiency

Soft Skills

Analytical Thinking | Problem-Solving | Critical Thinking | Fast Learning | Independent Learning | Project Management | Initiative | Adaptability | Time Management | Work Ethic | Team Working | Multilingual Proficiency | Communication | Presentation Skills

Experience

Dec. 2022 - Apr. 2023 — **Postdoctoral Researcher** — Munich, Germany

Max Planck Institute for Astrophysics

- Top Research Institute for Astrophysics in Europe
- Group: Computational Structure Formation
- Group Leader: Prof. Dr. Volker Springel

Sep. 2018 - Dec. 2022 — **Doctoral Researcher** — Munich, Germany

Max Planck Institute for Astrophysics

- Successful completion of the graduate training program at the exclusive International Max Planck Research School (IMPRS) on Astrophysics for high-potential Ph.D. candidates

Summary of my Expertise

- Successfully managed research projects working with high resolution HD simulations of dwarf galaxies, showcasing my expertise in planning and executing complex projects while implementing innovative ideas.
- Attained high-level proficiency in Python for scientific data post-processing, statistical data analysis and model implementation.
- Expertly skilled in utilizing specialized libraries (e.g. numpy, scipy, astropy), as well as visualization tools (e.g. matplotlib) to extract reliable results and make data-driven decisions.
- Processing significant experience in academic writing (using LaTeX), I have a proven track record of publications in peer-reviewed journals, presentations of my work in international conferences and talks as invited speaker in universities and research institutes worldwide.

Education

Sep. 2018 - Dec. 2022 — **Ph.D. in Astronomy** — Munich, Germany

Max Planck Institute for Astrophysics & Ludwig Maximilian University of Munich

- Top University in Germany (LMU)
- Thesis: The multi-phase interstellar medium in a high resolution simulation of a dwarf starburst
- Supervisor: Prof. Dr. Volker Springel

Oct. 2016 - July 2018 — **M.Sc. in Astrophysics, Astronomy and Mechanics** — Athens, Greece

National & Kapodistrian University of Athens

- Top University in Greece
- Graduated **summa cum laude**

Sep. 2011 - Mar. 2016 — **B.Sc. in Physics Specialization in Astrophysics, Astronomy and Mechanics** — Athens, Greece

National & Kapodistrian University of Athens

- Top University in Greece
- Graduated **summa cum laude** at the top 3.5%
- Academic Scholarship for Excellent Performance by the prestigious State Scholarships Foundation of Greece

Strengths

- Through my scientific education, I have cultivated profound skills in **independent learning** and **assuming responsibility for my academic development**.
- Thanks to my academic background, I developed valuable **analytical and synthetic cognitive skills**, coupled with strong **critical thinking abilities**. Moreover, I gained a keen aptitude for **quickly learning new tools and methodologies**, highlighting my **adaptability**.
- My expertise in scientific programming allows me to **efficiently solve complex problems in a timely manner**, **extract valuable insights** and **make data-driven decisions**.
- Through my PhD, I honed my **time-management skills** and cultivated a **hard work ethic**.
- Thanks to my participation in multiple international conferences and being invited speaker in universities and research institutes around the world, I have developed exceptional **public speaking** and **presentation skills**.
- As a researcher trained in international environments, I have developed strong **intercultural** and **team-working skills**.
- My experiences in managing and organizing diverse projects in academia, along with my active involvement in volunteering for education and public outreach programs, highlight my strong **initiative** and **collaborative spirit**.

Volunteering

- **Planetarium Team**

During my PhD at the Max Planck Institute for Astrophysics, I presented planetarium shows, improving my communication skills and ability to engage with diverse audiences. Notably I hosted the planetarium show for the "Girls Day 2019", where I had the opportunity to realize my motivation for advocating diversity, equity, and inclusion in STEM.

- **Education & Public Outreach**

As a student at the National and Kapodistrian University of Athens, I engaged in numerous outreach activities including volunteering during the public observation nights organised by the university and participating in numerous science festivals (e.g. "Athens Science Festival, "European Researchers Night") and events that aimed to educate the general public.

</> Programming Skills

- **Highly Specialised**: Python, Jupyter Notebook, LaTex
- **Intermediate**: Bash, Git, C, MATLAB, Wolfram Mathematica
- **Basic**: SQL, HTML

Certificates

- SQL for Data Science (*Coursera, 2023*)
- Bash Programming Course (*IMPRS, 2019*)
- Git Programming Course (*IMPRS, 2019*)
- Python Programming Course (*IMPRS, 2019*)

Project & People Management

Sep. 2019 - present

Group Administrator — Munich, Germany

Social Media

As the administrator of the thriving Facebook group "Jobs for Astronomers" (6.2K members), an initiative to help astrophysicists interested in academic and non-academic job postings, I have developed expertise in using social media for science communication.

May 2019 - Dec. 2021

Principal Coordinator of Career Seminars — Munich, Germany

Max Planck Institute for Astrophysics

As the principal organiser of the "Career Seminars" organized at the Max Planck Institute for Astrophysics, I have honed my skills in organizing and facilitating events to help early-career scientists navigate the job market in academia and industry.

Feb. 2017 - June 2017

Teaching Assistant — Athens, Greece

National & Kapodistrian University of Athens

Teaching assistant for Astrophysics Laboratory (4th year Undergraduate) at the Physics Department of the National & Kapodistrian University of Athens.

Dec. 2016 - June 2017

Deputy Coordinator of Scientific Essay Contest — Athens, Greece

NASA, ESA & National & Kapodistrian University of Athens

As deputy coordinator for Greece of the "Cassini Scientist for a Day" essay contest, co-organised by NASA, ESA, and the National & Kapodistrian University of Athens, I had the opportunity to collaborate with NASA and ESA representatives in project management and evaluation. This experience cultivated my communication and teamwork, as well as the ability to adapt in diverse contexts. Additionally, presenting the final award ceremony further honed my public speaking skills.

Oct. 2015 - Aug. 2018

Member of Education & Public Outreach Team — Athens, Greece

National & Kapodistrian University of Athens

As a founding member of the Education and Public Outreach Team "SpaceGates", I cultivated strong team-working skills while collaborating extensively with peers. Contributing to articles on various astrophysical topics refined my ability to communicate complex ideas clearly. Additionally, I curated the team's Facebook page, gaining valuable experience in science communication through social media.