



International
Centre for
Radio
Astronomy
Research

SU2:

The Distant Universe

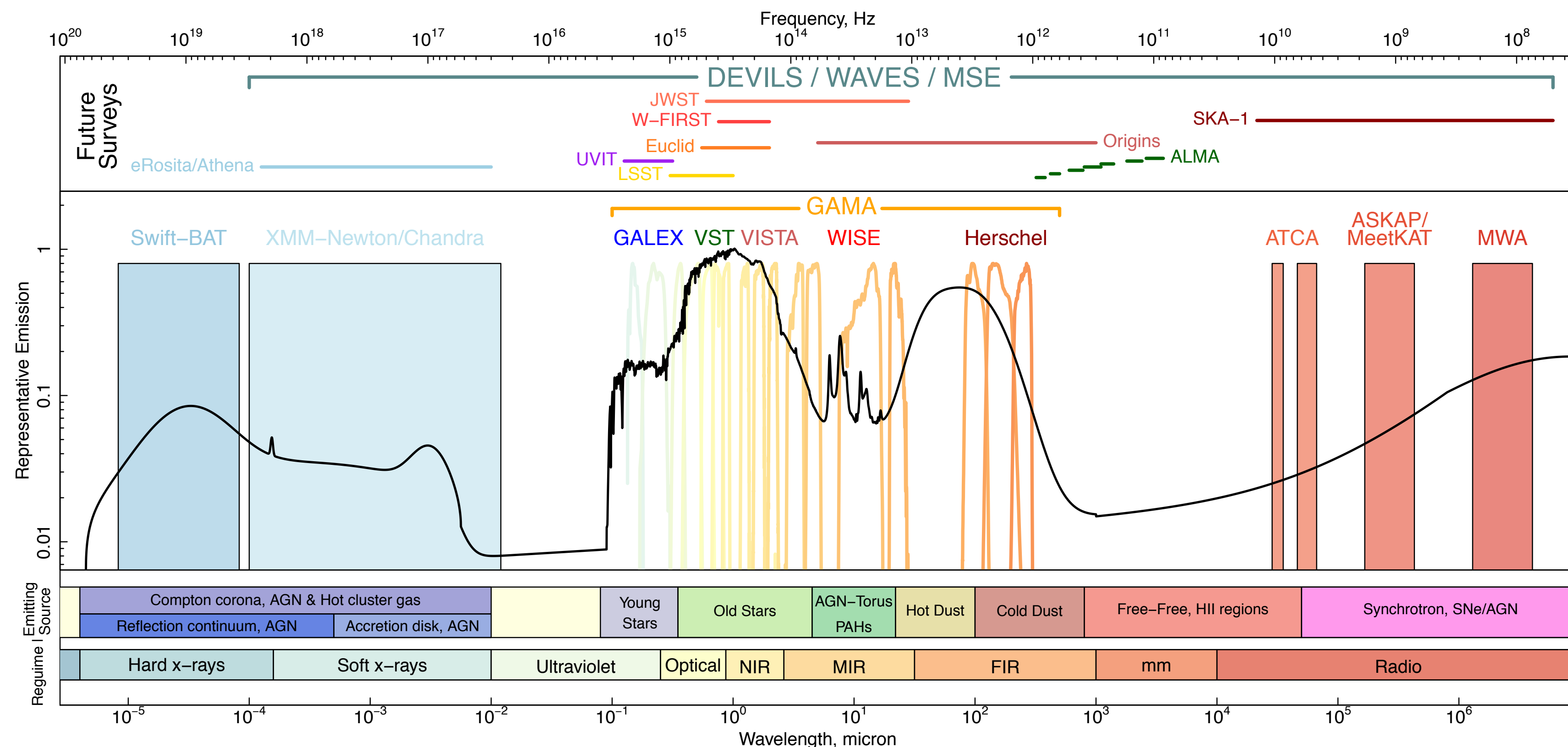
Aaron Robotham



Government of Western Australia
Department of the Premier and Cabinet
Office of Science

SU2 - The Distant Universe

- SU2 is one of the three Science divisions at ICRAR-UWA (hence SU, ICRAR-Curtin has SCs). It is led by Prof Simon Driver
- We are broadly interested in large extra-galactic surveys (including some Big Data projects) above a redshift of ~ 0.1 (the “Distant” bit).
- Within this broad remit we cover all wavelengths (X-ray - radio), and different science themes. We have significant expertise in large spectroscopic surveys (with AAT and VLTs), integral field units (with AAT and VLTs), 21cm (aka HI with VLA and ASKAP) and molecular surveys (with ALMA).
- Currently have 5 faculty, 4 post doc, ~ 7 PhD, 1 pre-PhD, 1 Masters
- Have had 7 Masters successfully finish since 2013, 6 with Honours marks [80+ %] for project component.





Measuring Galaxy and Structure Evolution

Sabine Bellstedt

post doc



Simon Driver

faculty (SU2 lead)



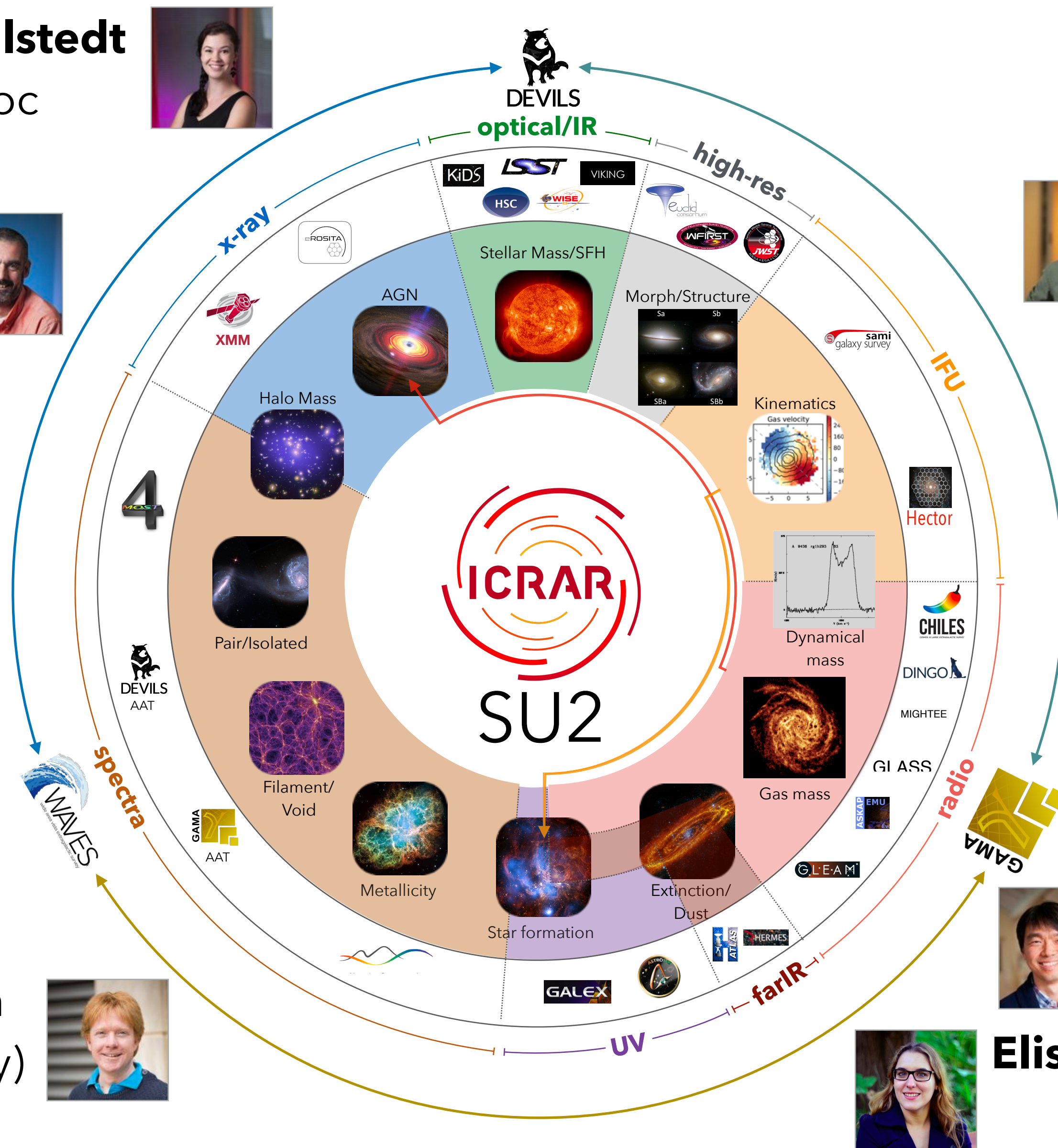
Luke Davies

post doc



Aaron Robotham

faculty (SU2 deputy)



Alfie Tiley

post doc



Luca Cortese

faculty (SU2 deputy)



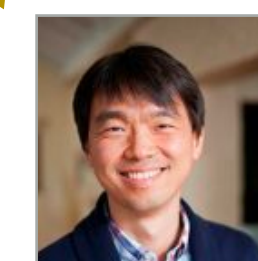
Martin Meyer

faculty



Jongwhan Rhee

post doc



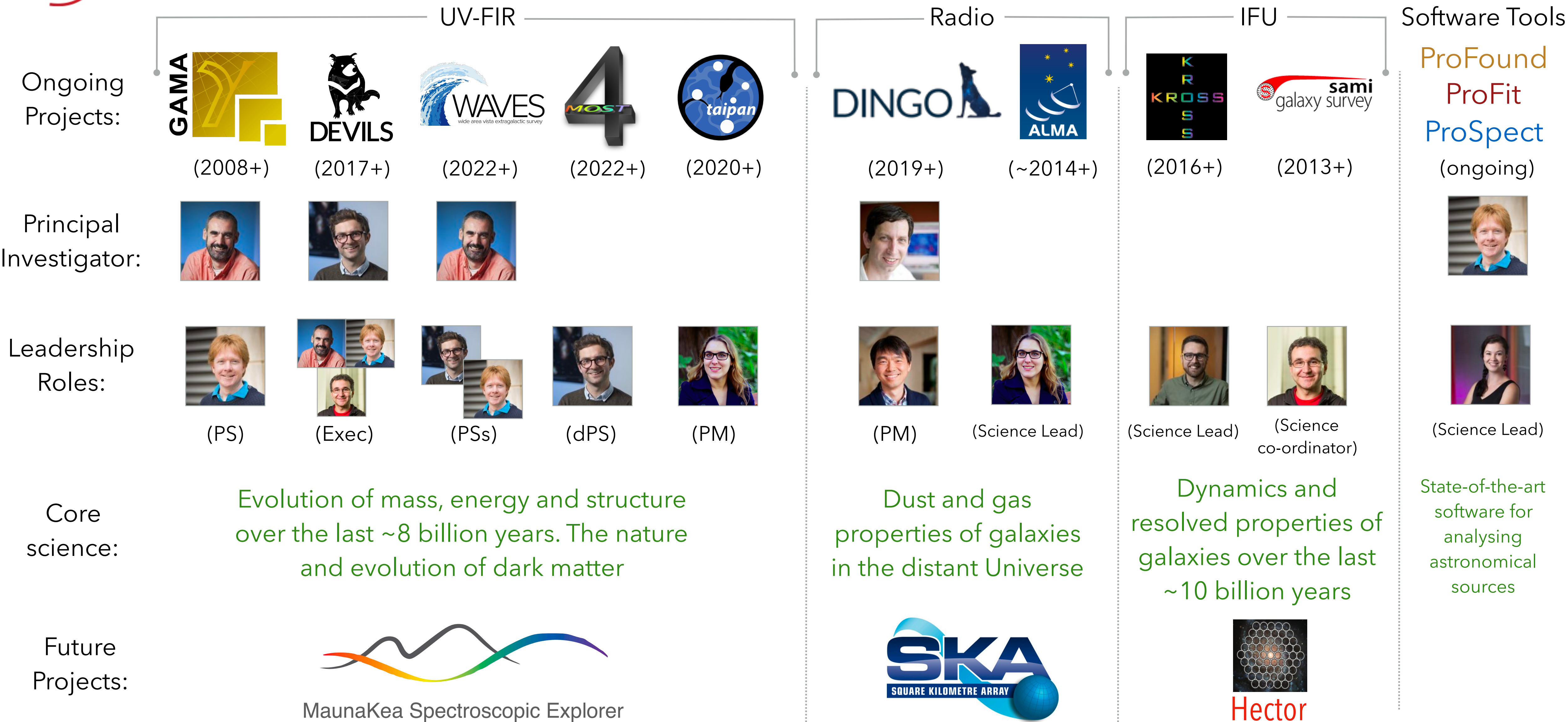
Elisabete da Cunha

faculty





Leadership of Large International Projects





International
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Masters Projects

SU2



Curtin University

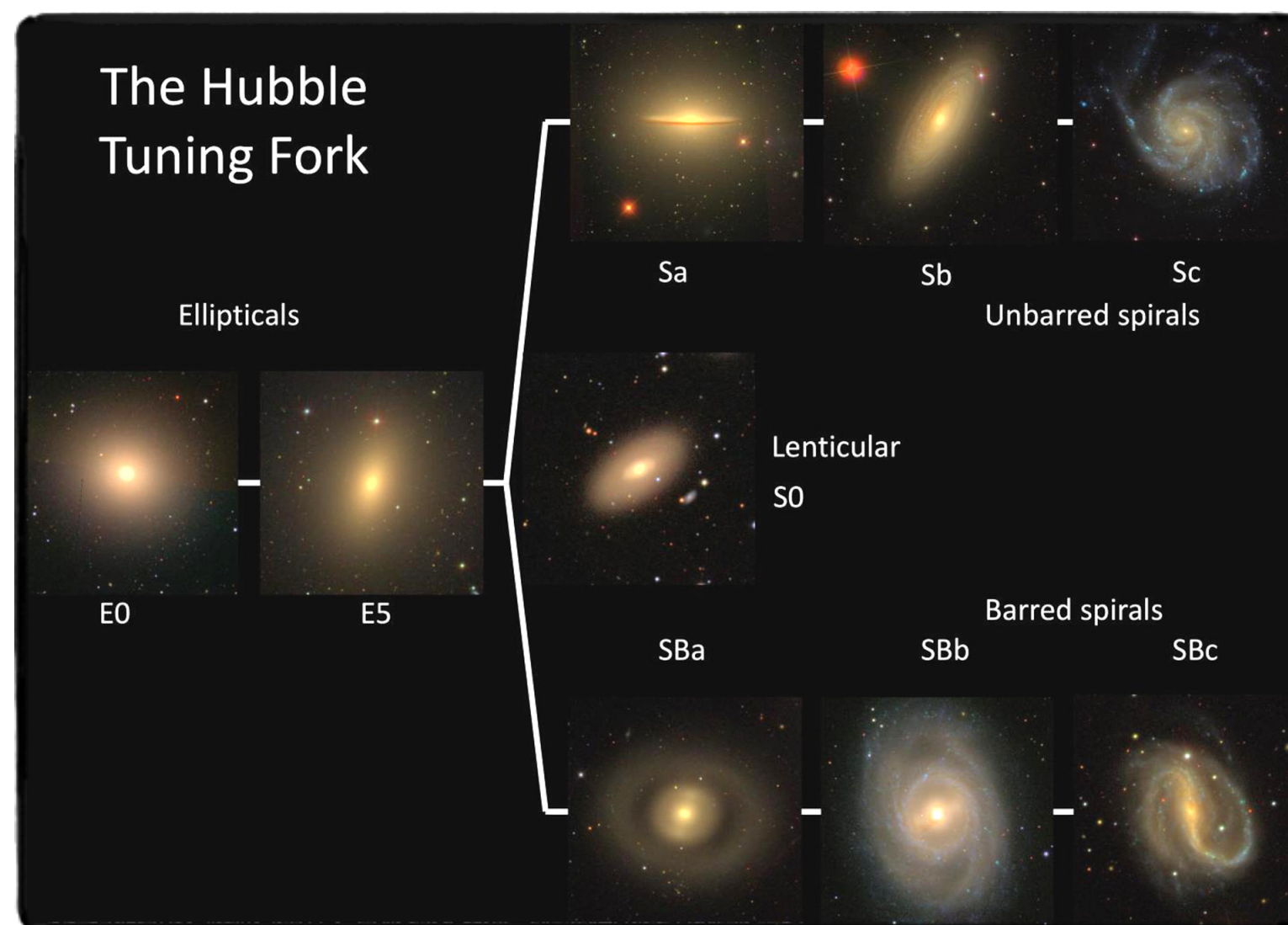


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Galaxy Transformation across Space and Time



Key questions addressed by Master projects

How are galaxies transformed from disks to ellipticals and vice-versa?

Which physical processes boost and quench star formation?

What is the connection between visible and dark matter in galaxies?

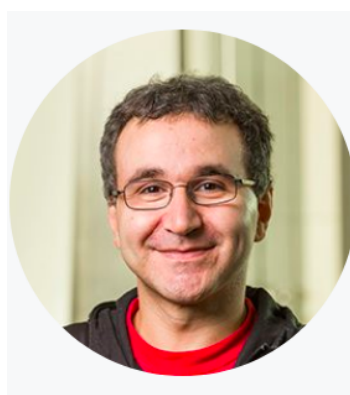
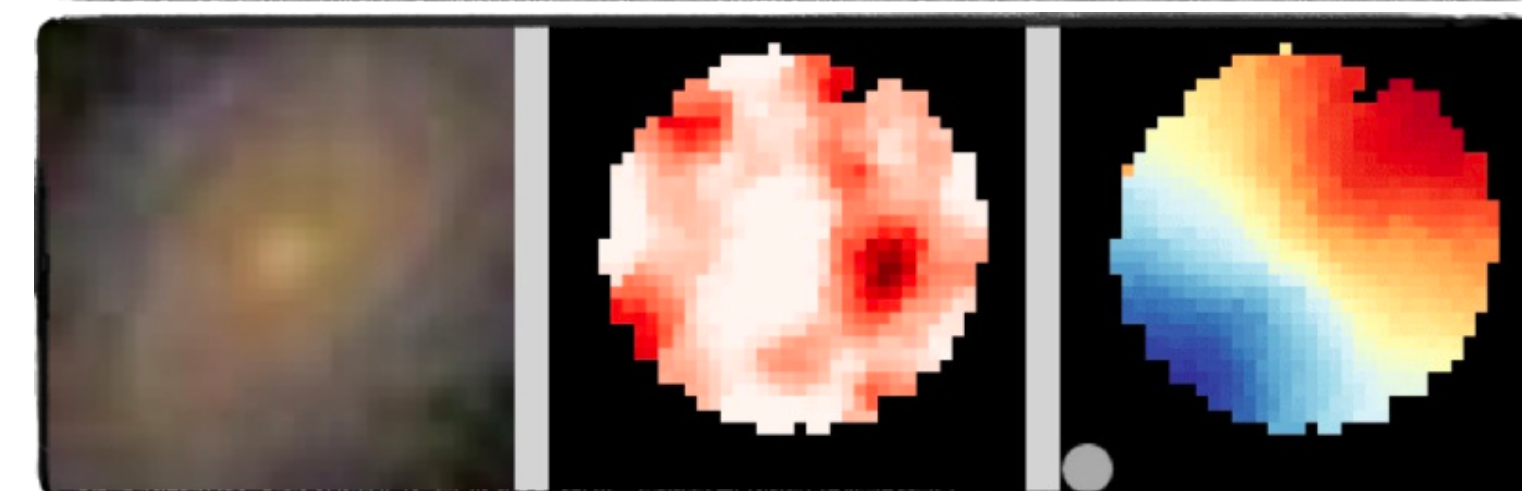
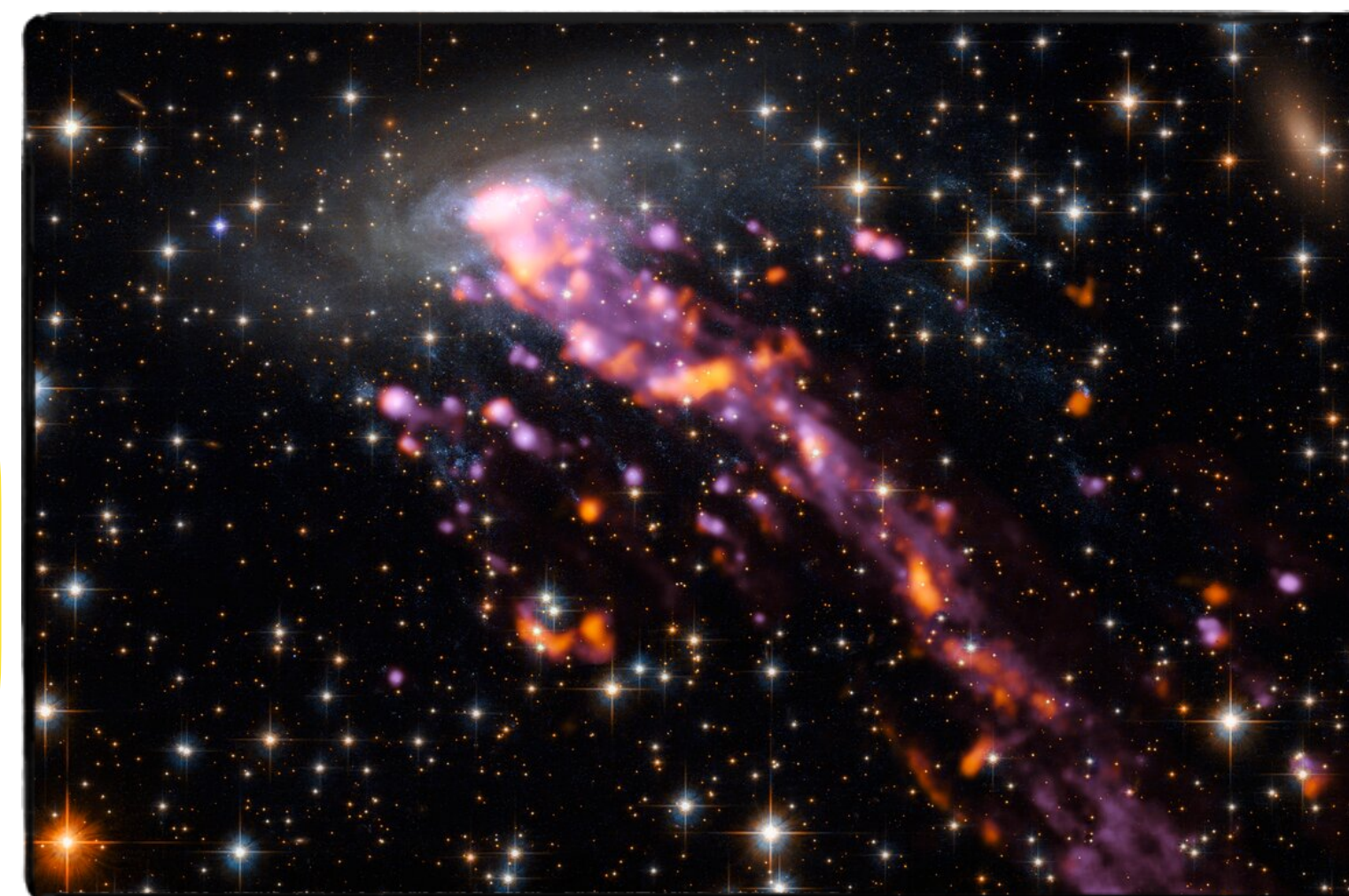
Do supermassive black holes affect star formation in galaxies?

Tools

Multi-wavelength (ultraviolet to radio) observations of 1000s galaxies

Ground- and space-based facilities

Quantifying the distribution and kinematics of all baryons in galaxies



Primary Contact: Dr. Luca Cortese

In collaboration with
Dr. Alfie Tiley, Dr. Brent Groves, Dr. Barbara Catinella + SU1/SU2 staff



Vixen 380mm f3.8

+

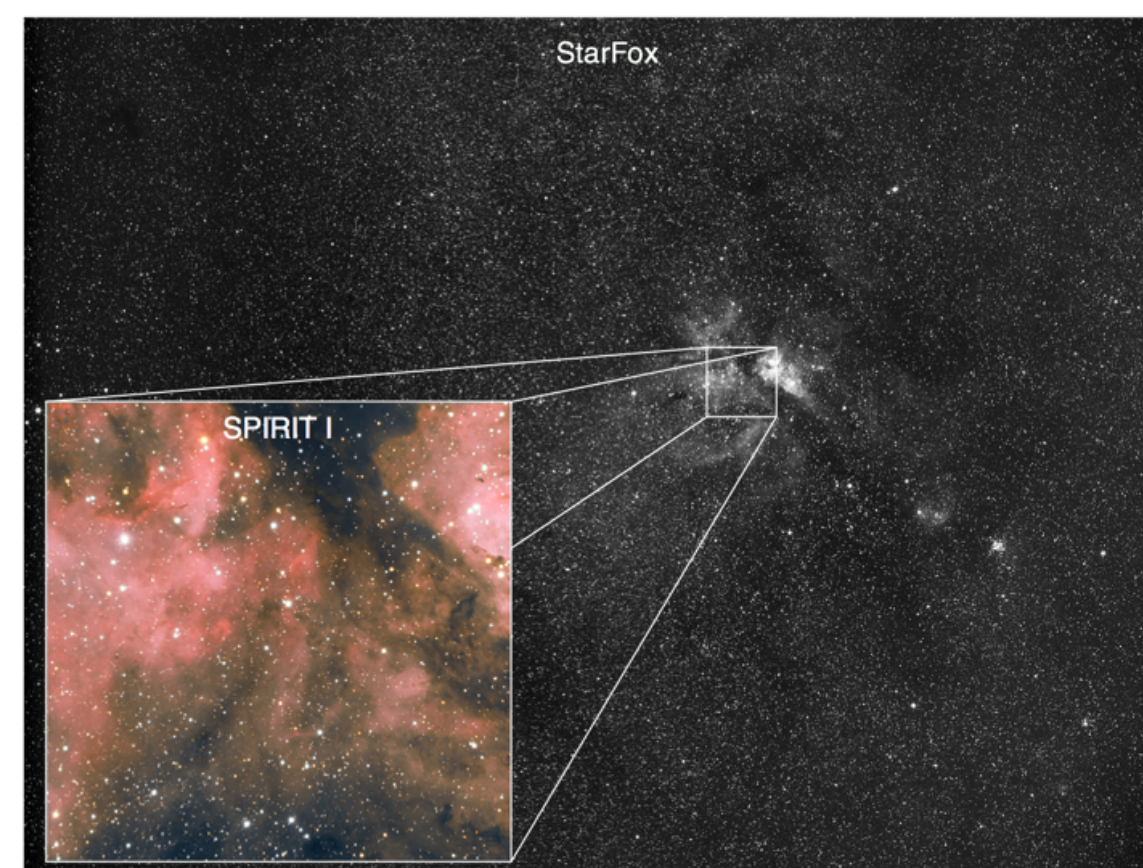


Mount: ASA DDM60 PRO

=



Camera: FLI ML50100



Low surface
brightness imaging
of GAMA group
halos to detect
intra-group light.

Aaron Robotham





SU2 Projects offered

- **Luca Cortese:** galaxy transformations across space and time (**AT**, SU1: BC, BG)
- **Elisabete da Cunha:** dust in starburst galaxies (SU1: BG, SU3: CL) SED analysis with MagPhys + ProSpect (**AR**)
- **Luke Davies:** various GAMA/DEVILS projects (**AR, SD, SB**)
- **Simon Driver:** various GAMA/DEVILS projects (**AR, LD, SB**)
- **Martin Meyer:** VLA HI stacking in GAMA above redshift 0.2 (**JR**)
- **Aaron Robotham:** various GAMA/DEVILS projects (**SD, LD, SB**), StarFox telescope (**SD**), MagPhys + ProSpect (**EdC**), chemical enrichment (SU3: CL), ProFit + EAGLE (SU3: CL)
- **Alfie Tiley:** kinematic morphology with KROSS + SAMI (**LC**)