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PAH processing in space

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Curriculum vitae

I was born the 28th of July 1974 in Torino, Italy. After less than a year I started moving with my family to different Italian cities (Milano, Roma) and other countries (Lybia, Canada and Tunisia). I attended primary and secondary school, and the first year of high school (Liceo Scientifico) between Canada, Italy and Tunisia, until we settled back in Milano where I finished high school and started university.

I studied Physics at the University of Milano, with specialization in Astrophysics. For my Master thesis (Tesi di Laurea) I have analyzed the characteristics of cosmic ray protons detected in space during the *Alpha Magnetic Spectrometer* (AMS) experiment, studying the propagation of these particles in the Earth magnetosphere and the processes of production of cosmic rays as a function of the geographical distribution of the sources.

After graduation, I got a research fellowship from CILEA (Interuniversity Consortium for Supercomputing) and I worked on high performance calculations for astroparticle experiments and development of software for data analysis. I subsequently obtained a second research fellowship, this time from INFN (National Institute for Nuclear Physics). I was engaged in a complete simulation of the bombardment of the space station ISS by cosmic rays, with comparison to AMS experimental data and study of the propagation of cosmic rays into the heliosphere. I was also enrolled in the realization and management of a system for data transfer and data handling for the phase-2 of the AMS experiment on the International Space Station. During my research activity I have made several working visits at CERN (Switzerland).

In November 2004, I started my Ph.D. in Astronomy at the Sterrewacht Leiden (Leiden University) under the supervision of Prof. dr. Frank Israel and Prof. dr. Alexander Tielens, as a Marie Curie Fellow in the EARA-EST project. My research has been dedicated to investigate for the first time the *collisional* processing of Polycyclic Aromatic Hydrocarbons (PAHs) in astrophysical environments subjected to shocks and cosmic ray bombardment. As part of the EARA traineeship, I had the opportunity to spend ten months in the Institut d'Astrophysique de Paris (IAP - Paris, France), and I worked one year at the Institut d'Astrophysique Spatiale (IAS - Université Paris-Sud XI, Orsay, France) with Prof. dr. Anthony Jones.

During the Ph.D. I participated in the NOVA fall school (Dwingeloo) and in the Les Houches Physics School on Interstellar Dust in Les Houches (France). I presented my work during conferences, workshops and seminars in Paris (France), Pasadena (USA), Orsay (France) and Arcachon (France). In Leiden I followed a course on Project Management and EU Funding and I had a two day training on Research Management. I also was for one year the organizer of the Starburst group meetings.

I would like to continue my career in Astrophysics.

Acknowledgments

Here we are. The last words of my thesis. A journey through memories, to remember the persons who accompanied me during this adventure. Maybe with some of you we met only few times, or we did not spend too much time together. It does not matter. The persons you meet can really change your life, and only the lack of space prevents me to mention you all.

Thanks Sterrewacht Leiden for being a place where I will always feel at home.

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I started my PhD as a Marie Curie Fellow in the EARA-EST project (FP6 of the European Union). Not only this paid my salary for three years, but also gave me the possibility to spend ten months at the Institut d'Astrophysique de Paris (France) as a Secondment Stay. I would like to acknowledge the EU for this unique opportunity and all the persons at the IAP who made this visit possible, in particular Chantal Le Vaillant, who took care of many things, from administration to housing. Chantal, you have been my first friend in Paris, I'm looking forward to see you again. I thank Lysiane and Geneviève for being always so kind and helpful. Gwenaël,

Beta, Kumiko, Aurélian, Clément, Sara and all my friends at the IAP, you made my stay so special, *merci*.

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Here we are. This journey is over. A new one just started. I thank you all.

We dance round in a circle and suppose,
but the secret sits in the middle and knows.

Robert Frost

