



International Space University: Space Education in a Changing World

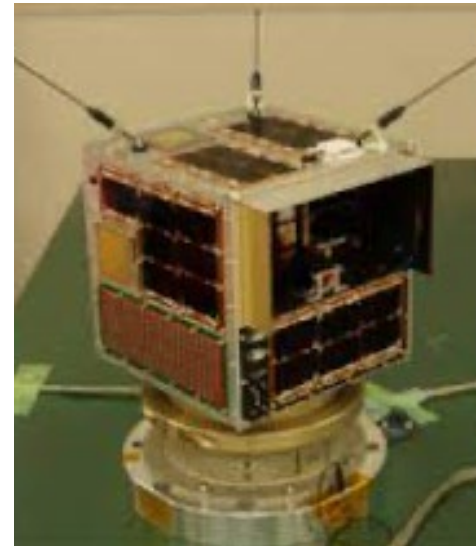
Taiwo TEJUMOLA, PhD.
Assistant Professor,
International Space University
<https://www.isunet.edu/>

28th June 2023



Who am I?

- Born in Lagos, Nigeria.
- B.Eng. Electrical & Electronic Engineering.
- Early career with NASRDA, Nigeria.
- MSc and PhD – Space Systems Engineering. [Kyutech | 九州工業大学](#)
- Assistant Professor at ISU



International Space University

A diverse international student body learning from an experienced international faculty to gain an interdisciplinary understanding of space.



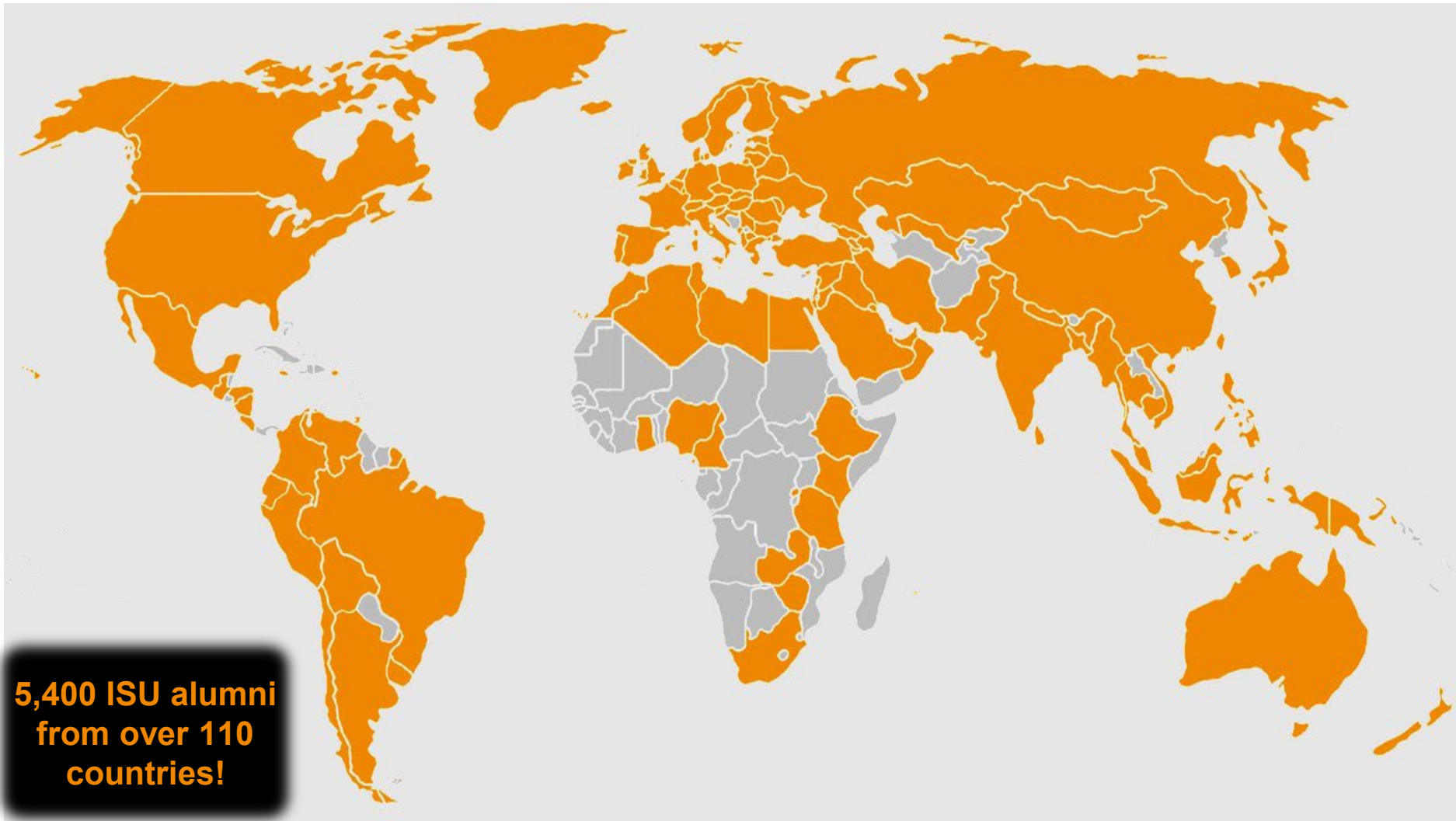
Once upon a time, in 1987...



ISU Milestones

Date	Milestone
1987	ISU Founding Conference and Incorporation in USA
1988	First Space Studies Program (SSP) at MIT in Cambridge, USA
1994	ISU Relocates to Strasbourg and Incorporates in Alsace
1995	First Master in Space Studies (MSS) Program based in Strasbourg
2002	Official Opening of ISU Central Campus Building
2003	First Executive Space Course (ESC) held in Strasbourg
2004	Official Accreditation by the French Ministry of Education
2011	First Southern Hemisphere Space Studies Program (SHSSP) in Australia
2015	First MSS Year B (research thesis) offered
2016	Lease Agreement in Strasbourg prolonged for 15 years
2019	First Commercial Space Program (CSP) held in Florida
2019	Launch of the ISU Incubator and Booster
2020	First Interactive Space Program (ISP) offered online

- 3 I's: International, Interdisciplinary, Intercultural
 - Graduate-level programs
 - Professional knowledge and skills
 - Comprehensive interdisciplinary coursework
 - Team-work skills in international, intercultural settings
- A competitive edge to begin careers in space-related fields (latest stats show that more than 80% of ISU alumni work in the space sector)
- Help in making career shifts within the space sector
- Membership in an international network of leading space experts and professionals



**5,400 ISU alumni
from over 110
countries!**

THE ISU ALUMNI COMMUNITY (1988-2022)

Master of Space Studies (MSS)

- 1 -year or 1.5 -year program held at ISU Central Campus in Strasbourg, France

Space Studies Program (SSP)

- 2-month program held in a different country every June-August timeframe

Southern Hemisphere Space Studies Program (SHSSP)

- 5-week program held in Adelaide, Australia every January-February timeframe

Executive Space Course (ESC)

- 1-week programs held several times per year around the globe

ISU SSP Host Sites 1988 - 2023

North America

- ▶ 1988 Boston (USA)
- ▶ 1990 Toronto (Canada)
- ▶ 1993 Huntsville (USA)
- ▶ 1997 Houston (USA)
- ▶ 1998 Cleveland (USA)
- ▶ 2002 Pomona (USA)
- ▶ 2005 Vancouver (Canada)
- ▶ 2009 San Francisco (USA)
- ▶ 2012 Florida (USA)
- ▶ 2014 Montreal (Canada)
- ▶ 2015 Ohio (USA)

Europe

- ▶ 1989 Strasbourg (France)
- ▶ 1991 Toulouse (France)
- ▶ 1994 Barcelona (Spain)
- ▶ 1995 Stockholm (Sweden)
- ▶ 1996 Vienna (Austria)
- ▶ 2001 Bremen (Germany)
- ▶ 2003 Strasbourg (France)
- ▶ 2006 Strasbourg (France)
- ▶ 2008 Barcelona (Spain)
- ▶ 2010 Strasbourg (France)
- ▶ 2011 Graz (Austria)
- ▶ 2013 Strasbourg (France)
- ▶ 2017 Cork (Ireland)
- ▶ 2018 Delft (Netherlands)
- ▶ 2019 Strasbourg (France)
- ▶ 2021 Granada (Spain) +
Strasbourg (France)
- ▶ 2022 Oeiras, Portugal

Asia

- ▶ 1992 Kitakyushu (Japan)
- ▶ 1999 Nakhon Ratchasima (Thailand)
- ▶ 2007 Beijing (China)
- ▶ 2016 Haifa (Israel)

South America

- ▶ 2000 Valparaiso (Chile)
- ▶ 2023 São José dos
Campos, Brazil

Australia

- ▶ 2004 Adelaide (Australia)

INTERNATIONAL
SPACE UNIVERSITY
ISU

— 35th —
**SPACE
STUDIES
PROGRAM**

26 June - 25 August
2 0 2 3
São José dos Campos - SP - Brazil

This 35th annual Space Studies Program is a nine-week interdisciplinary immersion in the study of humankind's evolving experience of space

HOSTED BY:



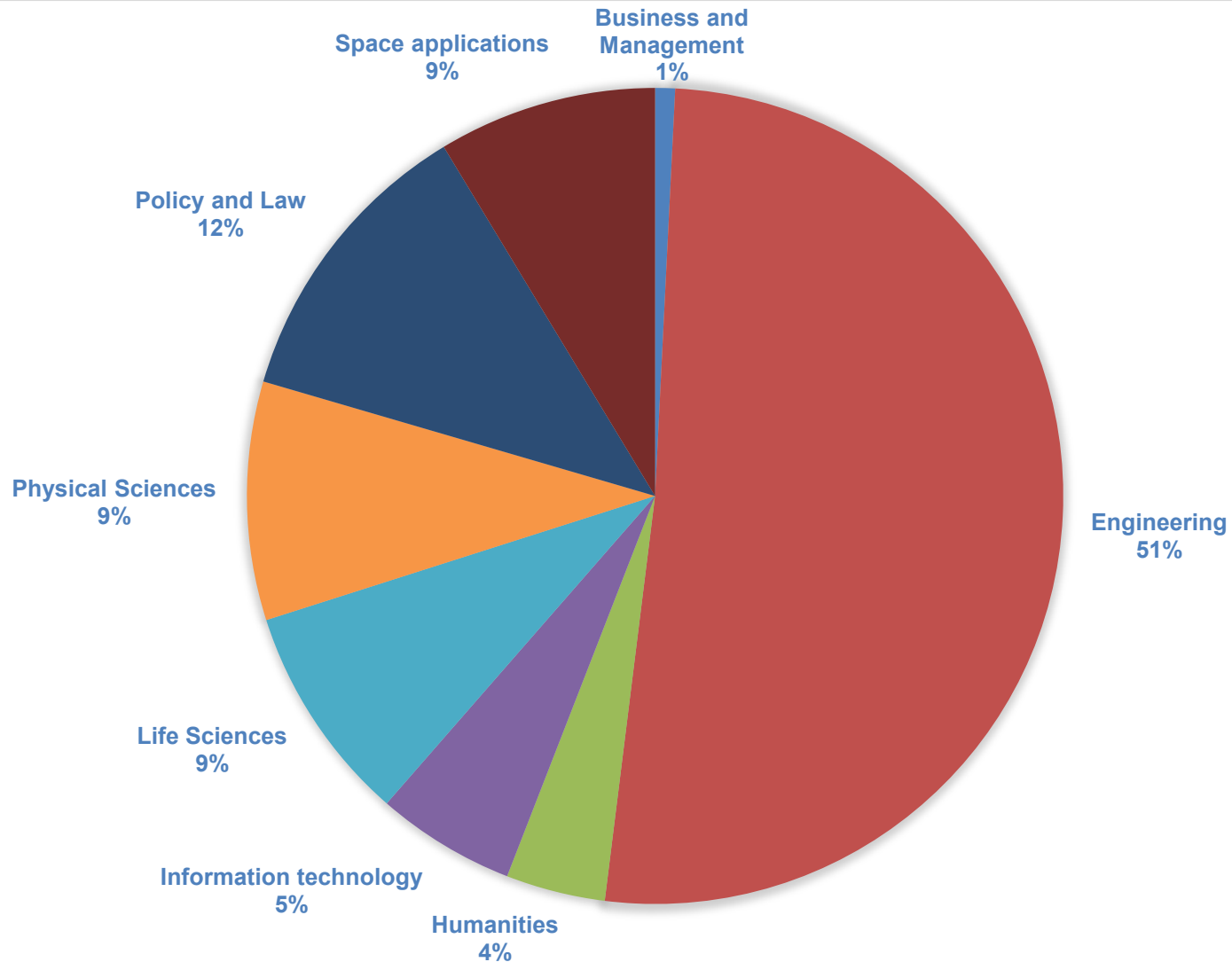
PREFEITURA
SÃO JOSÉ DOS CAMPOS

SUPPORTED BY:

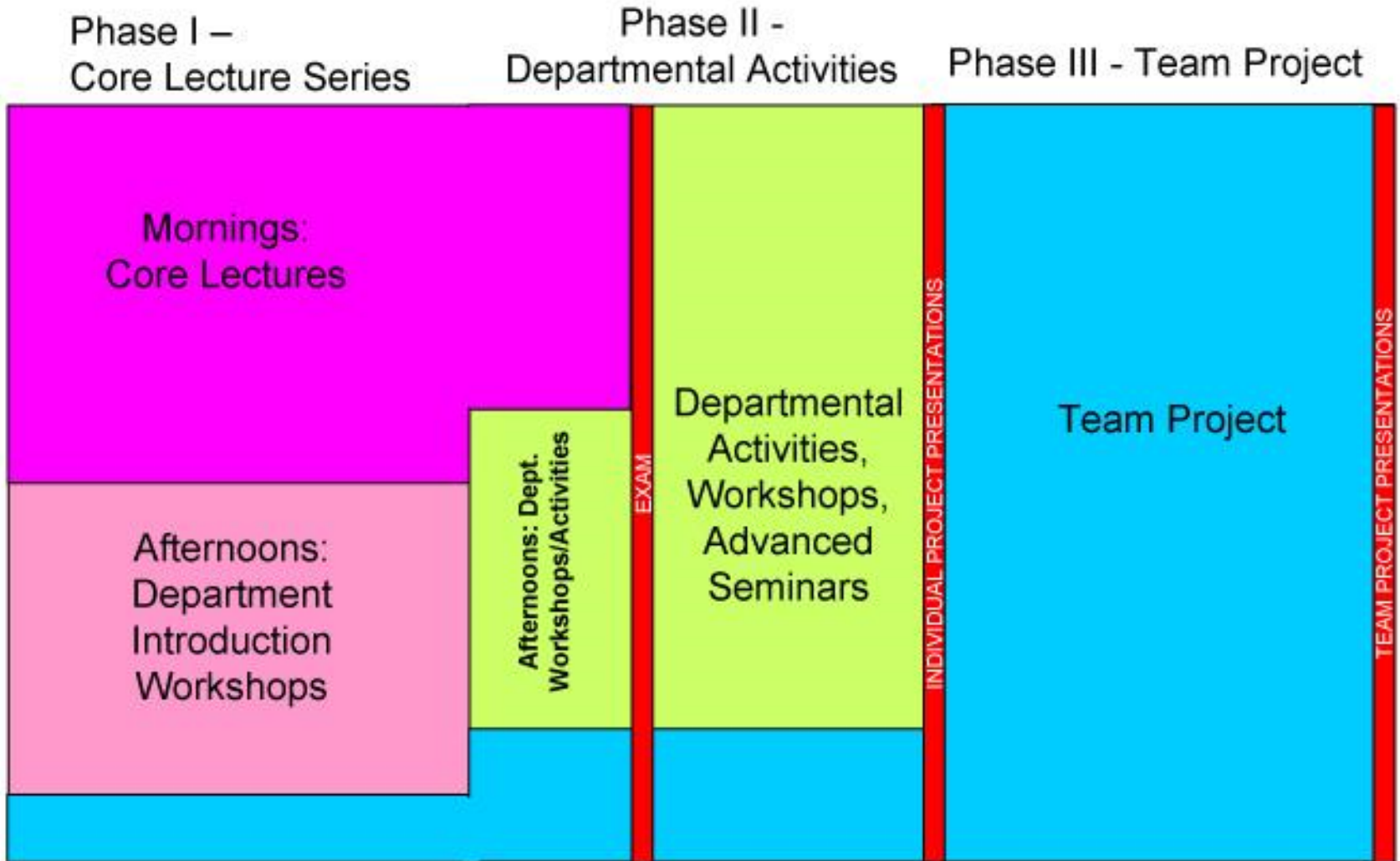


MINISTÉRIO DA
CIÊNCIA, TECNOLOGIA
E INOVAÇÕES 

Typical SSP Background



SSP Structure



MSS Program Structure

SEMESTER 1

Module 1 Fundamentals 8 ECTS

Module 2 Interdisciplinary Space Studies 20 ECTS

SEMESTER 2

Module 3 24 ECTS

- **Track 1: Space Engineering and Applications**
- **Track 2: Space Science and Exploration**
- **Track 3: Space Policy and Entrepreneurship**

**Team
Project
8 ECTS**

SEMESTER 3

Internship 3-6 months

SEMESTER 2

Module 3 24 ECTS

- Track 1: Space Engineering and Applications
- Track 2: Space Science and Exploration
- Track 3: Space Policy and Entrepreneurship

**Team
Project
8 ECTS**

Space Engineering and Applications Track

- Space Systems Engineering
- Space Applications: Earth Observation, Navigation and Telecommunication
- Advanced Study: CubeSat Subsystems Development
- Advanced Study: Remote Sensing Data Analysis

Space Science and Exploration Track

- Astronomy
- Planetary Science and Exploration
- Human Behavior and Performance in Space
- Emerging Human Risks of Space Exploration
- Advanced Study: Space Omics
- Advanced Study: Astrobiology

Space Policy and Entrepreneurship Track

- Space Policy and Law
- Space Business and Management
- Space Economics and Entrepreneurship
- Advanced Study: Space Business Plan
- Advanced Study: Arbitration

- Space Business and Management
- Human Performance in Space
- Space Policy and Law
- Space Physical Sciences
- Space Applications
- Space Engineering
- Space Humanities



'The SHSSP provided me a broad understanding of the space industry through a wide range of lectures and workshops taught by highly qualified, recognised industry professionals. It also built relationships and friendships with people around the world who have provided advice and encouragement for me to pursue a role in the space industry.'

Ben Adams, Australia
Class of SHSSP 2018

'Since completing the SHSSP, I have formed a start-up company, OuterAI, with fellow participants I met during the program. Being part of the alumni has provided new job opportunities and networking opportunities that I wouldn't have been provided previously.'

Isidora Casas del Valle, Pancheco, Chile
Class of SHSSP 2018

'The SHSSP exposed me to a wide range of interesting topics, allowing me to gain a broad overview of what is currently going on in the space industry. Through the program, I found an area I was interested in and wanted to focus on for further study and a career after that.'

Andrew Alder, New Zealand
Class of SHSSP 2018

Further information

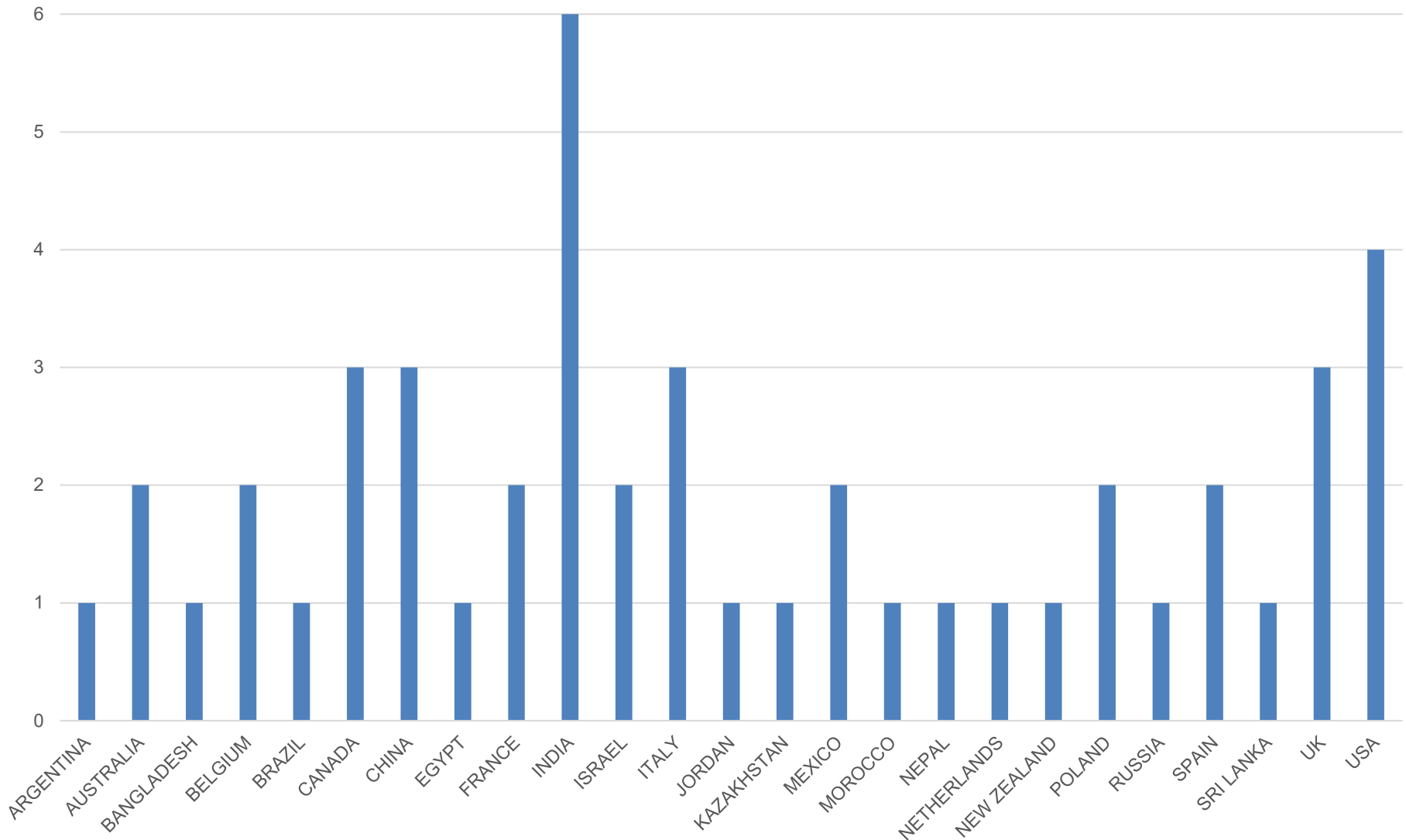
For more information, please visit:
sh-ssp.isunet.edu or
unisa.edu.au/spaceprogram

For enquiries about the program, please email:
inquiries.sh-ssp@isunet.edu

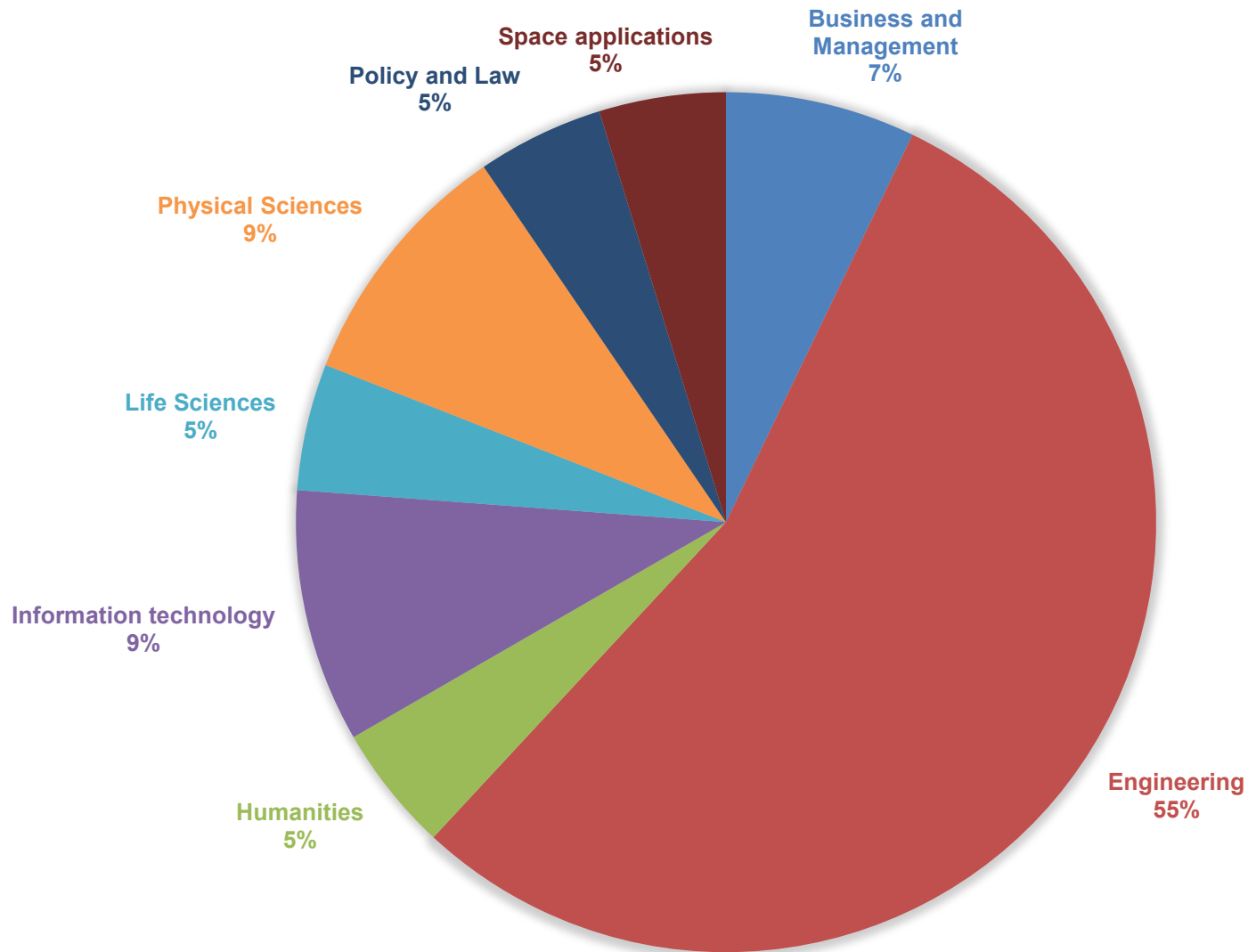
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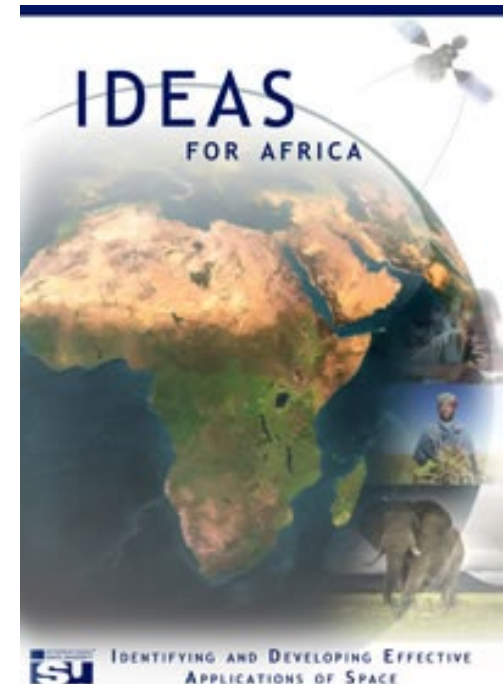
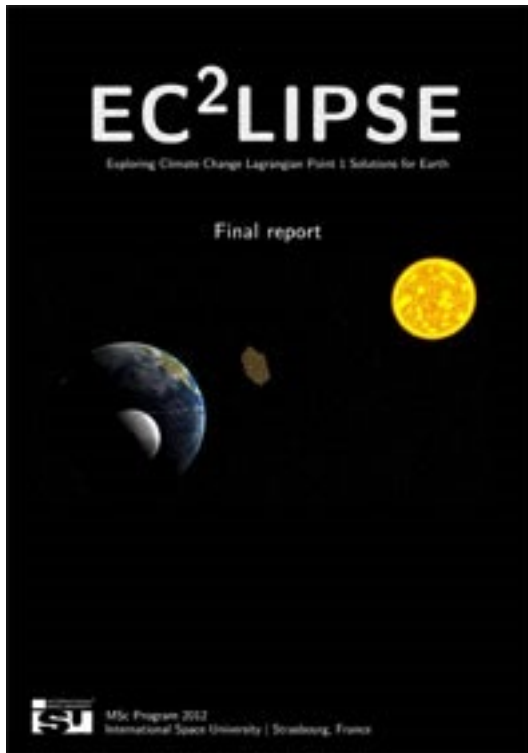


MSS20: 42 students from 25 countries



Typical MSS Background





All the ISU team projects reports are available at: <https://isulibrary.isunet.edu>

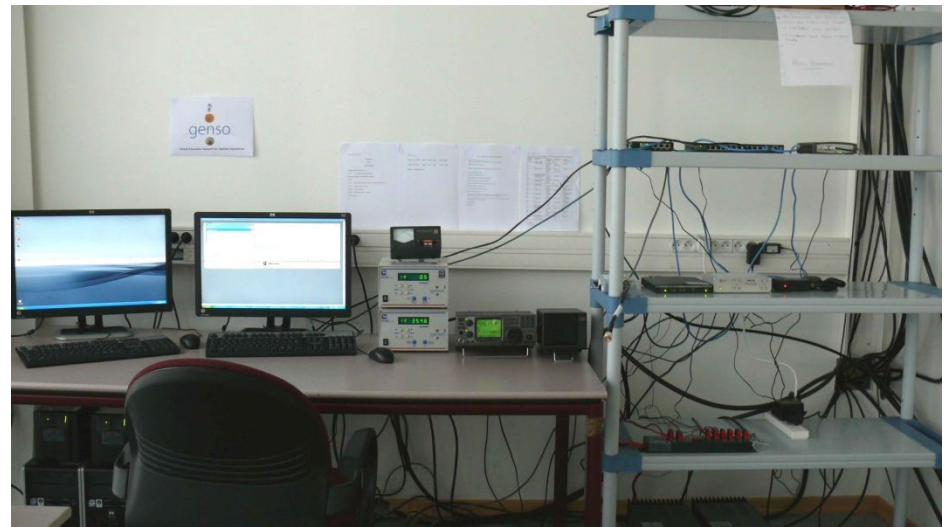
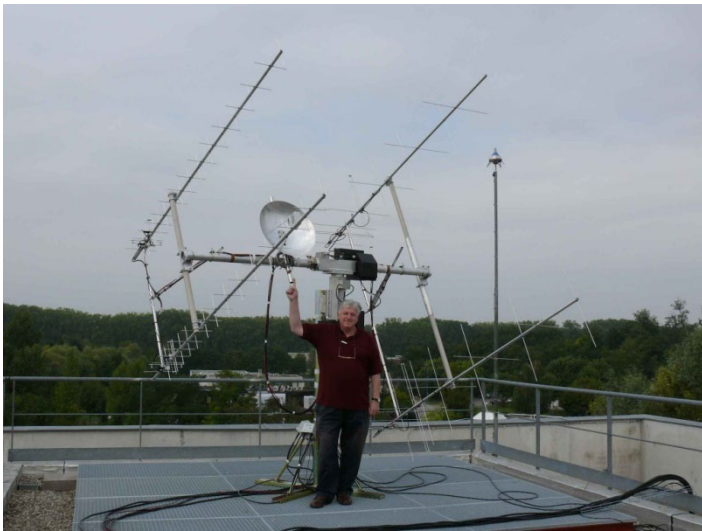
**Radio astronomy :
2.3 m, X-band antenna:**



**Concurrent Design Facility:
Basic installation
as in ESTEC (ex-ESA
Equipment)**



ISU Tracking and Ground Station



Space Capsule



Self-Deployable Habitat for Extreme Environments

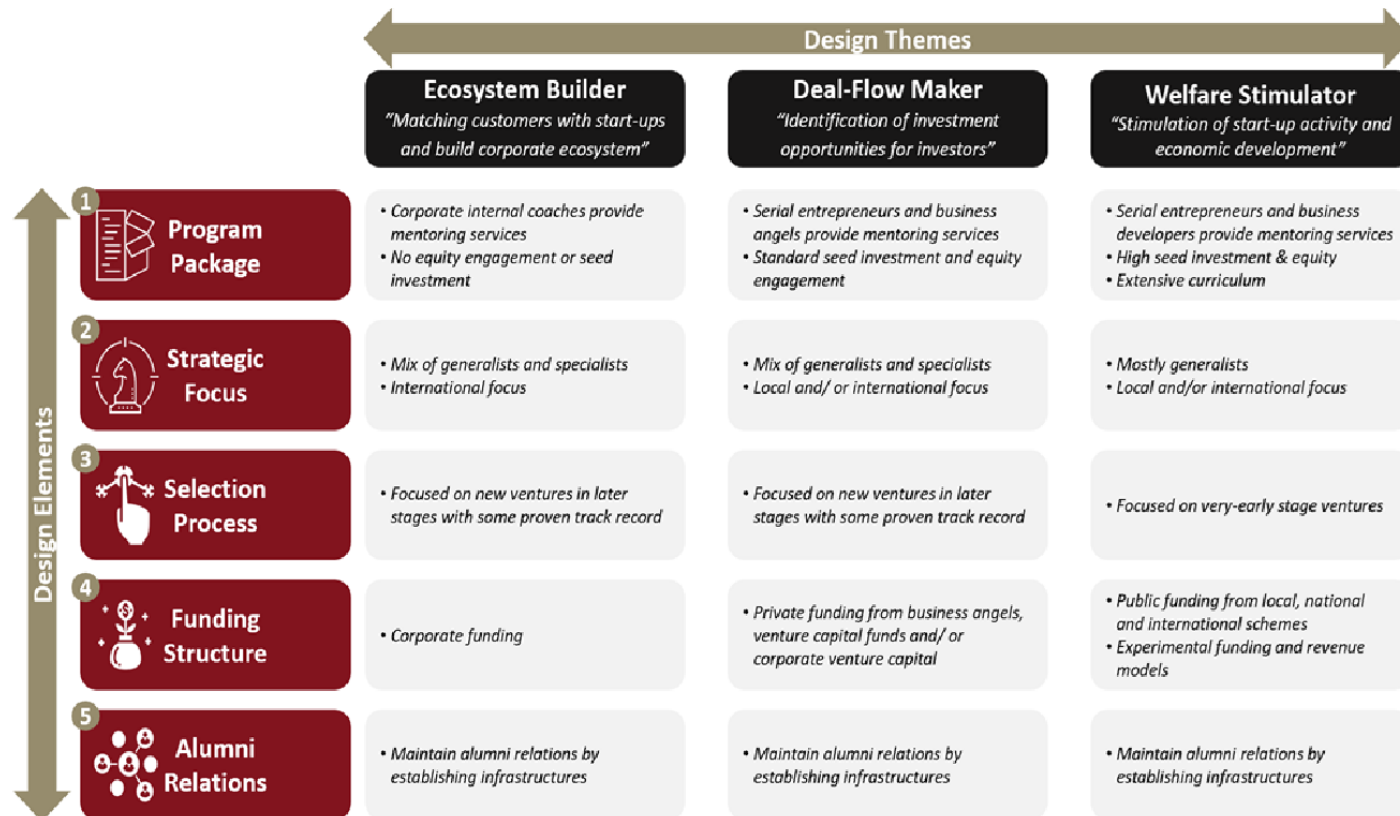


- Hydra 1 - ISS Plant Growth Experiment Payload
Launch: 5 December 2018 (CRS16)
Return: 15 January 2019 (CRS16)
- Hydra 2 - ISS Methanogenesis Experiment Payload
Launch: 29 June 2018 (CRS15)
Return: 15 January 2019 (CRS16)
- Hydra 3 - ISS Interactive Artistic Payload
Launch: 29 June 2018 (CRS15)
Return: January 2022 (CRS19)

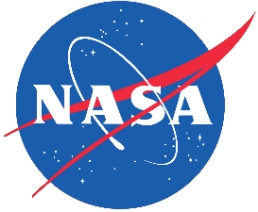


ISU Incubator and Booster

- An incubator/booster coordinator has been hired (based at ISU) with funding from the local authorities to organize events and attract companies
- An area in the ISU building has been equipped with furniture and communication equipment to support up to 10 startups



Examples of organizations employing ISU Alumni





ISU CENTRAL CAMPUS, Strasbourg, France