

# FELLOWS AT ESO

## CARLOS DE BREUCK



MY INTEREST in Astronomy started very early by browsing books in the local library. After finishing high school in Belgium, I decided to study Astronomy at the

University of Leiden. Moving to a country with different culinary standards/traditions wasn't always easy, but I have found it a very rewarding experience to get to know other places, and to work in an international environment such as ESO. After my undergraduate studies, I continued as a PhD-student in Leiden to search for the most distant radio galaxies using new all-sky radio surveys. After a few months, I moved for 3 years to Livermore, California, which gave me access to the new Keck telescopes. Just before returning to Leiden we found what we were looking for: the most distant known radio galaxy at  $z=5.2$ .

After obtaining my PhD in 2000, I became a Marie Curie Fellow at the IAP in Paris. Spoiled by using large telescopes, I started several observing programs on the VLT. I also expanded my horizons into mm-astronomy to observe the CO gas and dust in the high redshift radio galaxies found during my thesis. With the development of ALMA, the ESO Fellowship was a logical next step in my career. Since I arrived in Garching in September 2003, I have spent most of my time on research, but I have also used the opportunities to get to know ESO better. In particular, I have helped organizing the Journal Club, which is only one of the many weekly talks happening on the ESO-MPA-MPE campus. I am also involved in the scientific preparation of ALMA, which will soon become an important tool in my research. Recently, we have set up the European ALMA newsletter to inform the European millimetric community about the construction of ALMA.

## PIERRE KERVELLA

DURING the five years that I spent at ESO, in Garching and then in Chile, it seems to me that I lived several lives altogether. The first one was that of an international student, as I left Paris to start my thesis at ESO Headquarters in Garching. I still remember the first time I arrived in Munich, with just a single suitcase, checking carefully that I was taking the right U-Bahn and bus to reach ESO. Of course, all the German language that I learnt in school had vanished completely from my mind... The VLTI team at this time was quite small, with only five members, while it is now a solid group of more than 20 staff. Overall, my installation went well, and I soon began my work on what was to become VINCI, the test instrument for the VLTI. Over the course of my Ph.D., I took an active part in the construction of this instrument, from the blank page up to its installation and operation at Paranal. In between, I had the great privilege to see the first fringes of the VLTI with the test siderostats (March 2001) and then with the Unit Telescopes (October 2001) in the control seat of the interferometer.



After the defence of my thesis, a second life started in early 2002, when I moved to Chile to take up duties at Paranal in the VLTI team. Living in Chile is a very pleasing experience, thanks in particular to the kindness of the Chilean people and the beauty of the landscapes. Until the MIDI instrument started operations in 2004, VINCI got more time than initially foreseen to observe the wonderful Paranal sky. It was eventually operated for almost three years. The large quantity of public commissioning data and their good quality allowed me to conduct a number of interesting research projects, among which several made their way to ESO Press Releases ( $\alpha$  Centauri, Achernar, ...). Today, I feel that my 300 nights at Paranal were very well spent time! I left Chile and ESO in February 2004, to take up a permanent position at Paris Observatory in France. Working for ESO was a rich and fulfilling experience that I warmly recommend to any astronomer, both from the professional and personal point of views!

## CELINE PEROUX

A FEW YEARS back, I crossed the British Channel one way in order to spend my nights gazing at a starry sky as part of undergraduate projects.



After completing my PhD at the University of Cambridge in 2001, I worked in Italy before joining ESO in late 2003.

I am curious to understand the global properties of galaxies over large time scales. Rather than studying the light they emit, which fades at large distances, my approach consists of decoding the imprints that gaseous structures leave in the spectrum of a background quasar. These “quasar absorbers” provide a measure of both the neutral gas and metallicity content of the Universe back to early cosmic times. My work, in particular, suggests that a sub-class of the quasar absorbers, named sub-Damped Lyman-alpha systems, are major contributors to the observable baryonic content at high-redshift. I have used ESO archive data to build a sample of these systems in order to measure the global metallicity in the neutral gas phase. I am now able to extend this work to higher redshifts thanks to a new set of VLT data. Quasar absorbers are indeed extremely powerful observational tools but, paradoxically, they are also mysterious and their relation to emitting galaxies still remains to be clearly established.

As part of my contribution to the organisation, I am involved in making the pipeline-reduced UVES science frames available to the community. In parallel, I am supporting the *X-shooter* project, the first of the second generation of VLT instruments. The way new ideas and global astrophysical issues are debated with both locals and visitors makes ESO a very unique place to me. The only problem is that the way the building is laid out means I still have troubles finding my office coming back from the bathroom...