

SALT-Stobie collaborative programme at Keele University

16 November 2021

Keele University is prioritising its use of SALT for research into the background galaxies and active galactic nuclei (AGN) behind the Magellanic Clouds System, benefitting from the vast amount of state-of-the-art multi-wavelength survey data in that direction of the sky, with key involvement in the VISTA survey of the Magellanic Clouds (near-infrared) and Australian SKA Pathfinder and MeerKAT radio surveys.

The current focus is on AGN dust and feedback, interactions of galaxies among themselves and with the intra-cluster medium, and galaxy cluster structure. We use machine learning tools to identify and classify AGN and galaxy clusters, and infrared time variability to probe the AGN dust distribution and response. Meanwhile we overcome the challenges posed by the intervening Magellanic Clouds.

We expect to exploit the imminent near-infrared spectroscopic capabilities of SALT to target AGN in high-redshift clusters of galaxies.

The team comprises Keele faculty Jacco van Loon and three PhD students – Clara Pennock, Joy Anih and Jessica Craig. There are too many data, projects and ideas for our small group to explore, and we therefore welcome Southern African students to take part. We are also keen to work with Southern African astronomers on photometric redshift determination, morphological characterisation or radio counterpart matching.

While our team is small, we work within several large international consortia offering ample opportunity to develop new collaborations and partnerships. The Keele University campus provides a pleasant and stimulating environment to work and live, centrally located within the United Kingdom.

Finally, we expect to develop public engagement with our research, through science–art and social media programmes.