

# The 4MOST Community Surveys

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The 4-metre Multi-Object Spectroscopic Telescope (4MOST) is a new high-multiplex, wide-field spectroscopic survey facility under construction for the four-metre-class Visible and Infrared Survey Telescope for Astronomy (VISTA) at Paranal. Its key specifications are: a large field of view of 4.2 square degrees and a

high multiplex capability, with 1624 fibres feeding two low-resolution spectrographs ( $R = \lambda/\Delta\lambda \sim 6500$ ), and 812 fibres transferring light to the high-resolution spectrograph ( $R \sim 20\,000$ ). It was decided from the start to use the instrument in a survey mode only. The 4MOST consortium prepared ten survey proposals (see the papers in issue 175 of *The Messenger*) spanning the whole sky accessible from Paranal and addressing many science goals. The surveys were presented at a dedicated workshop entitled *Preparing for 4MOST: A community workshop introducing ESO's next generation spectroscopy survey facility*, held in May 2019<sup>1</sup>.

The 4MOST consortium will receive 70% of the available fibre-hours in the first five years of operation in return for building the facility and supporting ESO with its operation. The remaining 30% of the observing time in the first five years is available to conduct surveys led by the ESO Community. The selection of these Community Surveys went through the two-step process for ESO Public Surveys. A Call for Letters of Intent was issued in 2019. The submitted science cases were reviewed by the Public Survey Panel

(PSP) composed of scientific experts from the ESO Community. A subset of the proposing teams was invited to submit full proposals by December 2020, which were again evaluated by the PSP. Finally, considering the scientific merit of the proposals and the technical boundary conditions of 4MOST, the PSP recommended the implementation of 15 Community Surveys. The selection was endorsed by the Observing Programmes Committee at its meeting in November 2021.

The selected Community Surveys have now joined the ten Consortium Surveys to form the final 4MOST survey programme for the first five years of operation. This joint set of surveys covers a very wide range of Galactic and extragalactic science cases. This issue of the *Messenger* contains a detailed description of the selected Community Surveys, which complements the description of the Consortium Surveys in *Messenger* 175.

## Links

<sup>1</sup> Preparing for 4MOST workshop:  
<https://www.eso.org/sci/meetings/2019/4MOST.html>



Since construction of the ESO Residencia was completed in 2002, it has been a home from home for the astronomers, engineers and technicians working at ESO's Paranal Observatory in Chile. The sleek building sits 2400 metres above sea level in the

Mars-like Atacama Desert, just a few kilometres from Cerro Paranal — the mountain that hosts ESO's Very Large Telescope (VLT) and Visible and Infrared Survey Telescope for Astronomy (VISTA).