

Hans-Emil Schuster Celebrates his 80th Birthday

Hans-Emil Schuster was one of the first staff members in Chile; he joined ESO in 1964 and retired in 1991. Hans-Emil was born in Hamburg, Germany and was a student of Otto Heckmann — the first Director General of ESO. He was actively involved in site testing for the ESO observatories of La Silla, and later Paranal, and became acting director of La Silla. He was an active observer, discovering 25 asteroids and two comets, 106P/Schuster and C/1976 D2. He also discovered the Eridanus halo globular cluster (GLC0423-21), with Richard West the Phoenix Dwarf irregular galaxy (ESO 245 -G007) and two planetary nebulae, as well as a supernova in the galaxy NGC 1255. In 2011 Hans-Emil was awarded the rank of Commander of the Order of Bernardo O'Higgins for his services to astronomy in Chile¹.



Links

¹ Award of Order of Bernardo O'Higgins to Hans-Emil Schuster: <http://www.eso.org/public/announcements/ann11075/>

Hans-Emil Schuster wearing the Order of Bernardo O'Higgins.

Fellows at ESO

Jason Grunhut

I never really considered pursuing a career in astronomy until I started applying for undergraduate programmes. Before that point, all I knew was that I had a passion for science, and that was the direction I was heading. I was certainly intrigued by space sciences, but this had more to do with science fiction than astronomy. In fact, it wasn't until the end of high school that I even settled on physics, in no small part because of a great teacher.

I grew up in Richmond Hill, a large town just north of Toronto, Ontario, in Canada, and attended the University of Toronto (UofT) for my undergraduate degree. It was pretty clear early in my studies that I enjoyed astronomy and wanted to turn this into a career, yet I had no idea what that meant.



Jason Grunhut

Like most students in the astronomy programme at UofT, we were all eager to study galaxies and cosmology. However, that all changed for me after I got my first taste of research. I had the opportunity to work as a research assistant with Charles Thomas Bolton, at the David Dunlap Observatory (DDO). Tom was interested in early-type, higher-mass stars, and, while stellar astronomy is not really perceived as a hot topic anymore, I was (and still am) drawn to it because of the level of detailed physics that can be learned and applied to these objects. It was also during this time that I got to hone my observing skills as a regular observer at the DDO. One of my favourite experiences at the DDO was literally climbing into the 1.8-metre telescope to open the shutters, which were not automated. Of course there were also plenty of not-so-fun experiences, like having to observe from the “warm” room in $-25\text{ }^{\circ}\text{C}$ weather, but it certainly makes you appreciate the comfort of modern observatories. It wasn't long after I first started doing research that I finally understood what I could actually expect out of a career in astronomy, and I was hooked!

When it came time to apply for graduate studies, luck was definitely on my side when a former undergraduate student of Tom's — Gregg Wade — was visiting our institution. It was during this visit that Gregg invited me to apply to work with him, and the rest is history. I would go on to do both my MSc and PhD at the Queen's University in Kingston, Ontario, Canada under the supervision of David Hanes (Queen's) and Gregg (who is a professor at the Royal Military College of Canada, also in Kingston). While the focus of my MSc was characterising the stellar properties of young pre-main sequence Herbig Ae/Be stars, this was also the time when I first started working on magnetism in early-type stars, which has now become my dominant interest. It was just before the start of my PhD that Gregg and his collaborators were awarded a significant amount of observing time with the Magnetism in Massive Stars (MiMeS) large programme at the Canada-France-Hawaii Telescope. The bulk of my PhD work involved utilising data from this programme, while I also took up an integral role within the project. I can only imagine that it was because of



Stephan Geier

my involvement in such a successful project that the ESO Garching Fellowship selection committee offered me a position.

I finished my PhD in September 2012 and immediately joined the ESO family, where I have continued to work on several problems related to stellar magnetism in massive stars over the last two years. As part of my duty work, I have been given the great opportunity to assist Dietrich Baade — the Instrument Scientist — and be part of the team in Garching who are overseeing the upgrade to the CRYogenic high-resolution InfraRed Echelle Spectrograph (CRIRES) to CRIRES+. This project has allowed me to interact with many people in other departments within ESO other than just the scientists I would normally interact with. It has been a great learning experience for me, and I've gained a new-found respect for the amount of effort required and challenges faced during instrument development. With only one year left of my Fellowship, I look forward to continuing to work with the CRIRES upgrade project and working with more of the great people here at ESO.

Stephan Geier

Born and raised in a Franconian village, which is located in the northern part of Bavaria, I started studying physics at the

University of Erlangen. However, the decision was a close one. From my early childhood on I was interested in all kinds of science-related topics without any special preference. Luckily, I got a scholarship from the Bavarian state, which allowed me to go to university. This is not necessarily a straightforward thing to do for someone coming from the countryside like me. Without any financial obligations to my family, I felt free to choose physics and later on, undecided as I was, started a parallel degree in history and archaeology.

In the old days, before the change to the bachelor and master system in Germany, astronomy courses could only be chosen pretty late. In 2001 I attended the lab course at the Remeis Observatory Bamberg, which hosts the astronomical institute of the University of Erlangen. After a semester abroad at Honolulu, another one of my rather silly ideas with substantial consequences, I finished my diploma thesis about an interesting supernova Ia progenitor binary, supervised by Uli Heber in Bamberg.

My decision to stay in astronomy originated in the transition phase between diploma and PhD thesis, which followed immediately thereafter, again in Bamberg, and again supervised by Uli. I appreciated the freedom I had early on in directing my own research and I received a very warm welcome from the compact

stars community, which provided additional motivation. After graduating in 2009, I started a project to study hot subdwarf binaries that emerged from my PhD thesis and spent another three years in Bamberg as a postdoc. During all those years I had the opportunity to travel quite a lot for observations and to attend conferences all around the world. Furthermore, I could also finish my dissertation in history, which provided a nice contrast to my daily life as astronomer.

The focus of my research lies on spectroscopic analyses of hot subdwarf stars, which we explain as the bare helium cores of red giants, which have lost almost their entire envelope. The mechanisms by which the envelope is lost are still not well understood. Hot subdwarfs are formed only under special, and often extreme, conditions. Interactions with stellar or planetary companions are considered, as well as stellar mergers. As potential supernova Ia progenitors they are relevant for cosmology and as possible remnants of star-planet mergers they

might provide insight into the role of planets for stellar evolution. I like the diversity of those objects and their relevance for totally different fields of astronomy.

I appreciated working with very skilled and nice colleagues who shared my enthusiasm for those small stars. What I like most in doing astronomy is the personal freedom to direct my own research. Although times are also changing here, astronomy still remains a field where one guy can sometimes make a difference. Discovering new things and thinking about possible implications is the best part of research for me.

I was very happy when I got the ESO Fellowship, although I didn't really know what to expect. Coming from a small place I was a little bit worried how I would fit into this crowd of pre-selected students and fellows from all around the globe. However, my worries turned out to be totally unjustified and I really like the nice and active people and the open atmosphere at ESO very much. Being an

almost local boy is actually quite an exotic thing among the other Fellows. I try to explain and represent my region as well as I can and to educate others about the true quality of beers in Munich.

ESO is like a big window into the great wide world of astronomy, which is especially useful for people coming from smaller institutions. It is also a perfect spot for interactions with other astronomers from the ESO staff, the numerous visitors or through my functional work, which I perform in the Archive Science Group, where I take care of the content validation of the ESO Public Surveys. Another thing I am very thankful for is that ESO gives me the opportunity to fulfill my teaching duties at the University of Erlangen, which are a necessary prerequisite for my Habilitation, which I am planning to conclude next year. While I am already applying for the next jobs, I will definitely enjoy my remaining year as an ESO Fellow.

External Fellows at ESO

In addition to the ESO Fellowships, a number of external fellows are hosted at ESO. A profile of one of the current Marie Curie Fellows is presented.

Izaskun Jiménez-Serra

I must have been around 12 years old when I first told my parents that I wanted to be an astronomer. The idea probably formed in my head during my childhood. I was a privileged child. My father is a teacher of philosophy (his specialty is the philosophy of science) and he encouraged my interest in physics and mathematics. My mother is a researcher in biology so, in a sense, I grew up in an environment where science was present

in family life. During the hot summer nights in the countryside of central Spain, my father used to tell us about the theories of the origin of the Universe, which captivated me.

By the time I finished secondary school, I already knew what I wanted to do in life. I chose a physics degree and I specialised in astrophysics at the Spanish Universidad Complutense in Madrid. An opportunity to do a PhD in star formation at the Spanish National Research Council (CSIC is its acronym in Spanish) came up and I did not think twice about accepting. My work was mainly observational in the physical processes and chemistry of supersonic shock waves in star-forming regions. The Atacama Large Millimeter/

submillimeter Array (ALMA) was still several years in the future, but my work focussed mostly on the millimetre/submillimetre regime to become a future user of this amazing facility. Those were great years. I not only learned a lot about radio astronomy and star formation, but I also had many enjoyable moments with some of my best friends.

After my PhD, in 2007 I moved to the UK where I took up a postdoctoral position at the University of Leeds. I carried out some theoretical work in the destruction processes of interstellar dust in shock waves to explain some of the observations obtained during my PhD. This position allowed me to learn more about the chemistry in the interstellar medium at