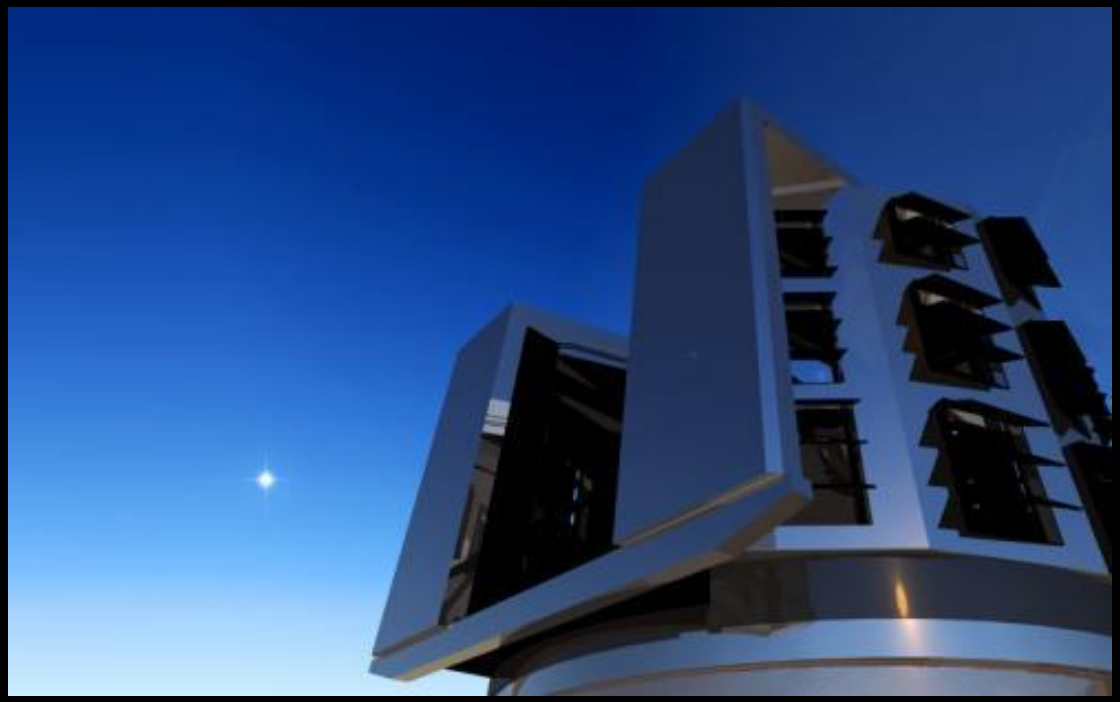
UK participation in LSST Galaxy science



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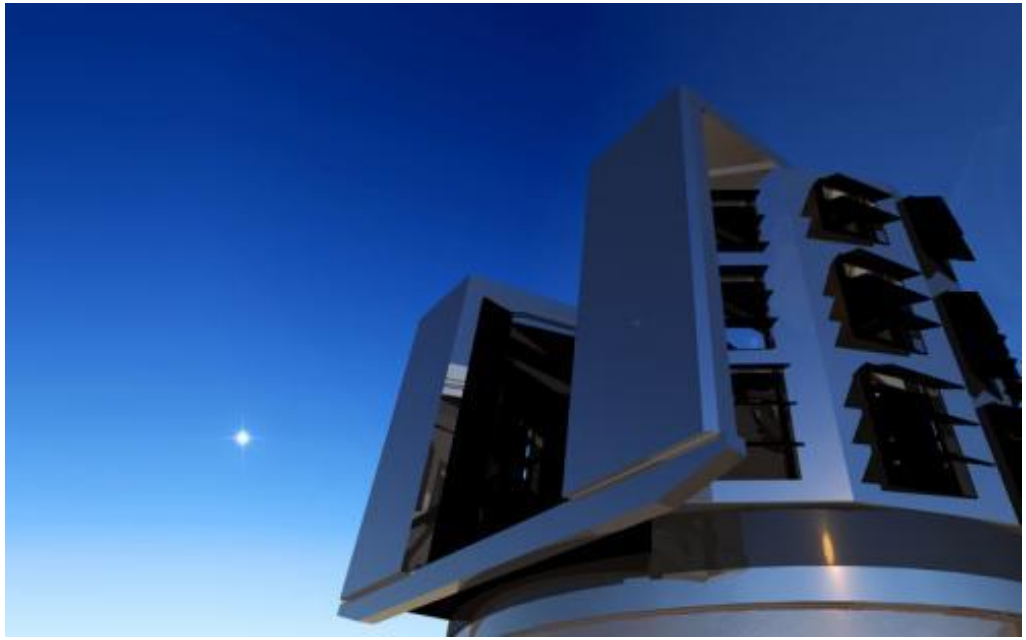
The Large Synoptic Survey Telescope

www.lsst.org



- LSST can survey entire visible sky in just a few nights
- Stacked sky survey of unprecedented depth and area
- Reaches SDSS Stripe 82 depth as soon as it is switched on
- 18,000 square degree footprint
- 5 mag deeper than standard SDSS imaging (r ~ 27.5)
- Database of ~ 20 billion galaxies and a similar number of stars.

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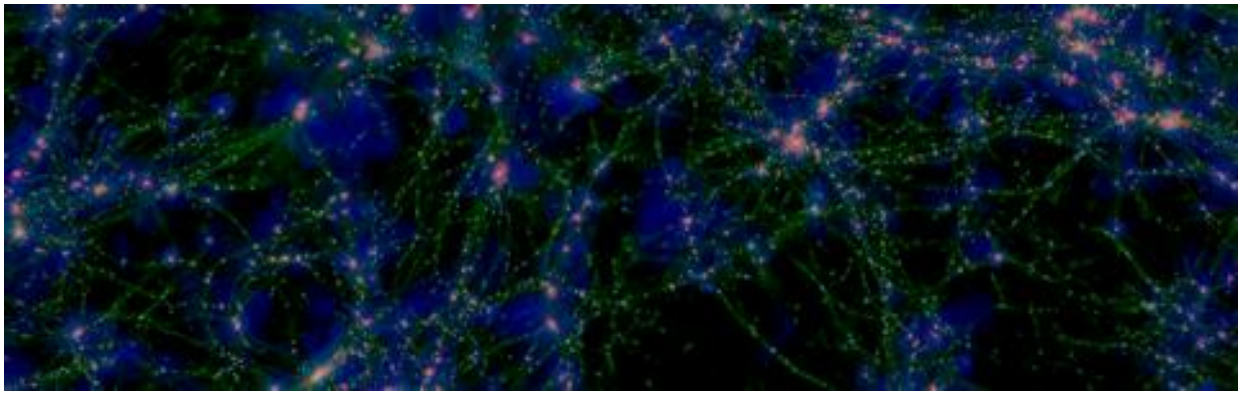
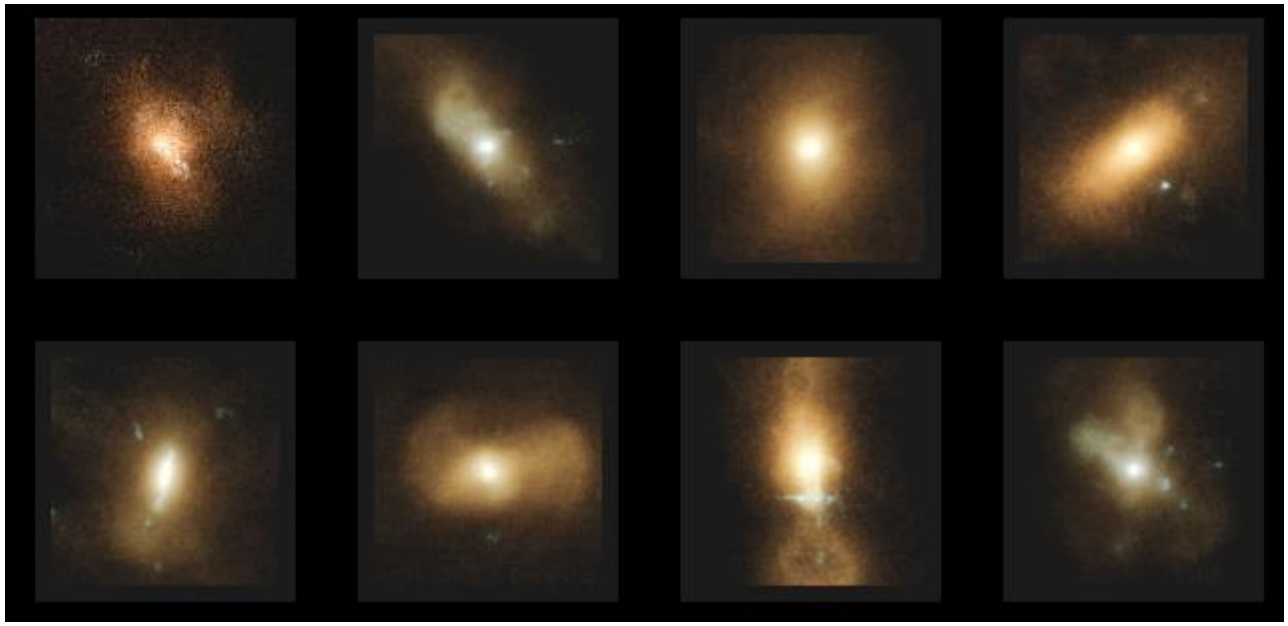
Simulations





Horizon-AGN simulation

- Simulations will be used to test LSST pipelines
- LSST data will offer tests of models to at least z~1
- Active theoretical community in the UK: Horizon-AGN, EAGLE, Illustris, Massive Black

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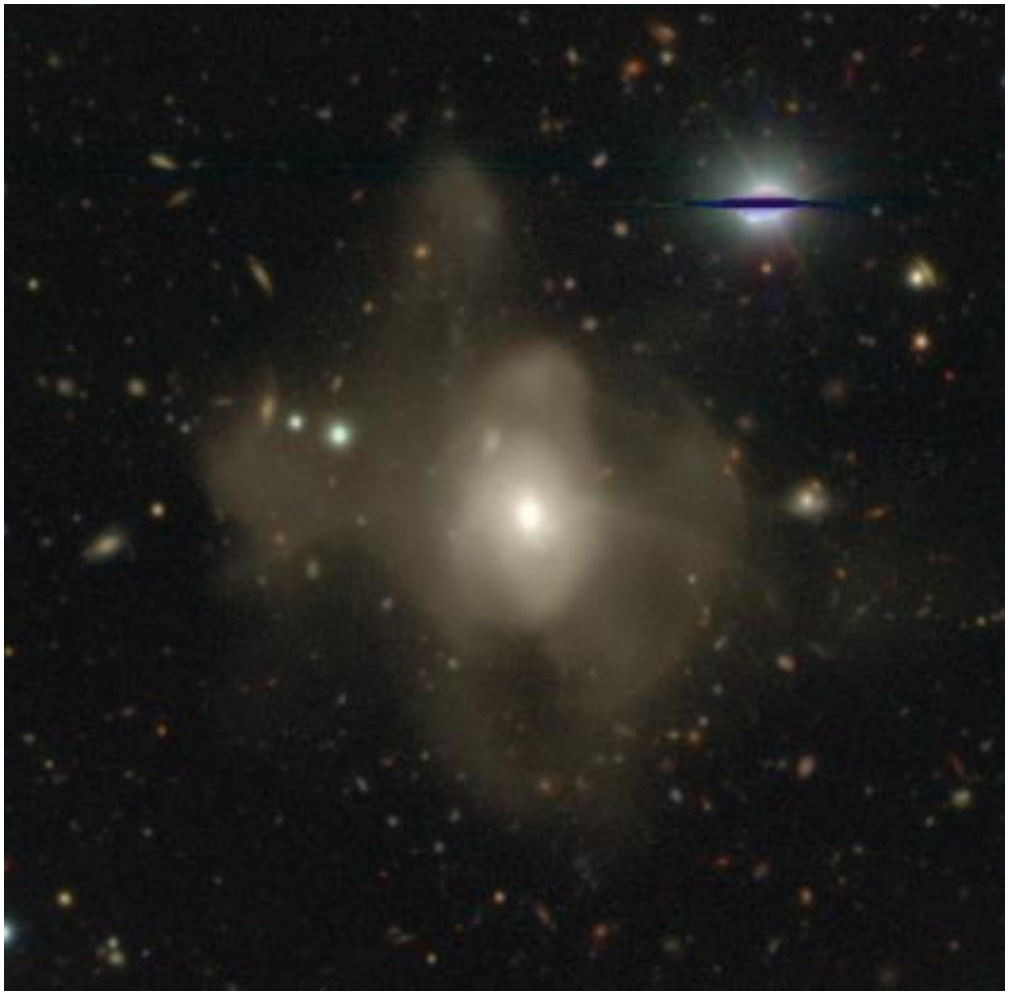
Morphology and low surface-brightness science



Hyper Suprime Cam Survey

- Deep LSST images will offer exquisite morphological detail
- Low SB science will become routine with LSST

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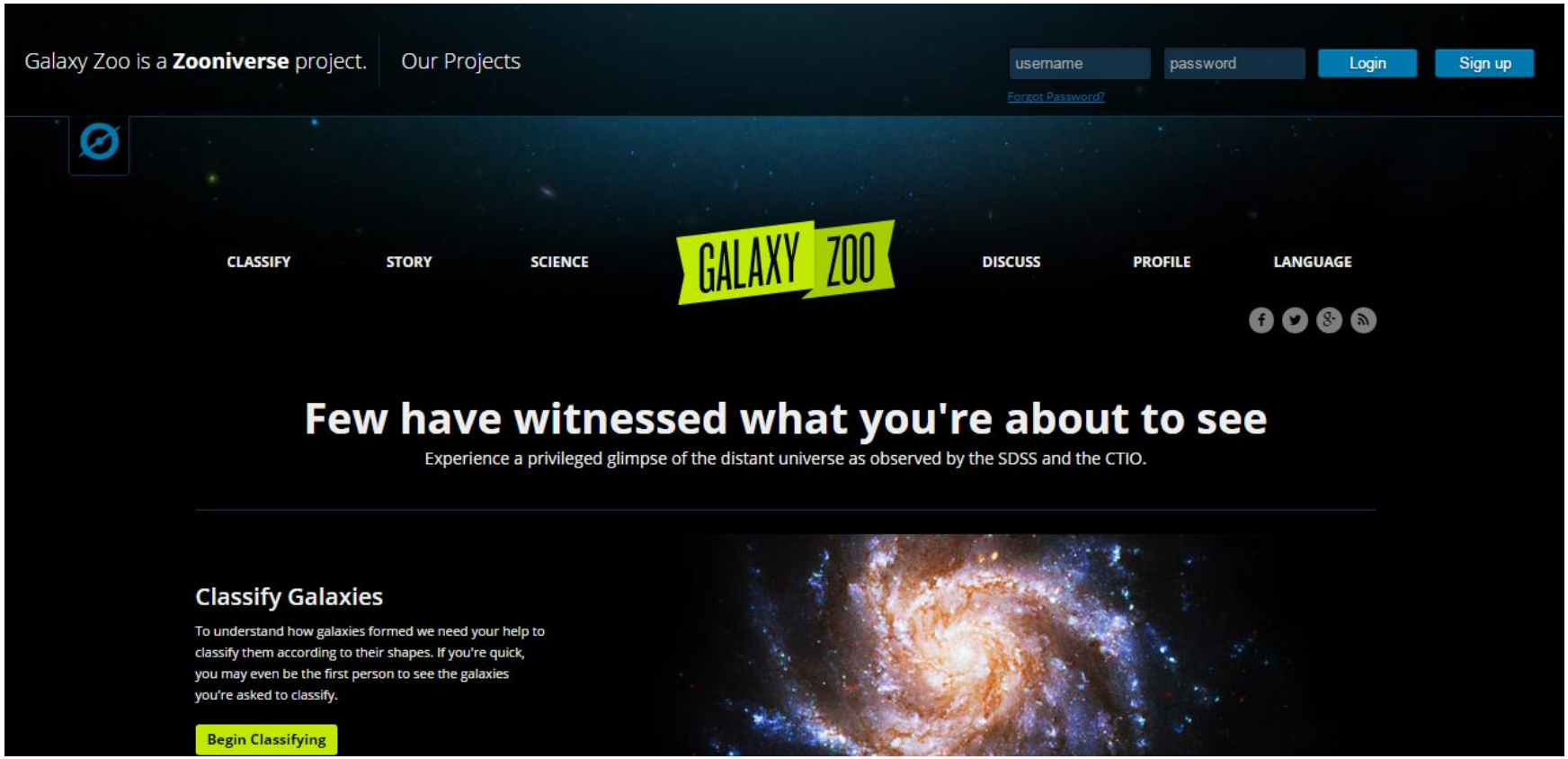
Morphology and low surface-brightness science



Crowd sourcing + machine learning algorithms will be important in morphological analysis from LSST

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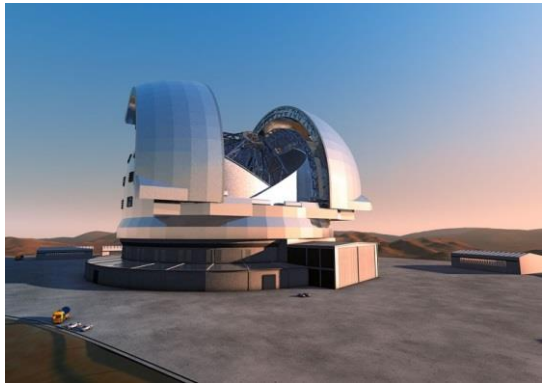
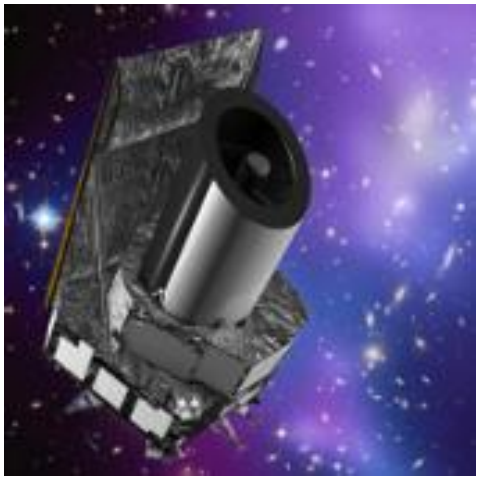
Complementary datasets





- UK well positioned to offer complementary datasets e.g.
  - SKA and SKA precursors
  - Euclid
  - E-ELT
  - MOONS
  - 4MOST
  - DESI

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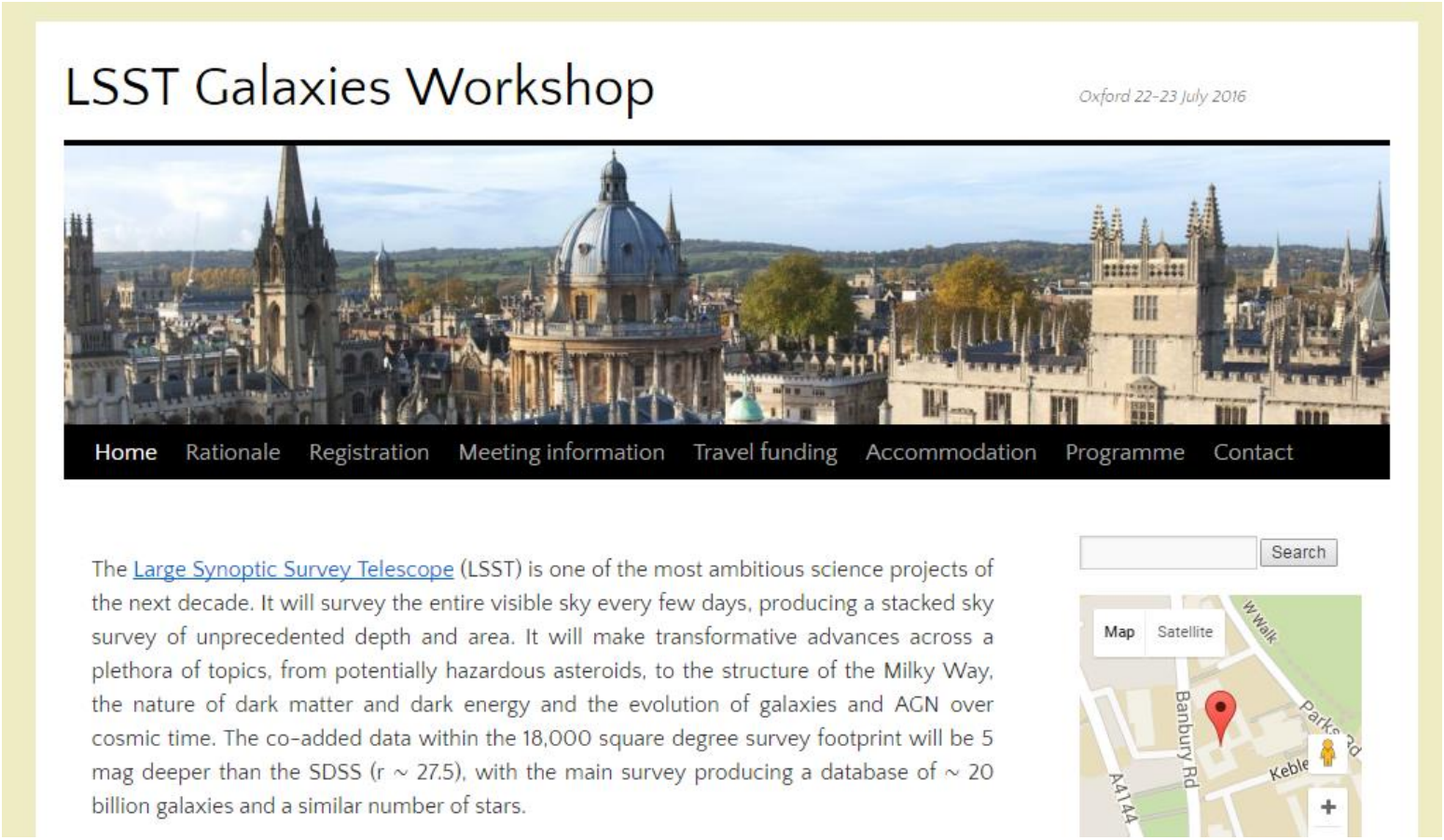
LSST Galaxies meeting, 22-23 July, Oxford



https://lsstgalaxies2016.wordpress.com/

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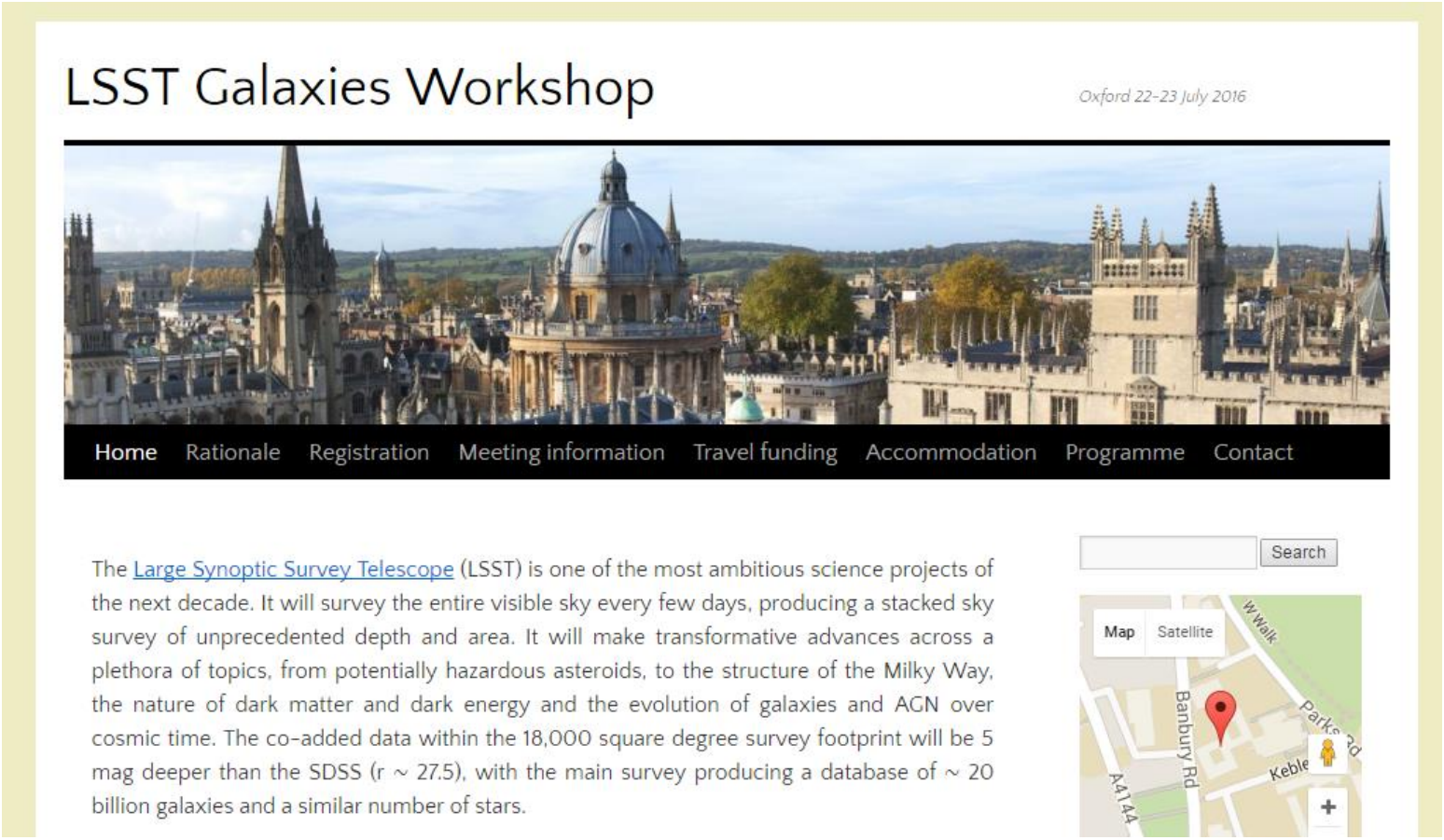

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