

- How to achieve the highest S/N ratios
- Quality Control (interaction with science pipeline, trending analysis)
- Archive (access to calibration data)
- Refined exposure time calculators
- Instrument modelling (bottom-up and top-down approaches combined)
- Calibration Reference Data (traceable to laboratory standards)
- Facilitate the use of VLTI and address its specific calibration needs
- Support for polarimetry
- Availability and use of standard stars
- Characterisation and calibration of the atmosphere
- Radiometric calibration of AO data
- Detector fringing
- Instruments (pre-construction simulation, performance monitoring, active compensation).

As mentioned, we very much consider this a process and further input is highly welcome. One easy way to send your suggestions will be to fill in the feedback form at: <http://www.eso.org/cal07/feedback.html>

Our next steps are to consolidate the input and topics in a concise document that will contain recommendations for improving calibration procedures at ESO. We will attempt to assess the effort re-

quired for each recommendation and will assign priorities based on scientific merit, but also practical considerations. We will then make a detailed plan and schedule to implement the improved calibration procedures in a timely manner.

While the above is clearly work in progress, Dietrich Baade already offered his personal summary of the workshop in an excellent and stimulating summary talk from which we extracted some quotes for future reference (see text box).

As Gianni Marconi put it during the workshop: “Calibration is a life-long learning process”. One obvious lesson from the workshop is to ensure good communication between the observatory and the end user. In this spirit we hope to make progress on the above points together and we plan to soon report back to the community.

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#### Selected Quotes

- Calibration cannot make up for poorly prepared observations. (Piercarlo Bonifacio)
- Artifacts are removed most effectively by multiple re-sampling. (Eric Emsellem)
- Prenatal modelling is better than post-mortem calibration. (Michael Rosa)
- False matches can confirm expectations most beautifully. (Carlo Izzo)
- NIR polarimetry is a last-minute add-on for enthusiasts. (Nancy Ageorges, Hans Martin Schmid)
- ESO should accept and support calibration proposals. (Eric Emsellem and the Calibrated Majority)
- The best quality check is a logarithmically scaled three-colour image. (Mike Irwin)
- Thou shalt not have parallel pipelines. (Several)
- No calibration – no astronomy. (Dietrich Baade)
- The sky is the limit. (Many, referring to the Earth’s atmosphere)

Report on the

## Fourth Advanced Chilean School of Astrophysics: Interferometry in the Epoch of ALMA and VLTI

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The interferometry school in the epoch of ALMA and VLTI ([www.astro.puc.cl/school](http://www.astro.puc.cl/school)) was held at the campus of the Universidad Católica de Chile, in Santiago, during 4–8 December 2006. This FONDAF Center for Astrophysics school was organised jointly by Pontificia Universidad Católica de Chile, Universidad de Concepción, ESO, ALMA, the National Radio Astronomy Observatory (NRAO), the U.S. Naval Research Labo-

ratory (NRL) and the U.S. Office of Naval Research Global (ONRG).

The school was organised to provide young Chilean and Latin American researchers and students with the fundamentals of interferometry in the radio and in the optical, and to introduce current and future instrumentation, techniques and results. The experts also discussed the impact of interferometry

techniques on studies of star-forming regions, galaxies and the high-*z* Universe. The students were also informed of the near-future opportunities with ALMA and the VLTI.

The invited lecturers were: Tom Armstrong (NRL), Dave Mozurkevich (Seabrook Engineering), Juan Uson (NRAO), Paul Van den Bout (NRAO), Al Wootten (ALMA), Robert Laing (ESO), Massimo Tarenghi (ALMA), Tony Beasley (ALMA), Ricardo Bustos (CBI), Paulo Cortes (University de Chile), Christian Hummel (ESO), Kotaro Kohno (University of Tokyo), and Markus Schöller (ESO). Additionally there was a wide range of topics presented in the poster session. The lectures can be found in the school web page.

The school was financially supported by the FONDAP Center for Astrophysics,



Participants and lecturers at the summer school pose in the sun at the Universidad Católica de Chile.

the ALMA-CONICYT committee, Sociedad Chilena de Astronomía, Fundación Andes, NRAO, ESO, ONRG and AFORS. There were nearly 150 registered participants from Argentina, Brazil, Peru, Venezuela, Mexico and Chile. The funding allowed full or partial support for all the

students attending the school. The school participants enjoyed a lively talk on “The Genesis of ALMA” by Paul Van den Bout at the school dinner at the Hacienda Santa Martina, and also visited the facilities of the Universidad Católica Observatory.

Report on the

## Third Advanced Chilean School of Astrophysics

held at the Universidad de Concepción, Chile, 8–12 January 2007

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During the second week of January 2007, the third Chilean Advanced School of Astrophysics was held at the Universidad de Concepción, the third-largest university in Chile, on “Insights into Galaxy Evolution from Resolved Stellar Populations”. This school, targeted at Ph.D. students mainly from Chile and South America, but also open to students from other countries, was organised in the framework of the

Chilean FONDAP Center of Astrophysics which includes astronomers of the two largest universities in Santiago and the Universidad de Concepción. The school focused on a field of research which is very well represented in the Center. Additional support was kindly offered by the ALMA Committee, ESO Chile, the Católica and Concepción universities, and the Sociedad Chilena de Astronomía.

During one week, five mini-courses were delivered to the students, each with a frequency of one hour per day and ample time for discussion, which were complemented by a series of contributed talks, mostly given by the students. Most of the students had also brought a poster describing their Ph.D. research project. The lecturers and the topics of their courses were the following:

– Carme Gallart, Instituto de Astrofísica de Canarias: The history of the Local

Group (and beyond) through the analysis of colour-magnitude diagrams.

– Laura Greggio, INAF Osservatorio di Padova: Local dwarfs and giant ellipticals.

– Rolf Peter Kudritzki, Institute of Astronomy, Hawaii: Hot massive stars in the Local Group and beyond.

– Barry Madore, Carnegie Observatories: Stars as distance indicators.

– Eline Tolstoy, Kapteyn Astronomical Institute: Abundances and kinematics from high-resolution spectroscopic surveys.

We were very pleased to host about 110 enthusiastic students from Chile, Argentina, Brazil, Uruguay, Colombia, Venezuela, Peru, Honduras, Italy, Spain, the Netherlands and the United Kingdom (see Figure 1). They all manifested strong interest in the nicely complementary lectures our invited scientists had prepared for them, together providing a