

UNISEC Southern Africa Region Activities

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Angola NOSA

NMU (New)

by
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Stellenbosch University

October 2022

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Angola NOSA

NMU (New)

- Stellenbosch University (SU)
- Cape Peninsula University of Technology (CPUT)
- University of Cape Town (UCT)
- Namibian University of Science and Technology (NUST)
- Angola (Angolan National Office for Space Affairs)
- Nelson Mandela University (NMU)



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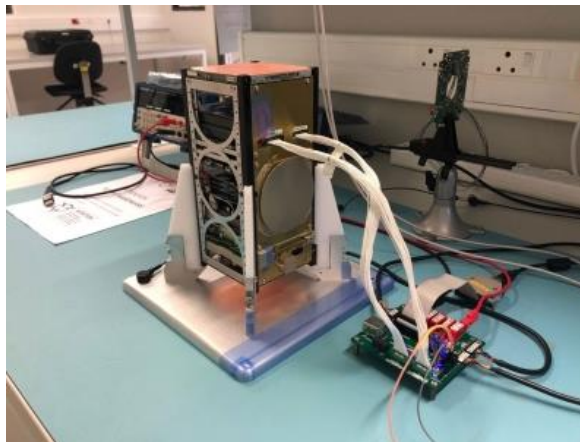
NUST

Angola NOSA

NMU (New)

CPUT

- MDA-Sat Constellation – First 3 Satellites Launched 13 Jan 2022
 - Upgraded AIS receiver payload from ZACube-2:
 - Over the air upgrades
 - Raw data capture for diagnostics and signal interference
 - Long Range AIS via two channels
 - More effective messaging scheme to optimize the use of the data transmitter's bandwidth.





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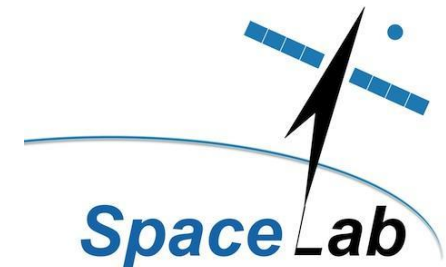
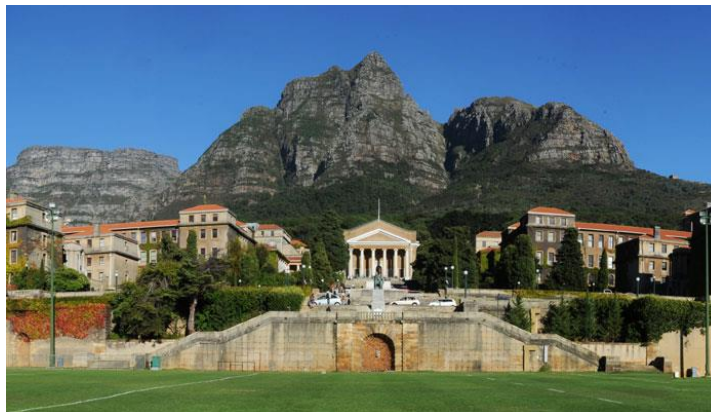
UCT

NUST

Angola NOSA

NMU (New)

- Offers MPhil in Space Studies
- Focus not only Satellite Engineering but also on regulation, space law aspects and orbital debris
- Recent research towards Synthetic Aperture Radar (SAR) for Small Satellites



Angola - NOSA

- AngolaSat 1 lost – infant mortality
- Zolana on LinkedIn: “After four years of hard work and setbacks, today, October 12, we successfully launched satellite ANGOSAT-2. The Solar panel rotated to the sun, and we fully control ANGOSAT-2. All satellite subsystems are nominal, and we will keep you posted”

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NMU (New)

Nelson Mandela University – New Member

- 15 Years working in Radiation effects mitigation
- Space based FPGA systems
- Post-Doc = MIC 1 – Participant
- New research on degradation of space materials

NELSON MANDELA
UNIVERSITY

Mechatronics

Members

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Angola NOSA

NMU (New)

- 30 Years of satellite development
- Offers MEng (Research), PhD in Satellite systems
- Research Focus on Satellite hardware, Control Systems, Radiation effects testing
- Graduates are satellite engineers in most South African space companies



AAC SPACE AFRICA



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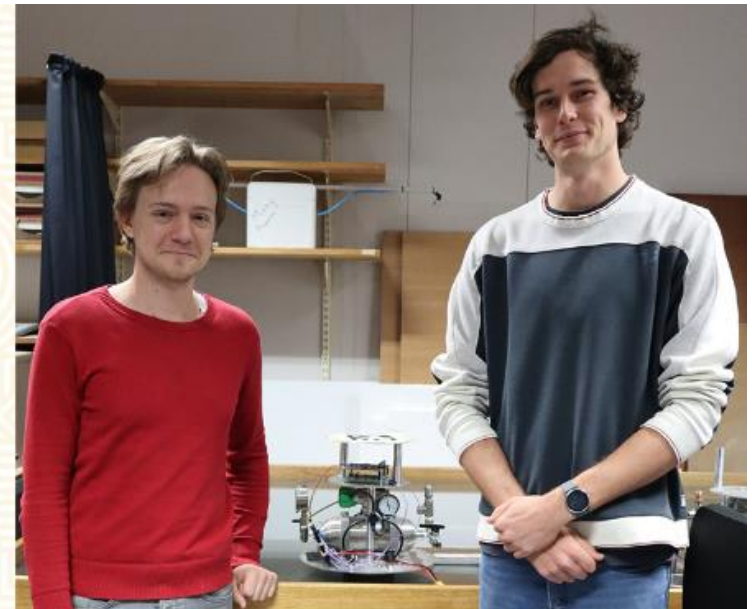
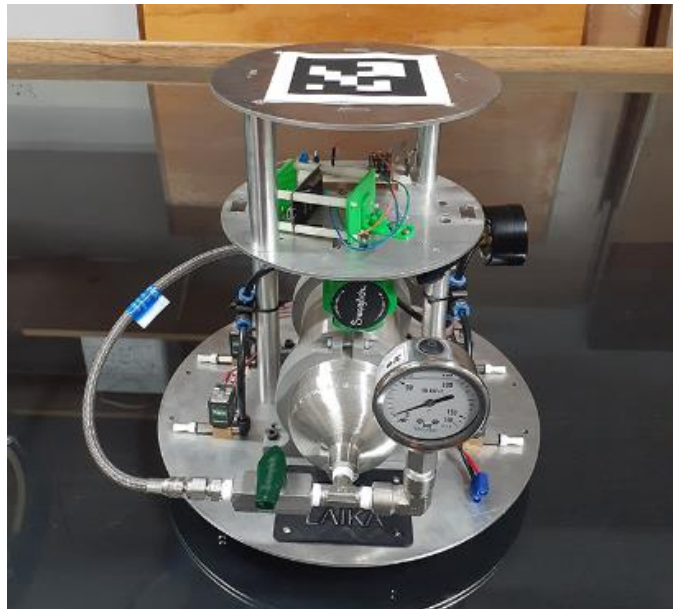
UCT

NUST

Angola NOSA

NMU (New)

- New planar air bearing facility
- Test bed for spacecraft and space systems
- Two air-bearing vehicles *Laika* and *Belka*



Stellenbosch University – Balloonsats 2018-2021

- Started 2011 with one student!
- Practical experience of building and launching a satellite payload

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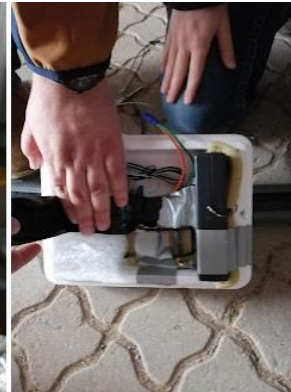
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Recent UNISEC-Global Activity

- Host of 22nd UNISEC-Global Virtual Meeting: 18 June 2022



- Participant at CLTP11: 17-31 August 2022



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Thank you



UNISEC-SAR POCs



Arno Barnard
South Africa



Zolana Joao
Angola



Smita Francis
Namibia