ment models of two HST spectrographs, a technique that replaces empirical fitting routines with the knowledge of the physical properties of the instrument. A physical instrument model is based on the optical and mechanical design of the spectrograph but will also take into account environmental conditions such as temperature. Group Leader Michael Rosa said: "Calibration based on instrument models has been demonstrated to provide better accuracy than empirical methods but in addition it also provides a real understanding of the instrument which enables one to maintain it at maximum performance and quickly diagnose any deviations."

The NASA award specifically acknowledged that the instrument modelling approach and its success is not specific to any instrument but can be applied to a large variety of astronomical instruments. It is no surprise that instrument modelling, originally developed for ESO's high-resolution spectrograph UVES, and having been 'to space' is coming full circle. Two members of the team (Florian Kerber and Paul Bristow), now with ESO's Instrumentation Division, are applying the NASA award-winning methods – instrument modelling combined with state-of-the-art laboratory measurements in a collaboration with ST-ECF and NIST – to the calibration of the latest spectrographs for the VLT, the Cryogenic IR Echelle Spectrometer (CRIRES) (see page 32 of this issue) and X-shooter. With the development of extremely demanding future instruments for a European ELT, new challenges await.

The US part of the NASA award winning team, the group at NIST: Joseph Reader, Gillian Nave and Craig Sanonetti (left to right).

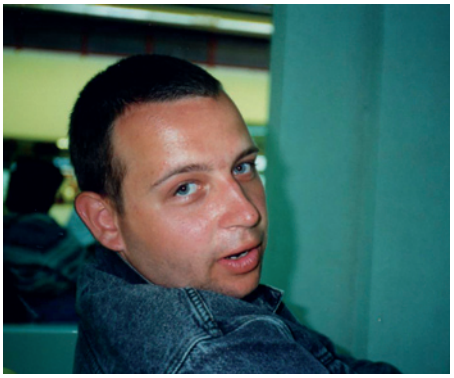
## Fellows at ESO

### Dominique Naef

I completed my PhD thesis in the Geneva extra-solar planets search group late 2003. During my PhD years, I participated in so many observing runs at the Swiss telescope at La Silla that making a post doc in Chile became quite an obvious choice. In spring 2004, I moved to ESO-Chile with a Swiss grant. During my first post doc year, I worked in the La Silla Science Operations team where I was mostly involved in the support of the HARPS spectrograph. Later in 2004, I applied successfully for an ESO fellowship.

I started this second post doc in spring 2005 at the Paranal Observatory. At Paranal, I mostly work with the UT2-Kueyen telescope and I am attached to the FLAMES support team. A large part of the fellows' duties consist in executing service-mode observations. I really enjoy it since it gives me the possibility to learn a lot about fields in astronomy that are very far from my favorite ones. Supporting visiting astronomers during their observing runs at Paranal is also a task I really appreciate because it gives me a unique opportunity to get direct feedback from ESO users. Moreover, very stimulating scientific discussions are not rare during these visitor runs.

My main scientific interests are the detection and characterisation of extra-solar planets and brown dwarfs. I am involved in several planet search programmes using various ESO and non-ESO facilities: HARPS at the 3.6-m telescope, CORALIE at the Swiss 1.2-m Telescope, FLAMES at VLT-UT2 or NACO at VLT-UT4. I also participate in programmes aiming at the characterisation of transiting exoplanets using ground-based facilities (e.g. FORS1 at VLT-UT2) and space-based telescopes (e.g. HST or XMM). The main goal of all these research activities is to understand how planets form around stars.



Dominique Naef