

sented the various environment impact studies which were done prior the start of the ALMA project. These covered cultural, anthropological, archaeological and biological aspects. Jörg Eschwey embarked the audience on a trip from Antofagasta to the Chajnantor ALMA site to illustrate the complex logistics necessary to build major infrastructures in such extreme conditions. He explained the numerous challenges to be solved to construct a 12m wide road that allows the transport of 100 ton antennas, on a variety of soils between 2700m to 5000m altitude and the need to take into account and protect the different biotopes along the route. One example concerned the safety of a local species of rats, named tuco-tuco, by constructing tunnels under the road to allow the animals to transit it without trouble. All this has to be done while chasing large numbers of very curious donkeys watching the progress of the roadwork.

With all this information in hand to realise the enormous potential of ALMA-related education, the meeting participants embarked upon a wide-ranging discussion. It was clear from the beginning that the experience of interdisciplinary teaching is very different from country to country. It was therefore quickly realised that any material to be produced must be in modular form and be easily adaptable to the curricula of individual countries. The need to translate the material into as many different languages as possible was obvious, adding another complex element to this project.

The participants expressed a lot of enthusiasm and are eager to start the development and realisation of the project. During the discussion, a list of about 30 specific topics that could be addressed in a modular way was drawn up, serving as a useful starting point. Many of the teachers volunteered to work on them, with the goal to circulate drafts of the individual modules in some months' time. Specific conclusions were drawn about the desirable format of the future ALMA educational toolkit and on its foci. It will be concerned with the extraordinary and unique science to be made using the ALMA observatory and the variety of challenges to build an observatory like ALMA at Chajnantor. As one participant stated, this is really about "*how to make frontier science in extreme conditions*". The primary target audience is students in secondary schools, i.e. 11–18 years old.

A first draft of the ALMA Interdisciplinary Teaching Project should become available early 2005. It will then be evaluated and tested by teachers after which improvements will be made in a next iteration. It is planned to have a useful version ready for distribution via existing networks by the end of the summer of next year.

Obituary JÜRGEN STOCK 1923 – 2004

On April 19, 2004 Jürgen Stock passed away at the age of 80. Jürgen Stock was never on the payroll of ESO, but he had tremendous impact on the early years of the organisation. In 1951 Stock did his PhD in Hamburg - his supervisor was Otto Heckmann, who later became the first Director General of ESO. After some years in Cleveland - and with a one year interval at Boyden Observatory, South Africa - Stock was asked by Gerard Kuiper to do a site test in Chile. The University of Chicago looked for a mountain in the Santiago area to put up a 1.5-m-telescope in the southern hemisphere. Stock accepted and took off for Chile within days. The trip, that was supposed to last a few weeks, lasted more than three years. "As a result, the world's largest collection of astronomical instruments is now in Chile", recalled Jürgen Stock four decades later.

After his arrival in Chile, Stock realised immediately, that the three pre-selected mountains close to Santiago were not really suited for an observatory. He decided to do site tests much further north, in the area of La Serena with its unique climate conditions between the cold Pacific Ocean and the high mountains. Stock travelled to Vicuña and climbed a nearby mountain on foot. At some distance he spotted a mountain with a perfect topography - quite isolated with an almost flat top. As the mountain was 40 km off the next accessible road, he organised mules and horses and made a trip to the top a few months later. He remembered it vividly: "The first night was so impressive: a perfectly clear night, absolutely calm, with a comfortable temperature: It couldn't be better. On top of that, it was perfectly dark in all directions." In those times an unknown mountain somewhere in Chile, this mountain has now a magnificent name: Cerro Tololo.

Due to Stock's euphoric reports from Chile, the project was handed over from University of Chicago to AURA. Now, the astronomers thought of something much bigger than just a site for a 1.5-m-telescope. With sufficient funds, Stock set up several teams for extensive site testing activities in that area. He checked almost a dozen mountains - Stock spent nearly three years on horse back to climb many mountains. While he was on expedition, he made notes every day - including not only the atmospheric conditions and astronomical observations but also the everyday life: Stock mentioned problems with the mules, the progress in the construction of some shelter on the mountains, the need for a support team bringing food and water, the conduct of the local people and so on. Each time he was back in Vicuña, he sent a letter with those notes to his boss Donald Shane at Lick Observatory. In a stroke of genius, Shane decided to type the reports, copy and distribute them among the astronomers in the US. Due to that, the "Stock reports" survived until today. The reports should be read by everyone who wishes to get an idea of what it meant to conquer the Andes for astronomy - there is a copy in the ESO historic archives.

In 1962, Tololo was finally chosen and Stock became the founding director of that observatory. In fact, he did almost everything: He was involved in the road construction, the blasting, the construction of the domes and support buildings etc. Due to his personal contact with Otto Heckmann and Jan Oort, Stock kept the Europeans informed about the progress in Chile. ESO - at that time about to sign the contracts with South Africa - decided to establish their observatory in Chile. Without this personal contact between Heckmann and Stock, ESO's first observatory might well have been erected in South Africa.

At first, there was a plan to build the American and the European observatories on the same mountain. But ESO soon decided to keep its independence and to build an observatory on La Silla. A wise decision, but Jan Oort realised the problems connected with that. He wrote in a letter to Heckmann in late 1963: "The worst thing is that we need some extra time to check the quality of the mountain and to construct a road to the top - and we should always keep in mind that we don't have a Dr. Stock."

In the 1960s, both Stock and Heckmann were directors of major observatories. In 1970 Stock was forced to leave Chile. He went to Venezuela and founded the CIDA observatory in the Andes near Mérida. His achievements for astronomy in Chile have almost been forgotten. Those of us who had the privilege to know him will remember his fine sense of humour, his brilliant mind and his great heart. Jürgen Stock was a man of great vision - modern astronomy has lost one of its last pioneers.

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