

garden. Although we are in the midst of the international football season, these people did not gather to watch another game of the World Cup; oddly enough, these are members of the public interested in science, and in our Universe in particular. They are here to listen and discuss with ESO astronomer Markus Kissler-Patig, the fundamental question: Are we alone in the Universe?

Subsequent science cafés have confirmed the success of the first event that took place on 31 May 2010, when Stefan Stonjek, a physicist from the Max-Planck-Institut für Physik (MPP), discussed *The Big Bang in the Tunnel*, covering the latest details about the CERN Large Hadron Collider (see Figure 1). The complex topic of string theory was aired by Ilka Baumgartl and Marco Baumgartl from the Excellence Cluster in September and the subject of the black hole at the heart of the Milky Way was discussed by Stefan Gillessen from the Max-Planck Institute for Extraterrestrial Physics in November. The series is entitled *Café & Kosmos* and is a joint initiative between ESO, the Excellence Cluster Origin and Structure of the Universe, and the Max-Planck Institutes for Physics, Astrophysics and Extraterrestrial Physics.

The idea is to bring science directly to the general public in the Munich area in the relaxed atmosphere of a bar.

For many, research is “far away” and happens behind the closed doors of laboratories. Admittedly, there are many science magazines in print or on television and some newspapers have a page about science, but the contact between science and the public is often very indirect. Many scientific institutions organise open days, which are often very successful, but these take place only once a year at most. Public conferences on scientific themes are also often popular, but they generally follow the same academic scheme: the scientist speaks and the public listens. Direct exchanges between scientists and the public seldom take place.

The *Café & Kosmos* initiative aims to bring researchers and non-scientists together, and to do so in places where people typically meet, share their thoughts, discuss business and debate about big and small things. Thus a pub in the centre of the city of Munich was chosen for the meetings; a place where communication traditionally takes place. With *Café & Kosmos*, we want to give

people the chance to speak directly with scientists about current fascinating scientific themes.

The proposed themes for *Café & Kosmos* come from astrophysics, cosmology and particle physics, and are on topics of great interest for non-scientists, such as “What are black holes?”, “What do we know about dark matter?”, “Why did CERN build the LHC?”, “What do we know about planets outside our Solar System?”, and so on. The discussions are held in German. These and other topics are discussed in the relaxed atmosphere of a pub — every first Monday of the month. The duration of the discussions is initially about one and a half hours, although our first two experiences have shown us that many people tend to stay for much longer.

For more information on the *Café & Kosmos* series, including the list of future speakers, please go to <http://www.cafe-kosmos.org>.

It is a pleasure to thank Aleks Vulic, owner of *Café Jasmin*, for his permission to use his premises for these interactive sessions, as well as the speakers.

## New Staff at ESO

### Jean-Philippe Berger

I have been at ESO as a VLT staff astronomer, on leave from the Laboratoire d’Astrophysique de Grenoble (France), for about 10 months. I came to Santiago with my wife Stephanie and our three children Clara, Lucie and Axel.

I remember my very early fascination with ruins that later turned into a deep interest in human civilisations and especially their dawn and dusk. This has never left me. I believe the connection between

my passion for history and astronomy occurred in a remote Spanish village when I was approximately ten years old. My uncle had a TV (our family did not) and I watched an episode of the well-known science fiction series *Cosmos* 1999. It came as a revelation that man could travel into space and reach remote parts of the Universe. I immediately became interested in rockets and space shuttles. Finding and studying new civilisations seemed to be a realistic project and it took me a few years to accept that current technology was

barely capable of flying to the planets in the Solar System. Then at the age of 13 I received a book from my uncle: *Le Ciel* by Jean-Claude Pecker. This was the true revelation that one could “travel” in space thanks to telescopes and an imaginative brain.

Even though I continued to follow history lectures throughout my academic career, my educational path slowly but surely shifted towards science and technology and the final call to become an astronomer came during my short

stay at ENS Lyon for my masters in astrophysics. After a two-year stay in Chad, Africa, as a physics teacher, I joined the Laboratoire d'Astrophysique de Grenoble (LAOG) in 1995 for a PhD on the polarising properties of dusty environments in young pre-main sequence binaries. Towards the middle of my PhD I realised that I wanted to become involved in an instrumentation project. One day, on the stairway, I met a colleague who was also an optical engineer, Pierre Kern, who was very excited by his new idea to use the miniature optical circuits developed by the telecommunications industry to produce interference between the light of two telescopes. I was immediately struck by the potential of this technology for aperture synthesis in the optical and asked him if there was a way for me to contribute to the project. Unfortunately he was applying for a grant to recruit a PhD student and had a good candidate; but fortunately (for me) the grant never arrived and I spent the remaining part of my PhD developing this new and promising technology. Since then the term "Astrophotonics" has been coined to describe the marriage between photonics and astrophysics.

So, eighteen months from the end of my PhD grant I started everything from scratch, and I found myself alone in an empty lab with the task of exploring how to apply photonic technology to astronomical interferometry. Fortunately I married Stephanie almost at the same time as I changed my research path and her presence by my side for all these years has been essential in holding me to this new path. My thesis culminated in resolving the accretion disc of a young star, FU Orionis, for the first time with astronomical unit resolution, working with my unofficial but remarkable advisor and friend Fabien Malbet, who taught me how to use the Palomar Testbed Interferometer, which was then the only instrument with sufficient sensitivity to study protoplanetary discs. At the end of my PhD I realised that my research interests combined challenging astrophysics with challenging instrumentation.



Jean-Philippe Berger

I continued developing integrated optics technology after my thesis, thanks to the support of the French Space Agency (CNES). I dived into the photonics world for two years at LEMO and in 2000 I obtained a NASA/JPL Michelson Fellowship to work with Wesley Traub and his team at the Harvard-Smithsonian Center for Astrophysics. My project was to install an instrument, IONIC3, capable of combining three beams of the IOTA interferometer in Arizona and to use it to generate the first images of the circumstellar environment in a pre-main sequence star. I remember those American years with a lot of affection, and the seemingly countless days and nights spent at IOTA (Mount Hopkins, Arizona) and CHARA (Mount Wilson) still live with me. We expended a huge amount of energy to try to produce the first maps of young stellar objects in the near-infrared. This was partially successful, but clearly limited by the lack of long baselines at IOTA.

In 2002 I took up a permanent position at the Observatoire de Grenoble, where I continued to develop new projects related to astronomical aperture synthesis imaging. I also started to get more and more involved in teaching at the

Université Joseph Fourier and in public outreach and realised that it was an essential part of our mission as "astronomes de la République". Finally, in 2008, at a conference in Marseille, some of my colleagues and myself were impressed by the imaging results coming out from the MIRC instrument at CHARA and became convinced that the VLTI and integrated-optics technology were ready for four-telescope operation. This discussion gave birth to the PIONIER VLTI visitor instrument project that I initiated and led in collaboration with some in December 2008. Since then PIONIER has been built and it received its first stellar photons in October 2010.

Coming to ESO and VLTI was thus a natural move. First I could follow PIONIER and secondly I was keen to join the impressive Paranal astronomical machine and the excellent VLTI team.