

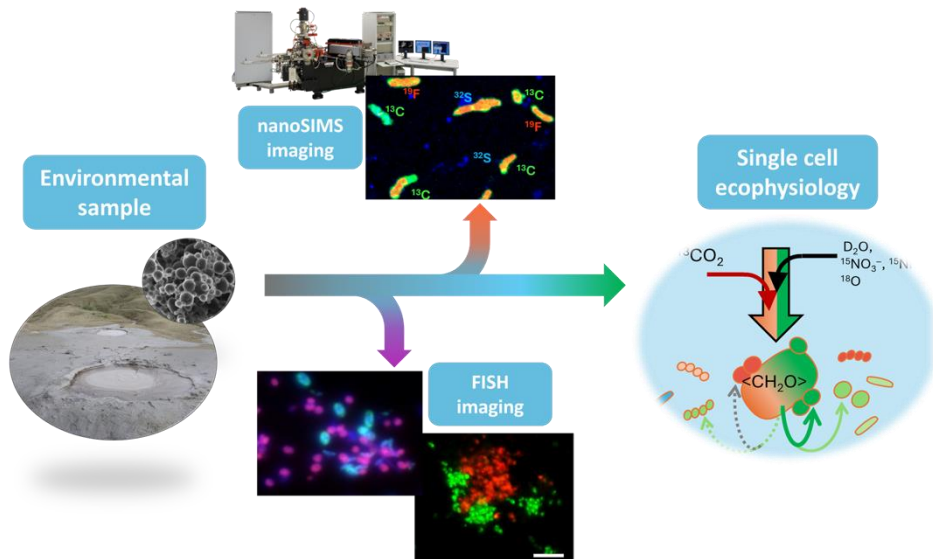


# Multi-modal imaging to decipher the ecophysiology of uncultured microorganisms

Niculina Musat

Department of Biology, AU

Microbes are the hidden engines of life on Earth, driving elemental cycles that sustain ecosystems, yet most remain uncultured and poorly understood. This talk highlights multi-modal imaging approaches that link microbial identity to function at the single-cell level in complex environments. I will focus on SIP-FISH-nanoSIMS, which combines stable isotope probing, fluorescence in situ hybridization, and high-resolution mass spectrometry to quantify metabolic activity and reveal cell to cell interactions. Applications uncover microbial ecophysiology, nutrient exchange, and symbiotic relationships. Finally, I will introduce the MicroCorr facility, integrating correlative imaging tools to resolve cellular function across spatial and temporal scales.



Friday, April 17<sup>th</sup> – 11.00 – 12.00  
 Zoophysiology seminar room (1130)