POC REPORT
NEW ZEALAND

5th UNISEC-Global Meeting
Rome, 2017

Jim Hefkey
The University of Auckland

New Zealand Tertiary Institutes

8 Universities

16 Polytechnics
Slow Beginnings
STUDENT-LED CROSS FACULTY PROGRAM

DEFINE A PROBLEM OR A NEED TO BENEFIT SOCIETY

FORM THEIR OWN MULTI-DICIPILINARY TEAM

DEVELOP A SOLUTION TO THAT PROBLEM UTILISING A CUBESAT

SUBMIT A FORMAL PROPOSAL WHICH INCLUDES A BUSINESS PLAN

SUBMIT A POSTER AND VIDEO

AUCKLAND PROGRAM FOR SPACE SYSTEMS
A PROGRAM FOR UNDERGRADUATES

LEARNING TO WORK ON COMPLEX PROBLEMS WITH PEOPLE THAT DO NOT THINK THE SAME WAY

OPEN TO STUDENTS FROM ALL FACULTIES

AUCKLAND PROGRAM FOR SPACE SYSTEMS
Student teams bid to launch space project

by Andrew Ashton

Rocket Labs Mahia launch site inspires students in Auckland to aim sky high.

The existence of Rocket Lab’s new launch site at Mahia is inspiring university students in Auckland to aim sky high — even though the first rocket launch is some months away.

About two dozen teams from the University of Auckland are now competing to design a satellite that would be delivered into orbit from the Rocket Lab launch pad at Onemutu Station.

University Faculty of Engineering professional teaching fellow Jim Hefley said multi-disciplinary student teams from across different university faculties were involved in the competition to design and build their own CubeSat-sized satellite.

"It is critical that the approach we take within the university reflects the real world, where space missions might include everything from astrophysics to archaeology. Complex future problem-solving in all fields, not just space, will require interdisciplinary teamwork."

Almost two dozen student teams have entered the space CHALLENGE competition to design and build their own CubeSat-sized satellite. Students have volunteered for the project which is over and above their courses of study.

“We’ve had a very enthusiastic response which is great because space technologies are developing rapidly and decreasing significantly in cost. New Zealand will have a space industry and we need the human resources to help it develop,” Jim says.

Each student team will come up with an idea for the mission and the functions they want the satellite to perform. The winning team will qualify to build the satellite and prepare it for flight. Entries will be judged by a panel of academics and industry representatives.

Peter Beck, founder of Rocket Lab, has undertaken to help launch the winning satellite on one of his company’s Electron rockets. The launch will occur from the private orbital launch site Rocket Lab has nearing completion on the Mahia Peninsula, south of Gisborne.

THE ELECTRON was designed specifically with the small satellite market in mind - the size of satellite technologies has reduced rapidly in recent years and CubeSats have increased in capability and performance.

Once launched, students will be able to operate the mission from a control centre at the University.

COUNTING DOWN: Rocket Lab's launch platform at the Mahia launch site, being manoeuvred into place last week. Picture supplied.
P-SAT 2017
UNPACKING 1U “QUAKESAT”
- Undergraduate CubeSat funded through UoA Vice Chancellor for 2018 launch

- P-Sat (Cansat) program funded for 2017

- Postgraduate Research grant for investigation of Synthetic Aperture Radar
INVITED SPEAKERS

- Dr Alice Gorman, Flinders University, Australia
  - Dr S. Pete Worden, Breakthrough Foundation, USA
    - Prof. Christine Charles, Australian National University
      - Robin Sampson, Clyde Space, Scotland

STAFF TALKS

- Raising The Bar, Auckland City
  - ASPIRE Conference, UoA
    - Spring Week on Campus, UoA

PUBLIC TALKS
- SMALL SAT 2016, USU, Logan, Utah, USA (1 attendee)
  - CubeSat 2017, Cal Poly, California, USA (3 attendees)
    - IAC 2017, Adelaide, Australia (2 attendees)
  - Local meetings, talks and round tables:
    - NZ Space Agency
    - UNOOSA
    - DTA
    - US Consulate
    - NZ Agencies
THANK YOU