Giada Bargiacchi

PhD student working under the co-supervision of Prof. Maria Giovanna Dainotti since 2021

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I am a PhD student at the Scuola Superiore Meridionale in Naples on the project "Cosmology, space science & space technology" and I am going to discuss my PhD thesis at the beginning of 2025. As I am at the end of my PhD, I would like to say a few words about my collaboration with Prof. Maria Giovanna Dainotti, the work we have done together, and what I have learnt from her, both professionally and personally speaking.

I started working with Maria in 2021 and it was the first time that I had approached the study of Gamma-Ray Bursts, having previously worked mainly with quasars. So, it was a challenge for me. However, Maria guided me into this field with online meetings where she showed me the theoretical basis, the results already achieved, and the practical approaches and codes used. It was very interesting for me and I learned how to deal with Gamma-Ray Bursts and especially their application in cosmology. This has boosted my experience in this field, since both quasars and Gamma-Ray Bursts have recently become cosmological tools and they can play an invaluable role as high-redshift probes that trace previously unexplored epochs of the Universe.

Based on these new skills, I have collaborated with Maria on several papers (10 published papers and one review paper currently under revision), in which we investigated the cosmological implications of quasars and Gamma-Ray Bursts in the light of the current puzzling cosmological tensions. These works have significantly impacted the astrophysical and cosmological community attracting more and more interest. In this regard, I am very proud of these results, which are the products of our common passion for the research, our efforts, and our ability to overcome the challenges.

As part of my PhD, I spent six months at the National Astronomical Observatory of Japan working with Maria. This was a very fruitful period since I had the opportunity to work closely with Maria in an active and stimulating environment. Indeed, this experience strengthened our collaboration and gave us the chance to spend also some free time together, which allowed us to build such a good relationship that is not only limited to our professional collaboration.

Finally, I would like to say that, when I first met Maria, I was really im-

pressed by her dedication to the research and her endless curiosity about what we still have to discover and this still impresses me today and has also fueled my passion and interest in research. Furthermore, she is incredibly patience and supportive in mentoring students also providing opportunities to learn, grow, and develop new skills and she invests a lot of time and effort to help them broaden their knowledge and achieve success. Therefore, I highly recommend Prof. Dainotti to both undergraduate students who want to enter the research field, as well as graduate students who want to improve their skills and knowledge and boost their research career, thus opening up several opportunities for their future.

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