



# Local Chapter Activity Report

*UNISEC-Global Local Chapter Empowerment Meeting (Egypt)*

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*UNISEC-EGYPT*

*Aerospace Engineering Department,  
School of Engineering, Cairo University*

# History of Local Chapter Activities - International

Preparation starts in 2011 (Space Science and Technology Lab SSTL) and the local chapter Established in 2013

- Participated in CLTP1, CLTP3, CLTP7, CLTP8.



Mohammed Khalil Ibrahim, Ph.D.  
CLTP1, CLTP7 and CLTP8



Ayman Hamdy Kassem, Ph.D.  
CLTP3, and CLTP8



Ahmed Rashed, Ph.D.  
CLTP3

# History of Local Chapter Activities - International

- Attended all UNISEC-Global Meetings (2013:2022).



First UNISEC-GLOBAL meeting, 2013 .....



Eighth UNISEC-GLOBAL meeting, 2022

# History of Local Chapter Activities - International

- Participated in MIC1, MIC2, MIC3, MIC5, MIC6, and PreMIC8 (MIC3 winner, PreMIC8 finalist)
- Participated in ARLISS in 2014, 2015, 2016, and 2019.



ARLISS 2014



ARLISS 2015



ARLISS 2016



ARLISS 2019



Ayumu Tokaji and Ashraf Nabil Winner team in MIC3

# History of Local Chapter Activities - International



Mars Rover Competition, 2015



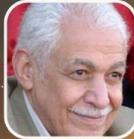
Mars Rover Competition, 2016

# History of Local Chapter Activities - International



**27th Virtual UNISEC-Global Meeting**

**Moderator: Prof. Mohammed Khalil Ibrahim, Cairo University**

	<b>Prof. ATEF O. SHERIF</b> Former Chairman of National Authority for Remote Sensing & Space Sciences (NARSS)	<b>TOPIC</b> Capacity Building in Developing Countries
	<b>Prof. MOHAMED B. ARGOUN</b> Professor of Space Dynamics and Control, Dept. of Aerospace Engineering, Former Director of Egyptian Space Program	<b>TOPIC</b> Transfer of Space Technology to Developing Nations
	<b>Prof. MOHAMED B. ZAHKAN</b> Chairman of National Authority for Remote Sensing & Space Science (NARSS)	<b>TOPIC</b> The role of NARSS in building up Egyptian Space Program, Case studies NARSSCube Satellites and NARSS Experimental Satellites

**THEME**

**"Space Education, Transfer of Technology, and Capacity Building in Developing Countries"**

**Register here!**  <http://www.unisec-global.org/virtual-meeting.html>

**Host: UNISEC-EGYPT**  
**Time: 22:00-24:00(JST)**  
**November 19, 2022**

Organize the 27<sup>th</sup> Virtual UNISEC-Global Meeting, November 19, 2022

# ATOS Conference Organization Workshop

- **Date:** October 17-21, 2022
- **Venue:** ITU, Istanbul Turkey
- **Participants:** Egypt (2), Kazakhstan (2), South Africa (1), Nepal(1), Colombia (3)
- **Keynote lectures** were provided by Prof. Shinichi Nakasuka and Ms. Rei Kawashima
- **Practice** was done by circulating the participants among three groups: (A) Registration Guide, (B) Presentation Support, and (c) Public Relation



Photo of Public Relation Group

Funded by:



**The Association for Overseas Technical Cooperation  
and Sustainable Partnerships**

# History of Local Chapter Activities - National

- Held CanSat Training Program once a year (2011 - 2021).

CTPx	Number of students
CTP 1	17
CTP 2	9
CTP 3	10
CTP 4	9
CTP 5	12
CTP 6	10
CTP 7	13
CTP 8	19
CTP 9	15
CTP 10	22
CTP 11	34
CTP 12	68
CTP 13	93



# CanSat Training Course Syllabus

- **Description:**

- In this training course the participants will have the opportunity to learn different aspects of satellite subsystems through introductory set of lectures followed by hands-on training that cover the following topics:

- Microcontroller Programming
- Sensor and Actuators Interfaces
- GPS Interface, configuration, and data extraction.
- Communication Subsystem (Xbee)
- PCB Fabrication Technique
- Soldering Technique
- Rapid Prototyping (Laser Cut, 3D printer, CNC)
- Parachute Design and Fabrication
- Ground Station Software (Processing and Labview)
- Project Management
- System Engineering
- Drop test, data analysis and presentation.

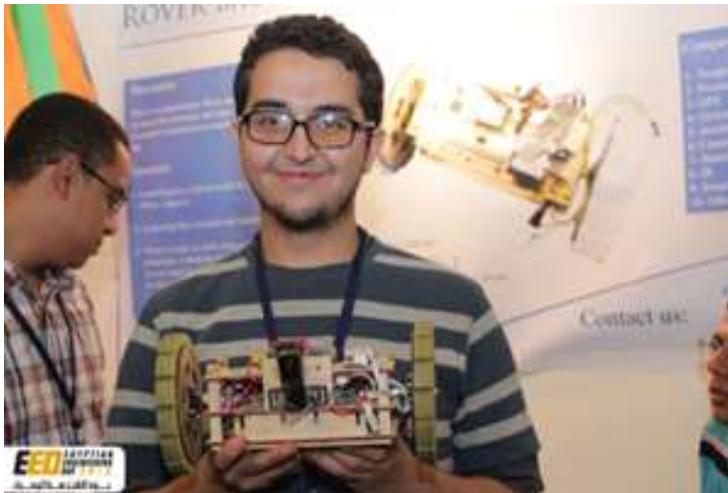
- **Target participants:** Undergraduate Engineering Students

- **Duration:** two weeks, Project: one week



# History of Local Chapter Activities - National

- Egyptian Engineering Day (EED)
- Egyptian Space Agency – Space Day
- STEM School Workshops
- Others



# UNISEC-Egypt: Current Status

Member Universities: Cairo University and Alexandria University

Number of Students: 22 as of October 2022

Number of Faculty: 3 as of October 2022

Research Assistant: 2 as of October 2022



# UNISEC-Egypt: Last Year Activities

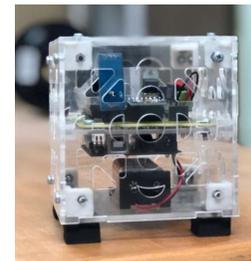
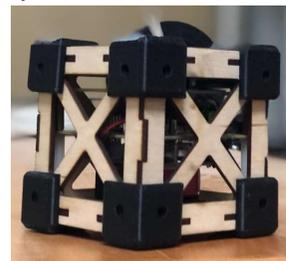
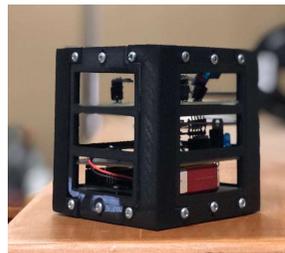
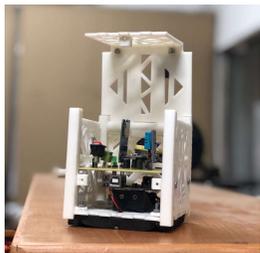


- Organize CubeSat Workshop (extension of CTPx Workshops)
- Participate in Premic-8
- Receive the Egyptian Space Agency, Space Keys Educational Platform.
- Developing Space Rover (on going project)
- Developing VTOL UAVs for CanSat/CubeSat Deployment (on going project)

# Organize CubeSat Workshop (extension of CTPx Workshops)



Held Lean CubeSat Training Program (LCTP1) 2022.



# Space Keys Platform

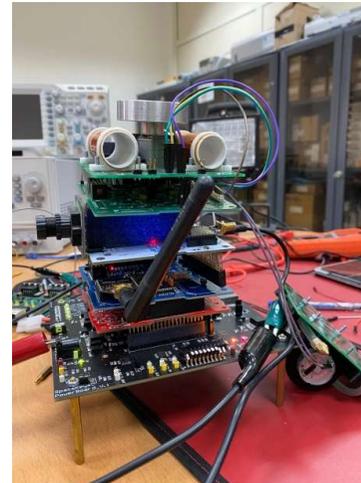
 Space Science & Technology Related Colleges  
And High Schools

 25 Universities (32 Faculties)  
1 School

 5 Countries

 40 Kits

 2021

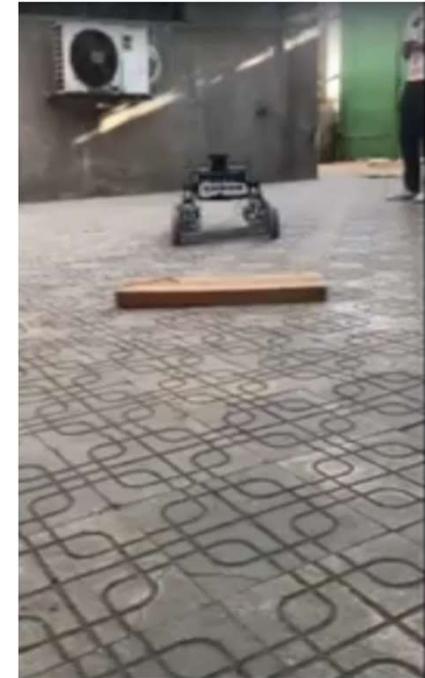


# Space Keys Platform



Receiving the Space Keys Platform in August 4, 2022

# Rover & VTOL Projects



# Plan for 2023

- Invite 3 universities to join UNISEC-Egypt



- Hold Space Keys Workshop in January, 2023
- Hold UNISEC-Egypt Meeting in July 2023
- Organize CubeSat Training workshop in August 2023
- Nominate one faculty from the newly joined universities to CLTP12
- Participate in MIC8 (Setup local MIC to select finalist to apply for MIC8)
- Participate in Mars University Rover Challenge.

# Challenges

- Funding (membership fees?)
- Dedicated administrative staff (Non-engineering Volunteers?)
- Others

Thank you