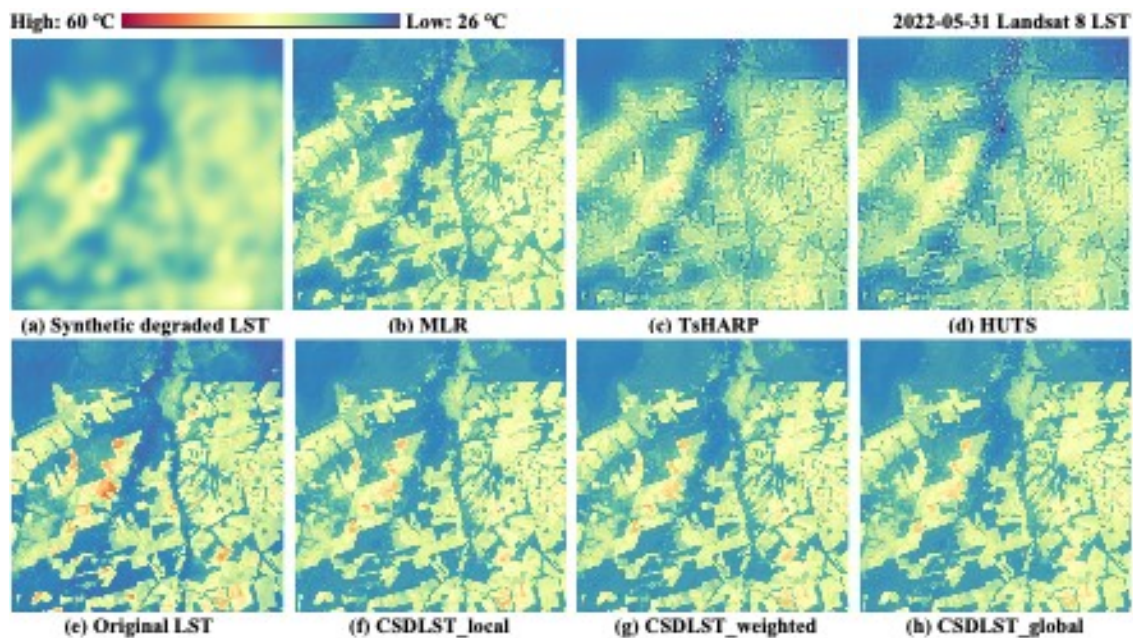


## Machine learning approaches for super-resolution problems

Supervisor: Dr Stuart King, School of Mathematics University of Edinburgh

S.King@ed.ac.uk



*Machine learning upscaling for remote land surface temperature measurement (Landsat).*

This project will examine some techniques for using machine learning to generate high resolution satellite imaging from lower resolution. Some techniques to do this use covariate fields (such as land cover, or an out-of-date high resolution image), some work simply on the low resolution image alone based on many training examples of high/low resolution pairs (eg GANs (generative-adversarial-networks)). In the project we would look at some of the simpler of these and explore their usage for optical imagery where it is simpler to see and understand the results, but ultimately move onto using similar techniques for SAR (synthetic aperture radar) data, making use of data from Sentinel-1 and recent high resolution open data from Umbra and Capella.