

Fellows at ESO

Andreas Lundgren

I arrived in Chile as an ESO fellow in September 2004 and I was immediately thrown into the buzzing APEX project, which back then still had one year left to inauguration.

Even if I have worked with data in most wavelength regimes, my scientific work is mostly based on millimetre and sub-millimetre data. More specifically, I am interested in the distribution, kinematics and physical properties of the molecular gas in spiral galaxies. In my thesis I concentrated on the nearby barred spiral galaxy M83, and this galaxy is still the core of my science.

I was born in Sweden, and I did my undergraduate studies in Gothenburg, and graduate studies at the Observatory of Stockholm. During my PhD years I did several observing trips to the SEST, and I really enjoyed visiting La Silla. Therefore it was an easy decision to make when I was offered the opportunity to take a sabbatical year from my PhD studies 2002–2003 in order to work at SEST.

SEST and APEX are in many aspects similar, but some things are very different. When we operate APEX from the base station in Sequitor, some 70 km from the site, the work is very much like sitting in the SEST control room with the dark curtains down. But when we go to Chajnantor in order to carry out morning or daytime observations (Since APEX is a radio telescope, it can be used 24 hours per day) the differences becomes vivid-



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ly clear: Sitting in a container at 5 100 m altitude, and while observing, sniffing oxygen. Outside there is nothing but rock and sand, and one of the driest atmospheres on earth.

Vincent Reveret

Since I started to study physics, I have always been interested in optics and all the incredibly different ways to detect light. After graduating in applied physics in England, I did my PhD in Saclay near Paris. I specialised in the development of a new kind of detector for submillimetre astronomy, the so-called large bolometer arrays (the equivalent of CCD cameras for submillimetric range). That was a pleasant time: a very good team spirit associated with the successful development of a totally new kind of detectors. I thought I could never find such a nice lab again. I was wrong.

After the defence of my thesis, I decided to see the other side of submillimetre astronomy, going from the development of detectors in the lab, to their use in an astronomical observatory. I arrived in Chile in May 2004 to work at the APEX telescope near San Pedro de Atacama. APEX is one of these new-generation telescopes, like ALMA or the HERSCHEL satellite, that lead the 'revolution' in submillimetre astronomy. Even if working conditions at APEX can be difficult (oxygen molecules are very rare up on the telescope site!), I love going there because of San Pedro's beauty and the excellent working atmosphere in the team.

With the next arrival of a large bolometer camera (called LABOCA), APEX will be one of the most powerful submillimetre telescope in the world. We know that many astrophysical hot topics can benefit from APEX capabilities, like star formation for example. This is one part of my research: I study the relationship between intense UV fields coming from OB associations and the conditions of star formation inside long columns of gas (sometimes called elephant trunks). I still work in instrumentation, even if now I focus more on simulations to prepare for the next generation of bolometer cameras that maybe we will see on APEX one day ...



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