

UNISEC

Southern Africa Region

Activities

By

Jandré Frey

Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST



November 2025

UNISEC-SAR Members

Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

Founding - 2014

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



Joined

- University of Cape Town (UCT) - SA
- Nelson Mandela University (NMU) - SA
- Botswana International University of Science & Technology (BIUST)



UNISEC-SAR History

Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

- Local Chapter UNISEC-SAR founded as one of 12 original UNISEC-Global members at 2nd Global Meeting in 2014
- UNIGLO Meetings – All
- CLTP
 - 3 – Smita Francis – Namibia
 - 4 – Zolana Joao – Angola
 - 6 – Ivandro Rodrigues – Angola
 - 11 – Arno Barnard – South Africa
 - 12 – Rut Shiwambi – Namibia
- HeptaSat
 - UN Workshop – SU 2017
 - SU 2023
 - KiboCUBE Workshop – SU 2024
- Hosted: NSAT13, 10th UNIGLO Meeting, PreMIC9 – 2024 in Stellenbosch

UNISEC-SAR History

Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

- Student teams in:
 - MIC1 – Semi finalists
 - MIC2 – First prize, Cat2 (CPUT), Student prize (SU)
 - MIC3 – IAA Award (SU), Finalist (CPUT)
 - DDC1 – Finalist (SU), Finalist (UCT)
 - DDC2 – Finalist (SU)
 - MIC5 – Finalist (SU)
 - MIC8 – Finalist (SU)
 - MIC9 – Student Prize!

NUST - Namibia



Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

- Offers Postgraduate Diploma in Space Technology
- Main objective - impart broad knowledge in Space technology, Space regulations and Space applications.
- Is of interdisciplinary nature, preparing graduates to become scientific researchers and technologist
- Enable students to acquire skills and knowledge through rigorous theory, experimental application, field exercises and projects in the field of space technology.

CPUT - SA



Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

- Pan African University Institute for Space Sciences (PAUSS) based at CPUT
- Offers MEng in Satellite Systems and Applications (Course Work + Thesis)
- Offers MEng (Research) and DEng (Research) in Electrical Engineering
- CPUT adopts an integrated, multi-disciplinary approach in 4 niche areas: Industrialization of Space, ICT for Space, Space segment, Space Applications, and Space Science.
- CPUT graduates are contributing immensely to the development of SA Space Industry and serve in many South African space companies.
- French-South African Institute of Technology
- Africa Space Innovation Centre

BIUST - Botswana



Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

- BOTSAT-1, was successfully launched aboard SpaceX's Falcon 9 – Transporter 13 rideshare mission on Saturday, March 15, 2025
- BOTSAT-1 is a 3U hyperspectral Earth Observation satellite
- Operations from BIUST Ground Station



SU - SA



Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST

- 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



SU - SA

Members

SU

NUST

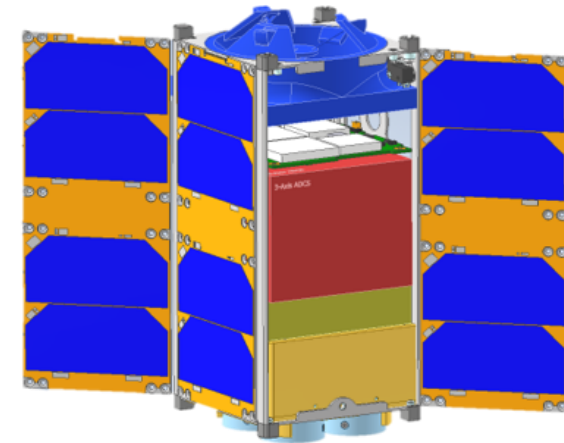
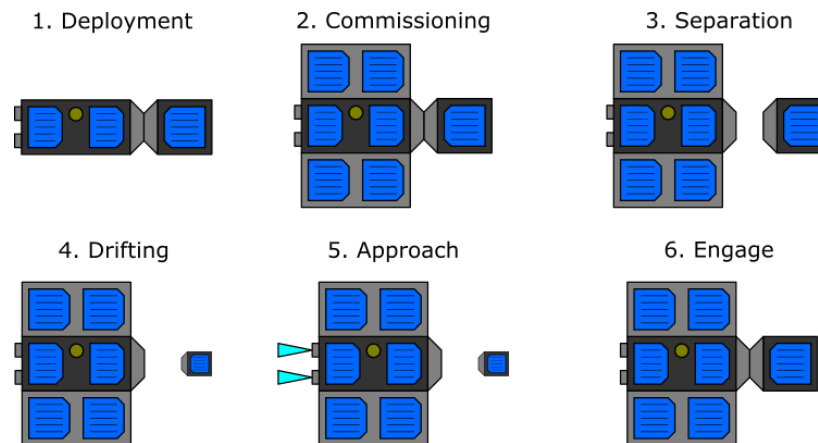
CPUT

Angola - NOSA

NMU

BIUST

- Current conceptual mission = DockSat
- 2023 - Paper at IEEE Aerospace
- Demonstrate the in-orbit undocking and docking of satellites
- Require propulsion, accurate attitude control, pose estimation, custom docking mechanism
- Generates Masters and PhD projects



SU - SA

- October 2025 First PocketQube High-Altitude-Balloon (HAB) flight!
- Launched from Saldanha Bay
- Balloon carrying PocketQube with IOT payload, FPV Camera

Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST



SU - SA



Members

SU

NUST

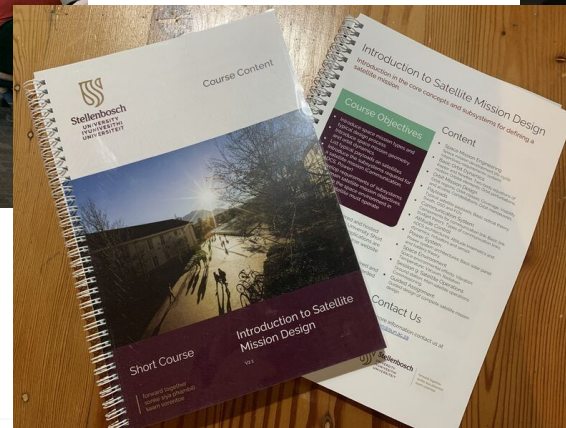
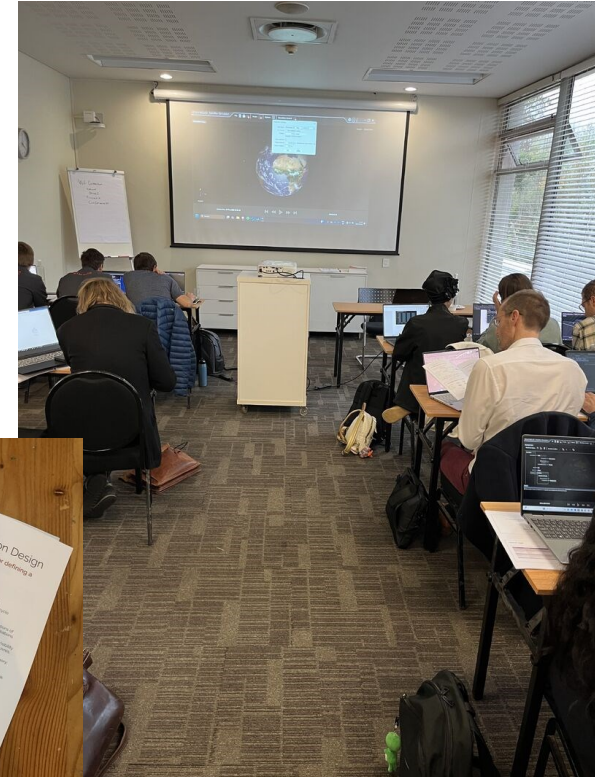
CPUT

Angola - NOSA

NMU

BIUST

- Developed and hosting short courses
- Focuses on satellite mission design
- Contract experts from industry to assist in presenting topics
- 2025 – 28-30 May – 20 participants
- 2025 – 29 Sep-1 Oct – 40 participants



Thank you



UNISEC-SAR POCs



Willem Jordaan
South Africa



Arno Barnard
South Africa



Smita Francis
Namibia



Zolana Joao
Angola



Modisa Mosalaosi
Botswana

Members

SU

NUST

CPUT

Angola - NOSA

NMU

BIUST