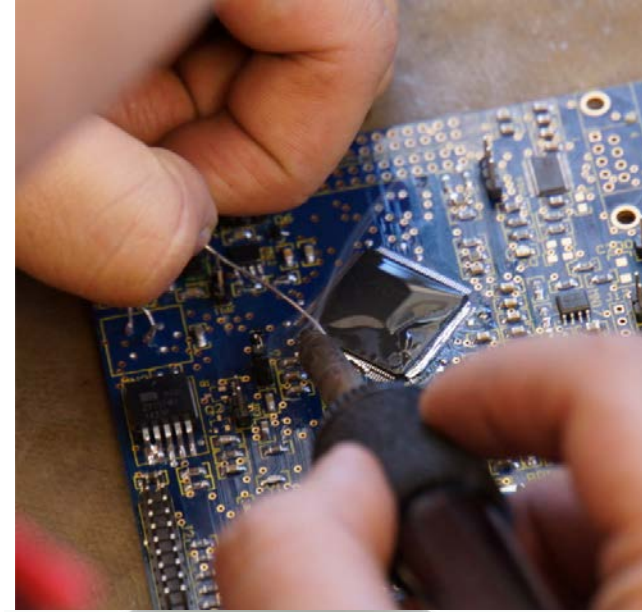




Timothy Guo - Groundstation Lead
Ben Koschnick - GreenSat Lead

CubeSats at BLUEsat



Introduction to BLUEsat

- BLUEsat is a student society focused on space based research and development. Our aim is
“to take on practical space engineering projects and in doing so, give students hands-on experience on space technology”
- Our current projects include:
 - QB50 Groundstation Collaboration
 - GreenSat Mission
 - Satellite Subsystems
 - Stratospheric Balloons
 - Off World Robotics

Slide 2

Groundstation

- BLUEsat's 70cm Yagi Antennas
 - GNU Radio & Gpredict to connect with orbiting satellites
 - Direwolf & hardware TNC for packet radio decryption and encryption
- Groundstation
 - 2m & Amateur Radio license
 - Waverley amateur radio club
 - St George amateur radio club



Slide 3

Groundstation

- BLUEsat Groundstation is the communication link between ACSER and the QB50 EC0
- BLUEsat Groundstation is building towards more future missions
 - OMOTENASHI
 - GreenSat



Slide 4

GreenSat

- The major satellite project for 2017
- An orbital platform for biological and agricultural experiments in space
- GreenSat will provide a cost-effective means of performing biological experiments in space
- The focus will be on paving the way for agriculture in orbit to feed future astronauts
- The conditions on board will be similar to those expected of future space farming vessels



Photo credit: http://www.dlr.de/dlr/presse/en/desktopdefault.aspx/tabid-10172/213_read-10095/year-all/#/gallery/14436

Slide 5

GreenSat

- GreenSat will be designed with the following considerations:
 - Atmosphere
 - Radiation
 - Chemicals/nutrients
 - Illumination, either through sunlight or artificial light
 - Artificial gravity through centrifugal forces
 - Population levels in complex biospheres
 - Contamination of the space environment
- Project is currently in the research phase
- Pending a successful application, this project will be presented at the IAC 2017 in September
- Next year will be detailed design and ground experiments

Slide 6

Conclusion

- BLUEsat is a gateway for UNSW students to learn the skills and experience to succeed in the growing space industry
- BLUEsat is looking for
 - collaboration with existing missions to make use of our resources
 - begin launching our CubeSats, either through outside commission or a BLUEsat-designed mission
 - professional level advice, support and monetary assistance

Slide 7

Contact Us

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