

Staff at ESO

Peter Gray

Returning to ESO after an absence of eleven years feels very much like coming home. The ESO I knew from those heady days of the VLT construction and the birth of the Paranal Observatory still feels very much the same. There are many familiar faces from those days, my Garching colleagues and the many co-workers with whom I shared the excitement of building the VLT and setting up Paranal Engineering. Equally as enjoyable is the chance to meet so many new faces, many young people along with experienced older new-hands. ESO has certainly grown, both in numbers of people, but also in the depth and breadth of the experience and expertise of its staff, but it retains the same look and feel of ESO as “the” place of technical and scientific excellence in astronomy, telescopes and instrumentation engineering. After nearly thirty years of working in engineering at many of the world’s major observatories, it really does feel like coming home.

How I ended up working as an engineer in astronomy is an interesting story. I started out at the University of Sydney in Australia studying physics, then mechanical engineering. As part of the engineering degree it was necessary to spend time working in industry. My first choice at the time was working for a large hydro-electricity company, since it sounded fun to travel around to remote places, looking after dams and pumps. However as fate would have it, I didn’t get the job and was forced to take my second choice, working at the Anglo–Australian Observatory (AAO) in Sydney and some exciting months up at the 4-metre Anglo Australian Telescope at Coonabarabran. Those were the days when 4-metre telescopes were state of the art, when programming meant punched cards and everyone was happy to have 3-arcsecond images.

I ended up liking it so much that after graduation I started working at the AAO as a young mechanical engineer, helping build instruments and improving telescope performance. During this time I helped pioneer the technique of multi-object spectroscopy using optical fibres, which has now been extensively exploited by the AAO and other major observatories. After ten years at the AAO, learning



Peter Gray

my trade, I launched my career as an astronomical engineer and spent the next twenty years moving around internationally among most of the major observatories in the world, working in instrumentation, engineering operations support and large telescope projects.

When I first left Australia in 1992, I worked for five years at Steward Observatory in Tucson, Arizona on a variety of projects including mirror casting and polishing in the Mirror Lab, the Multi-Mirror Telescope (MMT) telescope 6.5-metre upgrade, the Large Binocular Telescope and various other instrumentation projects. That was an exciting time, working for Roger Angel and other people at the Mirror Lab, audaciously casting and polishing big mirrors in the basement of the University of Arizona football stadium.

In 1997 I started work for ESO in Chile as the Assembly, Integration and Verification (AIV) manager for the VLT project. I was responsible for the organisation, coordination and execution of the AIV work up until first light of the four VLT telescopes. This work began with the first telescope in 1997 when Paranal existed as a construction site. As each VLT was finished, we continued to provide engineering support to Commissioning, and then Science, Operations. As Paranal transitioned from construction to operations, my position became one of Head of the Engineering Department. The infrastructure, staffing and engineering



processes were gradually built up into the successful engineering support team at Paranal, which has continued to the present day.

At the end of 2001, after five years of the most exciting time of my life at Paranal, I was on the look-out for new challenges. I decided to switch wavelengths and try my hand at radio astronomy engineering so I left Paranal to take up a position with the National Radio Astronomy Observatory (NRAO) in the US ALMA project office in Charlottesville, Virginia. During this time I worked closely with many of the ALMA project staff, both at NRAO and ESO, and became familiar with the techniques, technologies and instrumentation of millimetre-wave astronomy. I left the ALMA project at the end of 2002 and moved on to the Gemini Observatory as Associate Director of Engineering.

For the next five years I worked as the Head of Engineering at Gemini Observatory where I built up the operational engineering support to transition the Gemini telescopes from commissioning to routine science operations and used my Paranal experience to implement a similar set of engineering operations systems and procedures. During this time I led the Gemini engineering team through a number of advanced developments including low emissivity silver coatings and laser guide star adaptive optics systems.

During the last four years I have worked as the Assistant Project Manager at the

Thirty Meter Telescope (TMT) Project Office in Pasadena, California. I worked on a number of tasks, including the design and planning of the telescope enclosure and structure, project assistance to the TMT–Japan project offices, the investigation and planning of the on-site construction phase and the detailed long-term operations planning for the observatory.

Now back at ESO once again as the Project Engineer for the European Extremely Large Telescope (E-ELT) project, I'm using these accumulated experiences of the

last 20–30 years of my working life in big projects and astronomical organisations to help ESO deliver the largest and most technologically advanced telescope so far.

In between times, those who know me, know that I'm seldom idle outside of work on weekends.

Over the years, whatever the remote location of the observatory, I'm always out and about, whether it be paragliding in Tucson, mountain biking at Paranal, windsurfing in Antofagasta, or kiteboarding in La Serena and Hawaii. Road

cycling is my current passion, which is how I met my wife, Leslie. Although Californian, Leslie has actually spent most of her life in northern Montana as a cowgirl, backcountry horse riding, skiing, hiking and road cycling. Leslie and I now have a combined “stable” of twelve bicycles, including several beloved Pinarellos. As well as sharing her passion for road bikes, Leslie shares with me our grown-up son Hunter, a young entrepreneur living back in Pasadena, whom we proudly boast is a successful small-business owner employing several people and helping to kick start the US economy.

Fellows at ESO

Noé Kains

Looking back, my path to becoming an astronomer is perhaps a slightly unconventional one. Like most other astronomers, I have early memories of being interested in space and rockets. I also remember being entranced by the night sky during summer family holidays — I was lucky to spend entire summers sailing around the North Sea, and I particularly enjoyed sailing at night, which gave me plenty of opportunities to get away from light pollution and see the night sky in all its glory.

I was born and raised in Brussels, and moved to London when I was 17 to begin an undergraduate degree in physics at Imperial College, because I enjoyed physics and maths at school, but also because I had decided very early on that I wanted to go and see other things than the small country in which I grew up. Apart from my long-standing obsession with London, there was another reason that I wanted to move to the UK in particular. Since the age of six, I had been studying the piano and I knew that the more flexible education system in the UK would allow me to pursue both interests. During

my undergraduate physics degree, I was lucky enough to be supported by scholarships that enabled me to continue my musical education in parallel; something that would have been very difficult in Belgium. After working on an astronomy project for my Master's thesis, I decided to apply for a PhD in astrophysics, which I started at the University of St Andrews in Scotland in 2006. Again, throughout my PhD I kept up a busy musical parallel life, which I think made the PhD experience much easier. I was lucky to have a supervisor who fully supported this, even when I disappeared for weeks at a time on concert tours! During almost four years in Scotland, my love for astronomy developed further and the fun I had working on my PhD convinced me that this was the career I wanted to pursue.

My first observing trip, in 2007, was a 23-night run on the 1.54-metre Danish telescope at La Silla. If 23 long winter nights did not dent my fascination for observing, clearly my commitment to this was no fluke! Every day I was amazed to wake up in this strange place in the middle of nowhere, and every night I spent hours marvelling at the splendour



Noé Kains

of the Chilean night sky, running outside between two exposures of the Galactic Bulge to look at the bright trail of the Milky Way and the Magellanic Clouds. Two (thankfully slightly shorter) further observing runs in La Silla only strengthened my attachment to the place, so ESO was a natural place for me to consider