

## Rieks Jager

E-ELT/METIS Consortium Project Manager, NOVA



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# Challenges on Chajnantor; or how to create a high tech astronomical observatory at 5000 m in the Andes

### **Biography:**

Rieks Jager is currently working as Project Manager of the European consortium that develops METIS, the Mid-infrared Imager and Spectrometer for the European Extremely Large Telescope that will be built in Chile.

Before that, he worked 3 years at the ALMA (Atacama Large submillimeter/millimeter Array) observatory in Northern Chile. He started as System Integration Manager, responsible for AIV of the telescopes. Then he moved to Construction Project Manager deputy, responsible for the final construction and commissioning of the power generation and distribution system. Finally he was acting Head of the ALMA Engineering department and responsible for the reorganization from a construction oriented to an operations and maintenance focussed department.

He earned his MSc in Instrumental Astronomy at the Utrecht University in the Netherlands in 1985 after a BSc degree in Electrical Engineering.

Rieks has been employed for 25 years with the Dutch National Institute for Space Research (SRON) where he spent 11 years as Project Manager of the Wide Field X-ray Cameras on board of the Italian-Dutch BeppoSAX satellite. The project spanned all project phases from phase-B until in-orbit commissioning.

In 1996 he switched to Division Head of the SRON Technical Facilities Department which he restructured into a Staff Group, and later he founded the Engineering Division also at SRON.

From 2003 on Rieks was detached with the Netherlands Research School for Astronomy (NOVA), where he was responsible for the Dutch contribution to the James Webb Space Telescope-Mid Infrared Instrument (JWST-MIRI) as the Netherlands National project manager.

From 2009 he worked for NOVA as Project Manager of the ALMA Band 9 receivers and for E-ELT (European Extremely Large Telescope) phase-A related instrument studies. Rieks is used to working to and achieving firm deadlines and enjoys working with motivated multi-disciplinary teams. His awareness of the essential role of Systems Engineering in project management has continued.

### **Abstract:**

Building and operating an astronomical observatory stretching out over 16 km on a 5000 m high altiplano in the Andes is a challenge.

This talk will describe how and why ALMA was built and is being operated. We will describe which techniques are behind the telescope and what its main components are. The logistics of this huge global cooperation will be explained, the important role of Systems Engineering will be highlighted as well as where it was most and least successfully implemented.

The talk will try to summarize the main features of the giant ALMA submillimeter radio telescope in the Andes of Chile. This observatory is the largest ground-based astronomical project in existence.