Outline

- About us
- Bayfordbury Observatory
- Radio survey of the Milky Way
  - Science, Observation & Results
  - Motivation
- Benefits of Student Generated Content
- Ideas for motivating students
About us

- Final year students at the University of Hertfordshire
- BSc (Hons) Astrophysics
- Research Year Abroad
  - USyd/AAO, Australia
  - CSIRO(ATNF), Australia

Bayfordbury Observatory

- Observing Facilities
  - Six optical telescopes (40cm)
  - 4.5m Radio Telescope
  - 115m Radio Interferometer
- Not widely use by students outside course content
- Opportunity for students to be accredited
- UH endeavour to increase student opportunities
Radio survey of the Milky Way

**SCIENCE**

- Atomic Hydrogen emits a photon when its proton-electron spin goes from parallel to anti-parallel
- This is a rare event, but happens all the time due to vast quantities of Hydrogen in the Milky Way
- Wavelength of photon is 21 cm so can be observed with a Radio Telescope

**OBSERVATION**

- April 2010, 4.5m Radio Telescope
- Galactic Longitudinal increment of 4° from 10° to 214°
- Galactic Altitudes of 0, ±1, ±2, ±4, ±6 and ±8°
- 2 minutes per pointing
- Total of 26 continuous hours of Radio observation
- And just for fun, 3 hours of optical imaging and early morning Solar observation
Radio survey of the Milky Way

RESULTS

Radio survey of the Milky Way

MOTIVATION

- Snowballed from an initial idea as an extension of an existing scheduled practical

- Practical hand-in was after Easter, which allowed observations to be done during the holidays

- Broadened astronomical knowledge and practical observational skills

- Counted towards our module grade
Benefits of Student Generated Content

- Directly increased:
  - Student grades
  - Undergraduate placement prospects
  - Educational motivation

- Gave a taste of independent research

- Knowledge learnt is retained

- Experience in true problem solving

- Catalyst as per individual

Ideas for motivating students

- Freedom of opportunity
  - Individual/Team mini-research projects throughout degree
  - Well supported Personal Tutor Programme
  - Plant a mole!
  - Undergraduate excursions (reward scheme)
  - Forward look approach
Ideas for motivating students

- **Freedom of opportunity**

- Individual/Team mini-research projects throughout degree

- Well supported Personal Tutor Programme

- Plant a mole!

- Undergraduate excursions (reward scheme)

Cheers...