

Tutorial 8: Writing a Proposal

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What do we want you to do?

- Form small groups (5-10 people)
- Pick a science topic
 - (Best) one of your own
 - (Next best) in discussion with tutors
 - Selected from the list on the following slides
- Decide what array to use for your project (LOFAR, JVLA, eMERLIN, ALMA, SKA, EVN,)
- Decide what configuration, frequency, bandwidth, spectral configuration to use
- Outline the technical justification of an observing proposal
- Give a 1-2 slide summary on the last day

Some possible topics (1)

- Characterise star formation and CO outflows in the galaxy NGC253
- Origin of the detached shell and mass loss in R Sculptoris
- Deep fields
 - Continuum survey of the Hubble Deep Field (cm and mm wavelengths)
 - A blind survey for redshifted CO emission
- Simultaneous multifrequency observations of a blazar flare (e.g. triggered by Fermi-LAT)
- How are electrons accelerated in radio relics?
- Extra-galactic Supernova remnants – spectral index, polarization?
- Search for methanol masers above 100 GHz
- M87: what is the connection between gamma-ray flares and radio emission?

Some possible topics (2)

- Image the shadow of the black hole event horizon in M87
- Determine the dynamical mass of a protogalaxy at $z = 9$ using the [CII] line
- Measure an accurate distance to a high-mass Galactic star-formation region
- Image gaps in a protoplanetary disk caused by planet formation
- Estimate the magnetic-field strength in the Galactic Centre accretion flow from Faraday rotation
- Image atomic and/or molecular gas in nearby spiral galaxies
- Can we detect HI emission in galaxy clusters at $z = 1.5$?
- Finding and mapping dead and/or restarted radio galaxies
- An HI survey complete to $z = 0.1$
- Imaging the polarized emission from Jupiter's radiation belts
- Spectral lines and/or maser emission in evolved stars