## The era of collaborative multi-wavelength and multi-messenger astronomy: science and technology



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## MAVIS: sharper than JWST, deeper than HST

Tuesday, 22 October 2019 10:00 (30 minutes)

MAVIS (MCAO Assisted Visible Imager and Spectrograph) is a proposed instrument for the ESO's VLT Adaptive Optics Facility, currently in Phase A. Australia is leading a consortium that includes the ANU, the AAO, INAF and the Laboratoire d'Astrophysique de Marseille, with associated members ONERA, Swinburne University of Technology and Macquarie University. It is made of two main parts: a Multi-Conjugate Adaptive Optics (MCAO) system, that cancels the image blurring induced by atmospheric turbulence in the visible on a large field, and its post focal instrumentation, for which the baseline is a wide field imager and a IFU spectrograph, both covering the visible part of the light spectrum. MAVIS has the potential to be an extremely novel and powerful facility: with an angular resolution of 15 mas (close to 50 times better than the seeing limited conditions) and a powerful and sensitive post-focal instrumentation, MAVIS will be instrumental to bring answers to a number of astrophysical science questions, from solar system planets and moon, stellar evolution, BH seeds, up to the physical composition of high-z galaxies and early galaxy assembly.

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