

## Fellows at ESO

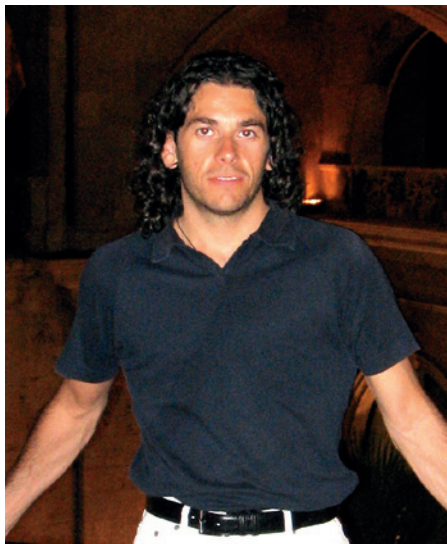
### Ciriaco Goddi

I grew up on a Mediterranean island, the enchanting Sardinia (Italy), a place where the low level of air and light pollution reveals a beautiful, dark, star-filled night sky (almost) all year long. I remember, as a child, being always fascinated (and overwhelmed) by the vastness of the Universe. My passion for scientific subjects and some books read during high school (Weinberg and Hawking were among my favourites) determined my choice: I wanted to be a physicist!

I undertook a path which began with an undergraduate physics degree at the University of Cagliari in Sardinia. My Master's thesis was on astronomy, where I analysed mid-infrared data from planetary nebulae taken with the SWS spectrometer on board the ISO satellite. During my thesis work, I had the invaluable opportunity to visit ESO as a summer student. I had never been in a big institute at that time and I was overall so impressed by the scientific activity on campus, that once back at my home university I decided to enroll in a PhD programme in astronomy. The main goal of my PhD thesis project was to determine 3D gas dynamics in obscured massive star-forming regions. I learned the basics of radio interferometry, in particular very long baseline interferometry, which, despite requiring labour-intensive processing, allows images to be produced with the highest angular resolution in astronomy.

After finishing my PhD in 2005, I spent one year at the INAF–Osservatorio Astronomico di Arcetri in Florence, just next door to Galileo's villa. There I joined the main research group on star formation in Italy, with whom I still collaborate today.

In the meantime, I was awarded a post-doctoral fellowship at the Harvard-Smithsonian Center for Astrophysics (CfA). I moved to Cambridge (Massachusetts) in 2006 where I lived for three years. The experience was very rewarding, both on a professional and a personal level. At the CfA I met prominent scientists, including authors of books I had studied, and also a Nobel laureate who was sitting just a few offices down from mine! My research there focused on



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the analysis of a large dataset of radio interferometric data aimed at a detailed study of an intriguing, yet enigmatic, region in the Orion Nebula. It is curious that the favorite constellation of my childhood, The Hunter, turned out to be my “pet source” as a professional astronomer. We also developed websites and animations for public outreach, a valuable way, in my view, to spread scientific knowledge among the general public.

I was awarded an ESO fellowship in 2009 and I moved back to Europe. ESO offers an incredibly stimulating scientific atmosphere, with a remarkable diversity of research carried out by excellent astronomers and a rich diet of workshops, seminars, and lively discussions at morning coffee. As a co-organiser of the weekly Informal Discussion, I have had the opportunity to meet and interact with many visiting (and ESO) astronomers and to learn about many aspects of science that I am less familiar with.

One great thing about ESO is the close relationship between the science and the cutting-edge facilities. Soon after joining ESO, I was given the opportunity to go for an observing run at APEX. The experience turned out to be enriching beyond expectations and very exciting for many reasons: the impressive variety of science programmes observed (from Solar System bodies to high-redshift galaxies), the great team (family!) of staff astronomers

and engineers/operators, the breathtaking night show of the Milky Way in the southern hemisphere, the majestic mountains and the “martian” landscape of the Atacama desert, and the challenge of working in the rarefied atmosphere at 5000 metres, just one step away from the sky! I ended up spending approximately 80 nights observing in the Atacama desert. APEX is one of the special observatories in the world, and I will miss the real family atmosphere (and the famous *asados!*).

Now, while entering the second half of my fellowship, for my functional work I will join the ALMA commissioning team, the biggest ground-based project in astronomy. I know that probably previous generations of astronomers, at different times, have said this already, but I truly feel we are in a golden age for astronomy. New upcoming facilities like ALMA will revolutionise our knowledge of the Universe and will bring great discoveries... And I feel rather privileged to be part of this revolution!

### Petr Kabath

My passion for astronomy started in high school almost two decades ago, leading me to study physics, and especially astronomy, later. Currently, I am an ESO Chile fellow trying to contribute to and unveil some of the most intriguing scientific topics of today, while working at the world-leading Paranal Observatory.

I was born in Brno, Czech Republic, where I officially started my astronomy career at the local public observatory in 1996. Years later, as my interest in astrophysics had steadily increased, I enrolled on a physics course at Masaryk University in Brno. After a year and a half I applied for an Erasmus fellowship, which provides support for one year spent at foreign universities. Tempted by the rumours of the great student life abroad, I chose the Freie Universität (FU) Berlin, and Prof. Baumgärtel's group at the Department of Physical Chemistry, as my temporary home for the academic year 2002–3. Even though I then left astronomy temporarily, since I was investigating the nucleation rates of undercooled liquids at the FU (as part of my

Master's programme), I thoroughly enjoyed my time in Berlin. I was so impressed by the great city and its pulsating life that I decided to stay for six more years and I also met my future wife Martina there.

The year 2006 signified a swift return to astronomy when I landed a PhD position in Prof. Heike Rauer's group at the German Aerospace Centre Berlin (DLR). My astronomy career started over again with long observing runs on transiting exoplanets with the BEST telescope located at the Observatoire de Haute Provence (OHP), France. Subsequently, I exchanged the OHP trips for a significantly more distant destination, Cerro Armazones in Chile, now the chosen site for the future E-ELT. I was very much involved in the building, commissioning and setup of the new transit search telescope BEST II, which started to operate in 2007. Both telescopes were built to support the space mission CoRoT, which is designed to detect transiting exoplanets. So the outcome of my PhD thesis is a fully operational robotic telescope and the first detected candidates for transiting exoplanets.

Since the Chilean Atacama desert is officially the astronomical capital of the



Petr Kabath

world, I was delighted to receive the offer of an ESO Fellowship in 2009. Currently, while performing operational duties at Paranal, I am assigned to the Unit Telescopes 4 and 2. Besides these functional duties, I am working on my own scientific research on exoplanets. My major focus is on the detection and physical characterisation of these distant worlds. Most recently, our team has been

attempting to detect and characterise exoplanetary atmospheres with near-infrared instruments, using mostly HAWK-I, ISAAC and SOFI.

ESO has given me a great opportunity to conduct my own research and to reinforce and foster collaborations. Even though I am developing my own scientific focus on exoplanetary atmospheres, I am still collaborating with my former colleagues on the BEST II telescope project. Furthermore, a couple of ESO proposals submitted for the current and upcoming observing period are a result of new and productive collaborations with my current colleagues at the ESO offices in Vitacura.

At present, I am mid-way through my four-year contract. I have not yet decided whether I would like to stay in Chile for the final year or go and spend the fourth year somewhere else. Nevertheless, while I am in Chile I am relishing the chance to experience this diverse culture, and appreciating the breathtaking natural beauty of this captivating country while simultaneously being part of ESO. Of course all that would not be possible without the great support from my wife Martina, to whom I am very thankful for her endless patience with me.

Report on the

## Garching ESO Fellow Days – 2011

held at ESO Headquarters, Garching, Germany, 4–5 April 2011

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<sup>1</sup> ESO

For the first of the newly formatted ESO Fellow Days, a total of 25 fellows, including several ESO COFUND Fellows from Alma Regional Centres in Europe, and one fellow from Chile, gathered.

All the fellows briefly introduced themselves and most presented recent research results and perspectives. ESO staff astronomers and students were also invited to these presentations, which beautifully demonstrated the excellence of the science being conducted by ESO Fellows.

The Fellowship Symposia were originally designed to facilitate interactions between fellows spread over the two

main ESO sites in Chile and Germany. These symposia took place every two years (the last one in 2009) alternately in Santiago and Garching and gathered together the full set of ESO Fellows. These meetings have been a great opportunity for science discussions, increased exchanges between all ESO staff and have often led to new collaborations or personal science connections. Since ESO Fellow contracts last for three or four years (in Garching and Santiago respectively), this frequency implied that