

Testimonial Letter: Dr. Maria Dainotti

Hi, I'm Ayush Garg, a PhD student at IIT Indore, India, working under the guidance of Dr. Amit Shukla. My journey with Prof. Maria Giovanna Dainotti began in late 2024, marking a significant turning point in both my academic and personal growth.

Looking back, my early academic years were shaped by a sense of awe for the foundational correlations in astrophysics, those elegant relationships that connect the dots between theory and the cosmos. Back then, I was a curious student, absorbing these concepts from textbooks and lectures, never imagining I'd one day work alongside the very pioneers who shaped the field. My research focuses on high-energy astrophysics, and in particular, Gamma-Ray Bursts (GRBs), which brought me face-to-face with the Dainotti correlation. I remember being captivated not just by its scientific significance, but by the story behind its discovery. It felt almost surreal to think that I might one day interact with Prof. Maria Dainotti herself, whose work I had admired from afar.

Fast forward to late 2024, and that distant aspiration became a reality. Maria's presence on LinkedIn had already inspired me; I followed her updates, keenly aware of the innovative projects emerging from her group. My first attempt to join her team didn't pan out; the position was filled, but I persisted, and when a new opportunity arose, I applied again. This time, I was welcomed not only by Maria but also by her student Biagio, who would soon become both a collaborator and a friend.

Starting in December 2024, my collaboration with Maria marked my first real step into cosmological research. Compared to my earlier, more solitary and theory-driven approach, working with Maria's group was a revelation. The team's energy, diversity, and shared drive for discovery created a vibrant atmosphere that was both challenging and deeply supportive. Maria's mentorship style, equal parts rigorous and uplifting, pushed me to grow in ways I hadn't anticipated. Where I once worked alone, I now found myself thriving in a community that celebrated curiosity, resilience, and the joy of scientific exploration.

Maria fosters an engaging and dynamic research environment. She often lightens the mood during meetings while maintaining exceptionally high standards of work. Her enthusiasm is infectious; I even affectionately referred to her as the "Asian Wonder Woman", a testament to the remarkable impact she has had on my academic journey.

Working with Maria has been an intense but rewarding experience. Her speed, precision, and dedication to the project set a high bar, challenging us all to match her enthusiasm and commitment. At times, the pace felt overwhelming, but as I immersed myself in the work, I realised how truly engaging and fulfilling this research was. We not only completed our tasks diligently but also actively sought new challenges, revisiting our analyses and refining our contributions with greater rigour.

Our collaborative efforts culminated in a publication in the Journal of High Energy Astrophysics (JHEAP), which now boasts an impressive impact factor of 10.5. Remarkably, our paper has already garnered 11 citations within just six months of its appearance on arXiv, a testament to the relevance and visibility of our work in the scientific community.

This collaboration has profoundly shaped my growth as a researcher. It has bridged gaps in my understanding, allowing me to connect high-energy astrophysics with cosmology in ways I had not previously explored. I am incredibly grateful to Maria for this opportunity, and I look forward to continuing this journey in my postdoctoral research and beyond. If given the chance, I would be honoured to keep working alongside her.

Additionally, if there are opportunities to delve deeper into Quasar/GRB cosmology or astrophysical jets, I would appreciate any connections you could facilitate with fellow students currently tackling this area.

Ayush Garg

A handwritten signature in blue ink, appearing to read 'Ayush', with a stylized flourish extending from the end.