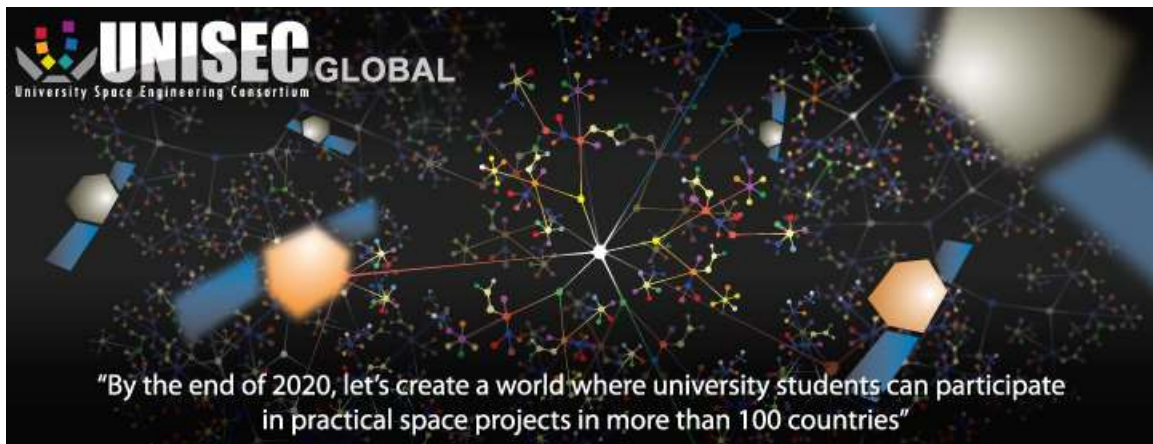


UNISEC-Global Local Chapter Activity Reports



April 13, 2017

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UNISEC-Bangladesh - International Activity Report

UNISEC-Bangladesh (BRAC University)

POC: Dr. Md. Khalilur Rhaman

Email: khalilur@bracu.ac.bd

URL: <http://khalil.robu-lab.org/>

UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th			
<input type="checkbox"/> Mission Idea Context (MIC);	<input type="checkbox"/> MIC1	<input type="checkbox"/> MIC2	<input type="checkbox"/> PreMIC3	<input type="checkbox"/> MIC3	<input type="checkbox"/> PreMIC4	<input type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)		<input type="checkbox"/> DDC			<input type="checkbox"/> DMC		
<input type="checkbox"/> CanSat Leader Training Program	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th

UNISEC Global Members' EventsParticipation

<input type="checkbox"/> UNISEC-Samara Summer School
Other (specify)

Non-UNISEC International Events Participations

1. BRAC University joined The “BIRDS project”, which is a cross-border interdisciplinary satellite project for non-space faring countries supported by Japan. The 7 participatory countries for this project include Bangladesh, Japan, Ghana, Mongolia, Thailand, Malaysia and Nigeria and the mission aims to deliver ready-to-launch CubeSat by 2017. During the 2 years project, selected students from these countries will work together to design, develop and operate 5 units of identical 1U CubeSat (1kg, 10cm cubic) which is a type of miniaturized satellite for space research, each belonging to the five participating countries. These satellites will be operated from 7 identical ground stations. This project will allow Bangladesh’s engineers and university students to get hands on experience and education on satellite engineering and learn about the greater challenges of satellite mission. As a result, in future, this group of engineers will be able to provide their expert assistance to Bangladesh Government’s mission to launch first geostationary communication satellite of Bangladesh, “Bangabondhu Satellite”.
2. Research Paper Presented In IOP Conference Series: Earth And Environmental Science, Volume 38, Number 1
3. First International BIRDS Project Workshop and Critical Design Review (CDR) was held at the Tobata Campus of Kyushu Institute of Technology (Kyutech), Japan. It was certainly an ‘important event where students from five countries presented their analysis and test reports to the respected professors and delegates, and the national and international press and media in order to progressing the next step of BIRDS project. Dr. Syed Saad Andaleeb, VC of BRAC University, Professor Dr. A. A. Ziauddin

Ahmad, Chairperson of Department of Mathematics and Natural Sciences, Dr. Md. Khalilur Rhaman, Associate Professor of CSE and few students were participated the event through online web conference. Vice-Chancellor Dr. Syed Saad Andaleeb said BRAC University has decided to focus on more cutting edge technology research and to open a satellite laboratory and, one day we'll build satellites at our own laboratory.

If there were oral presentations given above, write the title with details.

² **Title:** Exploring the Opportunities of a Balloon-Satellite in Bangladesh for Weather Data Collection and Vegetative Analysis

Abstract: For a third world country like Bangladesh, satellite and space research is not feasible due to lack of funding. Therefore, in order to imitate the principles of such a satellite Balloon Satellite can easily and inexpensively be setup. Balloon satellites are miniature satellites, which are cheap and easy to construct. This paper discusses a BalloonSat developed using a Raspberry Pi, IMU module, UV sensor, GPS module, Camera and XBee Module. An interactive GUI was designed to display all the data collected after processing. To understand nitrogen concentration of a plant, a leaf color chart is used. This paper attempts to digitalize this process, which is applied on photos taken by the BallonSat.

UNISEC-Bangladesh - Activity Report

UNISEC-Bangladesh (BRAC University)

POC: Dr. Md. KhalilurRhaman

Email: Khalilur@bracu.ac.bd

URL: <http://khalil.robu-lab.org/>

Overview

BRAC University becomes a member of UNISEC-Bangladesh in 2014. Since then, BRAC University has been playing an important role to popular space science among the young generation of Bangladesh. Under the umbrella of UNISEC-Bangladesh, BRAC University students organized and participated in different workshops, events, and seminars.

Date and Venue

Announcement Date : 5/09/2016

Event Date : 8/10/2016

Venue: Enayetpur & BAF Shaheen

Participation

Total number of participants

Category of Participants ☐ Students ☐ Engineers/Instructors ☐ Both
International ☐ No ☐ Yes

Participants

If yes, how many international participants were attended the activity?

Sponsors

BRAC University

Participants Group Photo



Picture 1 : Celebrated “World Space Week 2016” in BAF Shaheen School & College



Picture 2: Bangladesh Astronomical Society invited UNISEC Bangladesh team at Enayetpur

Results and Conclusion

Bangladesh Astronomical Society has been celebrating “World Space Week” from 2003 at “MohakashBhaban” premises located at Enayetpur, Shirajgonj. The General Secretary of Bangladesh Astronomical Society invited BRAC University to join this year’s celebration. As a part of this, a team of 15 members from UNISEC Bangladesh Local Chapter and Robotics Club of BRAC University went all the way to Enayetpur to attend the celebration ceremony.

The team reached the Mohakash Bhaban at around 12pm. The celebration programme was hosted by Mr. Obayedur Rahman, the Principal of Atik International School. Mr. A F M Hasan, the Education officer of Chapainawabgonj Upzila, The Principal of ICL School and College Mr. Hosain Ali and an officer from Bangladesh Space Research and Remote Sensing Organization (SPARRSO), Mr. Reza Sarkar delivered very motivational speech in presence of around 3000 audiences, mainly are the students of local Schools, Colleges, University and Medical college, their guardians and many other Space-enthusiast people. Mr. F R Sarker, the chairperson of the ceremony, described some unknown facts about space in his speech. Mr. Shourbh Ahmed from UNISEC Global Local Chapter and BRAC Onnesha ground station team delivered a very inspirational speech for the crowd, which everyone enjoyed a lot. The chief guest of the ceremony was the vice chancellor of KhwajaYunus Ali University Professor Dr. Hossain Reza. The ceremony consisted of Space art competition, Quiz competition, Space dance competition and Space drama competition. All participants of Space art competition and all winners from each category got badges from ROBU as a token of appreciation.

As a part of this celebration programme, on 6th October, 2016, the Robotics Club of BRAC University went to BAF Shaheen School & College situated and celebrated “World Space Week 2016” with hundreds of their students of different grades. POC of UNISEC Bangladesh, Dr. Khalilur Rahman also gave a heart-warming speech about space and robotics to everyone which was appreciated by all of the students present at the event.

Members of UNISEC Bangladesh Local Chapter went there with 20 members working as volunteers in the event and decorated the BAF Shaheen auditorium for the event from the morning. Many of the robots of ROBU were presented at the front for exhibition such as Chondrobot2, Wall-E and Mongol Tori, Quad-copter etc.

The program began at 11:00am with videos of the creation of robots by ROBU were shown. Then a video about Space was shown along with a presentation about the different entities of the giant planets and solar systems surrounding us in the space. Another presentation about the BRACU Onnesha was given to the students. After that, an interactive session was held with the students where they were allowed to ask questions about our nano-satellite and space. Following the interactive session, a quiz session was held. Students from class 6,7 and 9 were asked different sets of questions about our presentations and winners were given gifts and badges. Then the winners of the quiz session played with the Soccer Bots in the Soccer Bot matches. 3 matches were held which was shown in the projector screen to the audience. The matches ended in a tie so all of the players were awarded with gifts.

It was an informative and interactive event held at the school where UNISEC Global Local Chapter has successfully celebrated the World Space week along with hundreds of interested and brilliant minds of the country’s one of the most prestigious institutions.

UNISEC-Bulgaria International Activity Report

UNISEC-Bulgaria
 POC: Vesselin Vassilev
 Email: vesselin.vassilev@castra.org
 URL:NA

UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);				■ 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);				
	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd		■ 4 th
<input type="checkbox"/> Mission Idea Context (MIC);				
	<input type="checkbox"/> MIC2	<input type="checkbox"/> MIC3		■ MIC4
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)				
			No	
<input type="checkbox"/> CanSat Leader Training Program				
				No

UNISEC Global Members' Events Participation

No
Other (specify)

Non-UNISEC International Events Participations

NASA Simulation Exploration Experience (SEE) 2017 : International student project to develop a Moon base

First national Bulgarian high-school student project competition: Space debris: from the problem to the solution', April 2017

European Space Agency Industry Days 2016;

European Commission workshop on space technology – February 2017

GEO-CRADLE Workshop on Earth Observation – 2017 Sofia

If there were oral presentations given above, write the their title with details.

UNISEC-Bulgaria - Activity Report

UNISEC-Bulgaria

POC: Vesselin Vassilev

Email: vesselin.vassilev@castra.org

Overview

In 2016, UNISEC-BULGARIA acted as the Local Organizing Committee of the 7th Nano-Satellite Symposium and the 4th UNISEC – GLOBAL meetings, held for the first time in Europe, in Bulgaria. During the 6 day event, more than 100 oral presentations and talks were given including 10 poster, 11 discussion groups meetings, 8 local chapter reports. Many other informal meetings and discussions were held strengthening the interactions and collaboration in the nano-satellite community worldwide. For further information, please see <https://unisec2016.castra.org>

Date and Venue

Announcement Date

Event Date: October 18, 2016 – October 23, 2016

Venue: Sports and Wellness Resort "Kamchia", Varna, Bulgaria

Participation

Total number of participants 140

Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both
International Participants Yes

If yes, how many international participants were attended the activity? 107

Sponsors

UNISEC-GLOBAL- Japan, CASTRA-Bulgaria

Participants Group Photo



Results and Conclusion

The event was a great success. It helped to further develop the professional and personal interactions in the nano-satellite community worldwide and especially to motivate the interest for students and young professional for developing a career in the space industry and R&D fields

UNISEC-Egypt - International Activity Report

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: drayman@yahoo.com
 URL: N/A



UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input checked="" type="checkbox"/> 1 st	<input checked="" type="checkbox"/> 2 nd	<input checked="" type="checkbox"/> 3 rd	<input checked="" type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input checked="" type="checkbox"/> 6 th	<input checked="" type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input checked="" type="checkbox"/> 1 st	<input checked="" type="checkbox"/> 2 nd	<input checked="" type="checkbox"/> 3 rd	<input checked="" type="checkbox"/> 4 th			
<input type="checkbox"/> Mission Idea Context (MIC);	<input checked="" type="checkbox"/> MIC1	<input checked="" type="checkbox"/> MIC2	<input checked="" type="checkbox"/> PreMIC3	<input checked="" type="checkbox"/> MIC3	<input type="checkbox"/> PreMIC4	<input type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)		<input type="checkbox"/> DDC		<input type="checkbox"/> DMC			
<input type="checkbox"/> CanSat Leader Training Program	<input checked="" type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input checked="" type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input checked="" type="checkbox"/> 7 th

UNISEC Global Members' Event Participation

<input type="checkbox"/> UNISEC-Samara Summer School
Other (specify)

Non-UNISEC International Participations

- 2013: 6th International Conference on Recent Advances in Space Technologies (RAST), 12 Jun - 14 Jun 2013, Istanbul, Turkey.
- 2014: The SSTLab's rover team participated in ARLISS 2014.
- 2015: The SSTLab's rover team participated in ARLISS 2015.
- 2016: The SSTLab's rover team participated in ARLISS 2016, and they managed to achieve the 7th place among 23 participating teams.

If there were oral presentations given above, write their title with details.

1. Hassan Aly, Omar Sharkawy, Ashraf Nabil, Ahmed Yassin, Mohamed Tarek, Samy M. Amin, and Mohammed Khalil Ibrahim, "Project-based space engineering education: Application to autonomous rover-back CanSat", RAST 2013.
2. Ayman Hamdy Kassem, "Aerospace engineering department at Cairo University: Past, present, and future", RAST 2013.

UNISEC-Egypt - Activity Report (1)

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: draymank@yahoo.com
 URL: N/A



Overview

The First CanSat Training Program (CTP1) was conducted by UNISEC-Egypt through the Space System Technology Laboratory (SSTLAB) at Cairo University to contribute to capacity building in space technology and improve teaching methods based on space engineering education. In the next 5 years, education using CanSat will be expected in about 100 nations in the world.

Date and Venue

Announcement Date April, 2011
 Event Date July 20-31, 2011
 Venue Aerospace Engineering Department, Cairo University

Participation

Total number of participants

Category of Participants ☒ Students ☐ Engineers/Instructors ☐ Both
 International Participants ☒ No ☐ Yes

If yes, how many international participants were attended the activity?

Sponsors

Faculty of Engineering, Cairo University

Participants Group Photo



Results and Conclusion

17 undergraduate students were successfully provided hands-on training of CanSat. The activity was considered as the first cycle of the CanSat Training Program (CTP1) at Cairo University and Egypt at large,

UNISEC-Egypt - Activity Report (2)

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: draymank@yahoo.com
 URL: N/A



Overview

The Second CanSat Training Program (CTP2) was conducted by UNISEC-Egypt through the Space System Technology Laboratory (SSTLAB) at Cairo University to contribute to capacity building in space technology and improve teaching methods based on space engineering education. In the next 5 years, education using CanSat will be expected in about 100 nations in the world.

Date and Venue

Announcement Date November, 2011
 Event Date January 28 – February 11, 2012
 Venue Aerospace Engineering Department, Cairo University

Participation

Total number of participants

Category of Participants ☒ Students ☐ Engineers/Instructors ☐ Both
 International Participants ☒ No ☐ Yes

If yes, how many international participants were attended the activity?

Sponsors

Faculty of Engineering, Cairo University.

Participants Group Photo



Results and Conclusion

11 undergraduate students were successfully provided hands-on training of CanSat. The instructors of CTP2 were the graduate students of CTP1.

UNISEC-Egypt - Activity Report (3)

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: draymank@yahoo.com
 URL: N/A



Overview

The Third CanSat Training Program (CTP3) was conducted by UNISEC-Egypt through the Space System Technology Laboratory (SSTLAB) at Cairo University to contribute to capacity building in space technology and improve teaching methods based on space engineering education. In the next 5 years, education using CanSat will be expected in about 100 nations in the world.

Date and Venue

Announcement Date November, 2012
 Event Date January 25 – February 8, 2013
 Venue Aerospace Engineering Department, Cairo University

Participation

Total number of participants

Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both

International Participants ☒ No ☐ Yes

If yes, how many international participants were attended the activity?

Sponsors

Faculty of Engineering, Cairo University.

Participants Group Photo



Results and Conclusion

12 undergraduate students were successfully provided hands-on training of CanSat. The instructors of CTP3 were the graduate students of CTP1 and CTP2.

UNISEC-Egypt - Activity Report (4)

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: draymank@yahoo.com
 URL: N/A



Overview

The Fourth CanSat Training Program (CTP4) was conducted by UNISEC-Egypt through the Space System Technology Laboratory (SSTLAB) at Cairo University to contribute to capacity building in space technology and improve teaching methods based on space engineering education. In the next 5 years, education using CanSat will be expected in about 100 nations in the world.

Date and Venue

Announcement Date November, 2013
 Event Date February 6 – 22, 2014
 Venue Aerospace Engineering Department, Cairo University

Participation

Total number of participants

Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both

International Participants ☒ No ☐ Yes

If yes, how many international participants were attended the activity?

Sponsors

Faculty of Engineering, Cairo University.

Participants Group Photo



Results and Conclusion

12 undergraduate students were successfully provided hands-on training of CanSat. The instructors of CTP4 were the graduate students of CTP3.

UNISEC-Egypt - Activity Report (5)

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: draymank@yahoo.com
 URL: N/A



Overview

The Fifth CanSat Training Program (CTP5) was conducted by UNISEC-Egypt through the Space System Technology Laboratory (SSTLAB) at Cairo University to contribute to capacity building in space technology and improve teaching methods based on space engineering education. In the next 5 years, education using CanSat will be expected in about 100 nations in the world.

Date and Venue

Announcement Date 27th January, 2015
 Event Date April , 2015
 Venue Aerospace Engineering Department, Cairo University

Participation

Total number of participants

Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both
 International Participants ☒ No ☐ Yes

If yes, how many international participants were attended the activity?

Sponsors

Faculty of Engineering, Cairo University.

Participants Group Photo



Results and Conclusion

21 undergraduate students were successfully provided hands-on training of CanSat. The instructors of CTP5 were the graduate students of CTP4.

UNISEC-Egypt - Activity Report (6)

UNISEC-Egypt
 POC: Ayman Hamdy Kassem
 Email: draymank@yahoo.com
 URL: N/A



Overview

The Sixth CanSat Training Program (CTP6) was conducted by UNISEC-Egypt through the Space System Technology Laboratory (SSTLAB) at Cairo University to contribute to capacity building in space technology and improve teaching methods based on space engineering education. In the next 5 years, education using CanSat will be expected in about 100 nations in the world.

Date and Venue

Announcement Date January 31, 2016
 Event Date February 11 , 2016
 Venue Aerospace Engineering Department, Cairo University

Participation

Total number of participants

Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both
 International Participants ☒ No ☐ Yes

If yes, how many international participants were attended the activity?

Sponsors

Faculty of Engineering, Cairo University.

Participants Group Photo



Results and Conclusion

20 undergraduate students were successfully provided hands-on training of CanSat. The instructors of CTP6 were the graduate students of CTP5.

UNISEC-Germany - International Activity Report

UNISEC-Germany
 POC: Klaus Schilling
 Email: schi@informatik.uni-wuerzburg.de
 URL: N/A

UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input checked="" type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input checked="" type="checkbox"/> 6 th	<input checked="" type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input checked="" type="checkbox"/> 1 st	<input checked="" type="checkbox"/> 2 nd	<input checked="" type="checkbox"/> 3 rd	<input checked="" type="checkbox"/> 4 th			
<input type="checkbox"/> Mission Idea Context (MIC);	<input type="checkbox"/> MIC1	<input checked="" type="checkbox"/> MIC2	<input type="checkbox"/> PreMIC3	<input type="checkbox"/> MIC3	<input type="checkbox"/> PreMIC4	<input type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)		<input type="checkbox"/> DDC			<input type="checkbox"/> DMC		
<input type="checkbox"/> CanSat Leader Training Program	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th

UNISEC Global Members' Events Participation

<input type="checkbox"/> UNISEC-Samara Summer School
Other (specify)

Non-UNISEC International Events Participations

IAC, IAA Symposium on Small Satellites for Earth Observation, 4S, Small Sat, among others

If there were oral presentations given above, write the title with details.

Pico satellite activities of the University of Würzburg; Marco Schmidt; 1st Nano-Satellite-Symposium; Tokyo, Japan; 2010
Country Reports -German Pico-Satellites; Prof. Dr. Klaus Schilling; The 1st UNISEC-Global Meeting; Tokyo, Japan; 2013
Approaches for Efficient Global Ground Station Networks for Multiple Small Satellites; Slavi Dombrovski; The 2nd UNISEC-Global Meeting; Kitakyushu, Japan; 2014
UNISEC global Student Space Activities in Würzburg, Germany; Philip Bangert and Alexander Kramer; The 3rd UNISEC Global Meeting; Tokyo, Japan; 2015
Attitude Control of UWE-4 for Orbit Correction During Formation Flying, Siddarth Dadhich, Philip Bangert, Klaus Schilling; 6th Nano-Satellite Symposium; Kobe, Japan; 2015
Lessons Learned From More Than 10 Years CubeSat Activities in Würzburg, Germany; Stephan Busch; The 4th UNISEC Global Meeting; Bulgaria; 2016

UNISEC-Germany - Activity Report

UNISEC-Germany
 POC: Klaus Schilling
 Email: schi@informatik.uni-wuerzburg.de
 URL: N/A

Overview

8th Pico and Nano Satellite Workshop

Date and Venue

Last Event	September 15-16, 2015
Upcoming Event	September 13-14, 2017
Venue	University of Würzburg, Germany

Participation

Total number of participants	68
Category of Participants	<input type="checkbox"/> Students <input type="checkbox"/> Engineers/Instructors <input checked="" type="checkbox"/> Both
International Participants	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
If yes, how many international participants were attended the activity?	23

Sponsors

International Academy of Astronautics
 bavAIRia e.V.
 UNISEC-Europe

Participants Group Photo



Results and Conclusion

The focus of the workshop is on pico- and nano-satellite missions, dedicated subsystems and fields of applications of small satellites. All contributions especially in the area of possible applications in telecommunications, Earth observation, space science and education are welcome. Further topics to be emphasized are satellite swarms, miniaturization techniques and micro components.

The aim of the workshop is to bring together the research community of pico- and nano-satellites enabling them to share their visions and showcase the technological and scientific advancements made. The workshop intends to bring to the fore the wide array of research activities, interests and motivations driving the advancements in pico- and nano-satellites.

The hosts of the workshop, University of Würzburg and TU Berlin, are German competence and research centers for small satellites. Through the research and development of the UWE-program (University Würzburg's Experimental satellites) and the BEESAT of TU Berlin advanced technologies in the area of small satellites have been promoted. With new research programs for nano-satellites, the international University community has further enhanced its space research capabilities activities.

Ever since its inception in 2007, the workshop has steadily gained significance by providing the bridge between the Astronautics industry and research organizations to uphold true spirits of pico- and nano-satellites. The workshop is organized yearly in alternation by Universität Würzburg and TU Berlin.

In parallel to the 10th Pico and Nano Satellite Workshop the Pre-5th Mission Idea Contest Workshop (PreMIC5) will take place at the University of Würzburg.

UNISEC-Italy - International Activity Report

UNISEC-Italy
 POC: Fabio Santoni
 Email: fabio.santoni@uniroma1.it
 URL: <http://unisonitaly.eu/en/>



UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input checked="" type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input checked="" type="checkbox"/> 3 rd			<input checked="" type="checkbox"/> 4 th	
<input type="checkbox"/> Mission Idea Context (MIC);	<input type="checkbox"/> MIC1	<input type="checkbox"/> MIC2	<input type="checkbox"/> PreMIC3	<input type="checkbox"/> MIC3	<input checked="" type="checkbox"/> PreMIC4	<input checked="" type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)		<input checked="" type="checkbox"/> DDC			<input type="checkbox"/> DMC		
<input type="checkbox"/> CanSat Leader Training Program	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th

UNISEC Global Members' Events Participation

<input type="checkbox"/>	UNISEC-Samara Summer School
<input checked="" type="checkbox"/> Other:	PiNa Workshop at Wurzburg University (Germany) in 2015
<input checked="" type="checkbox"/> Other:	Organization of the UNISEC-Global in Rome, Italy, Dec 2017

Non-UNISEC International Events Participations

- International Astronautical Congress (IAC) 2015 – Jerusalem (Israel)
- 1st Symposium on Space Educational Activities (SSSA) 2015 – Padua (Italy)
- International Astronautical Congress (IAC) 2016 – Guadalajara (Mexico)
- IEEE Metrology for Aerospace (MetroAeroSpace) 2016 – Florence (Italy)
- Supporting CubeSat building at Nairobi University in Kenya, aiming at launching from ISS with UN Kibu-Cube project's support. (Sapienza- University of Rome)

If there were oral presentations given above, write the title with details.

- **PiNa 2015:**
 - "URSA MAIOR: design, manufacturing and testing of a 3U CubeSat"
- **IAC 2015:**
 - "Design, Manufacturing and Testing of the CubeSat URSA MAIOR"
 - "Thermal and mechanical design and test campaign results of a single-piece structure for the URSA MAIOR nanosatellite"
- **1st SSSA:**
 - "Education Activity of Sapienza Space Systems and Space Surveillance Laboratory – S5lab"

-
- **MetroAeroSpace 2016:**
 - - "Testing the VOR (VHF Omnidirectional Range) in the stratosphere: STRATONAV experiment"
 - **IAC 2016:**
 - "Importance and Challenges of Hands-On-Experience in Astronautical Education"
 - "An innovative multi-spectral and multi-angle based CubeSat for Earth Observation applications"
 - "Testing VOR performances in the stratosphere: the STRATONAV experiment"
-

UNISEC-Italy - Activity Report (1)

UNISEC-Italy
 POC: Fabio Santoni
 Email: fabio.santoni@uniroma1.it
 URL: <http://unisonitaly.eu/en/>



Overview

2nd Space Debris Student Opportunities Workshop

Date and Venue

Event Date: 18th of December 2015
 Venue: Sapienza – University of Rome

Participation

Total number of participants 30
 Category of Participants ☒ Students ☒ Engineers/Instructors ☒ Both
 International Participants ☒ No ☒ Yes
 If yes, how many international participants were attended the activity? 2

Sponsors

S5Lab – Sapienza – University of Rome

Participants Group Photo



Results and Conclusion

Professor Thomas Schildknecht of Bern University's Astronomical Institute, Research Professor Patrick Seitzer of University of Michigan Department of Astronomy and Claudio Portelli from the Italian Space Agency were invited in order to present their on-going activities in the Space Debris field and possibilities for internships and theses. Moreover, the final presentation of the main results of the Concurrent Engineering Activity about the 6U IKUNS CubeSat was made by the involved students.

UNISEC-Italy - Activity Report (2)

UNISEC-Italy
 POC: Fabio Santoni
 Email: fabio.santoni@uniroma1.it
 URL: <http://unisonitaly.eu/en/>



Overview

Space Systems Laboratory course

- This course has been held during the third year of the Bachelor's Degree in Aerospace Engineering at Sapienza – University of Rome by using the S5Lab facilities since February 2015

Date and Venue

Venue: S5Lab – Sapienza – University of Rome (Italy)

Participation

Total number of participants 21
 Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both
 International Participants ☒ No ☐ Yes
 If yes, how many international participants were attended the activity?

Sponsors

Sapienza – University of Rome

Participants Group Photo



Results and Conclusion

The laboratory activities are carried on in around fifteen lessons, usually starting at the end of February and finishing at the beginning of June. In the framework of each lesson, the first part is dedicated to the study of the theory needed to develop the typology of project proposed to students. In the second part, each group of students can decide how to face and manage their tasks in order to be able to carry on their project and to fulfill the related mission requirements. The selected projects deals with space topics and themes. Students involved can both put into practice the theoretical

knowledge gathered during their BSc course of Aerospace Engineering and learn new concepts to be able to overcome each difficulty. Besides theoretical basis, the main goal of this course is to provide students with the capability of take on real space projects and be better prepared for their future in the space field. The purpose of this hands-on laboratory is to give the possibility to students to acquire competences on the management of a complex engineering system, deal with technical issues autonomously in a multidisciplinary environment and by giving them the possibility to learn basic competences on requirements and system engineering. Every year different opportunities are offered to students attending the course, depending on the S5Lab facilities availability and funds. Between February and May 2016, the main project consisted in building a CANSAT, a prototype of small satellite payload, simulating a sensor payload mission traveling through a planetary atmosphere and sampling the atmospheric data during descent.

UNISEC-Italy - Activity Report (3)

UNISEC-Italy
 POC: Fabio Santoni
 Email: fabio.santoni@uniroma1.it
 URL: <http://unisonitaly.eu/en/>



Overview

The REXUS/BEXUS Programme: hands-on opportunity for Aerospace Students»

Date and Venue

Event Date: 15th of July, 2016
 Venue: Sapienza – University of Rome

Participation

Total number of participants	35
Category of Participants	<input type="checkbox"/> Students <input type="checkbox"/> Engineers/Instructors <input checked="" type="checkbox"/> Both
International Participants	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
If yes, how many international participants were attended the activity?	5

Sponsors

S5Lab – Sapienza – University of Rome

Participants Group Photo



THE REXUS/BEXUS PROGRAMME: HANDS-ON OPPORTUNITY FOR AEROSPACE STUDENTS

VENERDI' 15 LUGLIO 2016 – ORE 10

SALA DEGLI AFFRESCHI

FACOLTA' DI INGEGNERIA CIVILE E INDUSTRIALE
 UNIVERSITA' "LA SAPIENZA"
 VIA EUDOSSIANA 18 - ROMA

*"A unique experience to learn
 and develop a space project
 with the help of space expert
 engineers and professionals."*



*"Developing a real experiment
 under space standards has meant
 the best learning experience we
 could have thought about"*

Results and Conclusion

Sapienza Space Systems and Space Surveillance Laboratory (S5Lab) organized the "REXUS/BEXUS Programme: hands-on opportunity for aerospace students" on the 15th of July 2016 in the wonderful "Aula degli Affreschi" (Faculty of engineering - San Pietro in Vincoli) at Sapienza - University of Rome. Speakers from the Swedish Space Corporation (SSC), the European Space Agency (ESA) and the Women in Aerospace (WIA) Europe organization presented their experiences in the field of hands-on projects and activities, focusing on current possibilities and ESA educational programmes for all the students interested. Moreover, students from the STRATONAV (STRATOspheric NAVigation) Team, involved in the cycle 09 of the BEXUS programme participated and presented their experiment and experience. This conference gave a very large overview of hands-on opportunities to put into practise the theoretical knowledge gathered during the nominal academic years and studies, and allowed to meet experts in the field to better understand how the internal processes of these typology of projects works.

UNISEC-Italy - Activity Report (4)

UNISEC-Italy
 POC: Fabio Santoni
 Email: fabio.santoni@uniroma1.it
 URL: <http://unisonitaly.eu/en/>



Overview

3rd Space Debris Student Opportunities Workshop

Date and Venue

Event Date 16th of December, 2016
 Venue: Sapienza – University of Rome

Participation

Total number of participants	45
Category of Participants	<input type="checkbox"/> Students <input type="checkbox"/> Engineers/Instructors <input checked="" type="checkbox"/> Both
International Participants	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
If yes, how many international participants were attended the activity?	2

Sponsors

S5Lab / Sapienza – University of Rome / UNISON Italy

Participants Group Photo



Results and Conclusion

The "3rd Space Debris Student Opportunities Workshop: LEDSAT" was organised by S5Lab and sponsored by UNISON Italy. During the Workshop, the main opportunities for students related to the Space Debris field in Italy and abroad were presented and described in details. The main lectures were given by Giuseppe Bianco (ASI), Director of the Italian Space Agency's Space Geodesy Center located in Matera (Italy), Thomas Schildknecht, vice-director of the Astronomical Institute in Bern (Switzerland) and coordinator of ESA Space Debris optical observations, and Patrick Seitzer from the University of Michigan, coordinator of NASA Space Debris optical observations. Finally, the final presentation of the main results of the Concurrent Engineering Activity about the 1U LEDSAT CubeSat was made by the involved students.

UNISEC-Japan - International Activity Report-(1)

UNISEC-Japan
 POC: Mengu Cho
 Email: cho@ele.kyutech.ac.jp
 URL: <http://unisec.jp/en.html>



UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th			
<input type="checkbox"/> Mission Idea Context (MIC);	<input type="checkbox"/> MIC1	<input type="checkbox"/> MIC2	<input type="checkbox"/> PreMIC3	<input type="checkbox"/> MIC3	<input type="checkbox"/> PreMIC4	<input type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)	<input type="checkbox"/> DDC			<input type="checkbox"/> DMC			
<input type="checkbox"/> CanSat Leader Training Program	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th

UNISEC Global Members' Events Participation

<input type="checkbox"/>
Other (specify)

Non-UNISEC International Events Participations

Participation in ARLISS (USA)

ARLISS (A Rocket Launch for International Student Satellites) started in 1999 to provide students some opportunity to launch their hand-made satellites or rovers into suborbital space. At ARLISS at the Black Rock, Nevada playa (dry lake bed) 100 miles north of Reno, Nevada, student payloads are carried up to over two miles in amateur high power rockets. These rockets are provided by the members of Aeropac, a northern California rocket club. The satellites using parafoils and rovers try to land on/drive to the marker (goal) on the desert. The Japanese student groups participate in this competition, called "Come Back Competition". This is an annual event and UNISEC has been supporting Japanese university students since 2002.

Pictures and Photos.



UNISEC-Japan - International Activity Report-(2)

UNISEC-Japan
 POC: Mengu Cho
 Email: cho@ele.kyutech.ac.jp
 URL: <http://unisec.jp/en.html>



UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th			
<input type="checkbox"/> Mission Idea Context (MIC);	<input type="checkbox"/> MIC1	<input type="checkbox"/> MIC2	<input type="checkbox"/> PreMIC3	<input type="checkbox"/> MIC3	<input type="checkbox"/> PreMIC4	<input type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)	<input type="checkbox"/> DDC				<input type="checkbox"/> DMC		
<input type="checkbox"/> CanSat Leader Training Program	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th

UNISEC Global Members' Events Participation

<input type="checkbox"/> UNISEC-Japan: Can-Sat Leader Training Program (CLTP)

UNISEC-Japan has organized the CanSat Leader Training Program (CLTP) every year in Japan since 2011, for the purpose of building participant capacity to become a local instructor after going back home. This is a hands-on training at the UNISEC member university in charge under the guidance of a university professor and his teaching assistants. Participants in this program experience a whole cycle of satellite development such as designing, manufacturing, testing, launching and data verification, with relatively cheaper cost. As of 2016, there are 64 participants from 32 countries in the program. We hope that CLTP would be a first step to reduce the existing technological gap in space among countries.

Pictures

CanSat



CanSat Hands-on Training



Preparation for
Paper Rocket Launch



Paper Rocket Making

UNISEC-Japan - Activity Report (1)

UNISEC-Japan
 POC: Mengu Cho
 Email: cho@ele.kyutech.ac.jp
 URL: <http://unisec.jp/en.html>



Overview

General Meeting & Activity Reports by Member Groups:

UNISEC-Japan is a membership body, consisting of Japanese universities, university laboratories, professors, students, private companies and other entities (university:50 corporate:17, individual: 277, student:923 as of March 2016). The General Meeting is held once a year to wrap up its year-long activities and adopt next-year plans. The board of directors meeting is preceded by it to finalize discussion themes. After the General Meeting, there are several activity reports by UNISEC's student organization (UNISON), its alumni association (UNISAS) and 7 working groups.

Date and Venue

Announcement Date	Every March
Event Date	July
Venue	University of Tokyo

Participation

Total number of participants	Around 250		
Category of Participants	<input type="checkbox"/> Students	<input type="checkbox"/> Engineers/Instructors	<input checked="" type="checkbox"/> Both
International Participants	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	

If yes, how many international participants were attended the activity?

Sponsors

UNISEC-Japan

Participants Group Photo



Results and Conclusion

The General Meeting provides the UNISEC's various members with an opportunity and a forum to:

1. Exchange their opinions from different perspective and fields,
2. Get to know each other or to renew their acquaintances horizontally and vertically,
3. Learn about different activities from theirs,
4. Deepen their friendships and create a favorable condition for future activities.

UNISEC-Japan - Activity Report (2)

UNISEC-Japan
 POC: Mengu Cho
 Email: cho@ele.kyutech.ac.jp
 URL: <http://unisec.jp/en.html>



Overview

Noshiro Space Event:

Noshiro Space Event is an amateur rocket competition which is held in mid-August every year in Noshiro city, Akita prefecture. This is the biggest event of its kind in Japan and it is attended mainly by students and adults. In this event, for example, students launch “hybrid rockets” which are a new type of rocket launched without the use of explosives. Students also participate in an autonomous robot competition called “Can-Sat” in which a satellite is deployed from the rocket and must return to a specific location. Many students from throughout Japan gather in Noshiro and take part in the Space Event.

UNISEC cohosts the Event with the Noshiro Space Event Council. Several UNISEC member student groups participate every year in the Event, resulting in good scores.

Date and Venue

Announcement Date	Around April
Event Date	Mid-August
Venue	Noshiro City

Participation

Total number of participants	Around 350		
Category of Participants	<input type="checkbox"/> Students	<input type="checkbox"/> Engineers/Instructors	<input checked="" type="checkbox"/> Both
International Participants	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	

If yes, how many international participants were attended the activity?

Sponsors

Joint Sponsorship with the Local Organizer

Participants Group Photo



Rocket Launches



Participants for Satellite Launch



Results and Conclusion

Taking into account its mission purpose that Noshiro Space Event is aimed at promoting space education, training the people who will be a part of future space development, and stimulating the community through the exchange of aeronautical technology and engineering skills, UNISEC is in full agreement with the purpose.

UNISEC-Japan - Activity Report (3)

UNISEC-Japan
 POC: Mengu Cho
 Email: cho@ele.kyutech.ac.jp
 URL: <http://unisec.jp/en.html>



Overview

Peer Review Educational Space Program for University Students:

This is a yearly based student program which starts drafting a space mission plan themselves at the beginning of the fiscal year and is evaluated the plan by different university instructors by the end of the fiscal year. Every year, several groups of university students under UNISEC membership participate in the program by presenting their mission plans in the beginning and make their accomplishment reports in the end. Students instructors from different groups make cross-checks on their reports and evaluate them, in terms of feasibility of their planned missions, degrees of accomplishment, project management, etc. Their evaluation is to focus on advice rather than critics. Groups with good grades are entitled to take, free of charge, one of the space engineering lecture courses sponsored by UNISEC-Japan.

The reports and evaluation are on the UNISEC website for the members.

Date and Venue

Announcement Date	Every March
Event Date	All year round from April to March next year
Venue	At each university laboratory

Participation

Total number of participants	30~35 Japanese Universities		
Category of Participants	<input type="checkbox"/> Students	<input type="checkbox"/> Engineers/Instructors	<input checked="" type="checkbox"/> Both
International Participants	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	

If yes, how many international participants were attended the activity?

Sponsors

UNISEC-Japan

Participants Group Photo

Not Available

Results and Conclusion

This program intends to

- (1) Let UNISEC member instructors educate the member students of different universities,
- (2) Not allow the participation of students only, but with their instructor(s),
- (3) Learn the students how to clearly state a targeted mission, indicate concrete judgement for a successful mission and how effectively execute it.

UNISEC-Japan - Activity Report (4)

UNISEC-Japan
 POC: Mengu Cho
 Email: cho@ele.kyutech.ac.jp
 URL: <http://unisec.jp/en.html>



Overview

UNISEC Workshop:

The UNISEC Workshop is an annual gathering for its member student groups, their professors, UNISON (UNISEC student organization), and other researchers. At the Workshop, they present their yearly activities in the field of nano-satellite, small rockets and related engineering/technological matters. In addition, there are a panel discussion, group discussion, proposals by individual university labs or by cross-sectoral groups. The Workshop is closed by giving an award to some of the excellent groups, due to the ballots by the participants. The workshop venue is held at a different member university every year.

Date and Venue

Announcement Date	Around July
Event Date	Mid-December
Venue	UNISEC member university

Participation

Total number of participants	About 300 students, instructors and so on.		
Category of Participants	<input type="checkbox"/> Students	<input type="checkbox"/> Engineers/Instructors	<input checked="" type="checkbox"/> Both
International Participants	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	

If yes, how many international participants were attended the activity?

Sponsors

UNISEC-Japan

Participants Group Photo

Workshop Plenary Session



Group Discussion



Results and Conclusion

The Workshop aims to:

- (1) Deepen and/or widen students' understanding about their specialized fields or non-specialized ones by sharing various information one another.
- (2) Contribute to the development of problem-solving ability through discussion and proposals.
- (3) Learn how to effectively organize a group and to recognize individual roles in such group. This will contribute to their future career after graduation.
- (4) Cultivate friendship and mutual trust for further communications.

UNISEC-Lithuania - International Activity Report

UNISEC-local: UNISEC-Lithuania

POC: Vidmantas Tomkus

Email: vto@space-lt.eu

URL: <http://space-lt.eu/en/lka-asociation/unisec-2/>



UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);
<input type="checkbox"/> 1 st <input checked="" type="checkbox"/> 2 nd <input type="checkbox"/> 3 rd <input checked="" type="checkbox"/> 4 th <input checked="" type="checkbox"/> 5 th <input type="checkbox"/> 6 th <input type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);
<input checked="" type="checkbox"/> 1 st <input checked="" type="checkbox"/> 2 nd <input type="checkbox"/> 3 rd <input type="checkbox"/> 4 th
<input checked="" type="checkbox"/> Mission Idea Context (MIC);
<input checked="" type="checkbox"/> MIC1 <input checked="" type="checkbox"/> MIC2 <input type="checkbox"/> PreMIC3 <input checked="" type="checkbox"/> MIC3 <input type="checkbox"/> PreMIC4 <input type="checkbox"/> MIC4
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)
<input type="checkbox"/> DDC <input type="checkbox"/> DMC
<input type="checkbox"/> CanSat Leader Training Program
<input type="checkbox"/> 1 st <input type="checkbox"/> 2 nd <input checked="" type="checkbox"/> 3 rd <input type="checkbox"/> 4 th <input type="checkbox"/> 5 th <input type="checkbox"/> 6 th <input type="checkbox"/> 7 th

UNISEC Global Members' Events Participation

<input type="checkbox"/> UNISEC-Samara Summer School
Other (specify)

Non-UNISEC International Events Participations

If there were oral presentations given above, write the their title with details.

Domantas Brucas et. all (Vilnius Gediminas Technical University), "Lithuanian Nano-Satellite Project", 2-d Nanosatellite Symposium, March 13, 2012

Algis Karpavicius et al. (Kaunas University of Technology), "Piezo-active Suspension system for Space Interferometry and Broadband Communications", MIC 3, Nov 17-20, 2014

UNISEC-Mexico - Activity Report (1)

UNISEC-Mexico
 POC: Barbara Bermudez Reyes
 Email: Barbara.bermudezry@uanl.edu.mx
 URL: www.unisec.mx



Overview

The first cansat course, was a pilot course to publicize the cansat system at the Autonomous University of Nuevo León and at a distance, through videoconference with the Universidad Autónoma de Chihuahua, both institutions belonging to UNISEC-Mexico

- Cansat introduction
- Cansat mission
- System engineering introduction
- Cansat manufacturing
- Deployable structures
- Electric System
- Communication System
- Launch

Date and Venue

Announcement Date 04/15/2015
 Event Date: 29/06/2015
 Venue: Centro de Investigación e Innovación en Ingeniería Aeronáutica

Participation

Total number of participants 28 (13 face-to-face mode and 15 videoconference)
 Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both
 International Participants ☒ No ☐ Yes
 If yes, how many international participants were attended the activity?

Sponsors

Autonomous University of Nuevo Leon (Universidad Autonoma de Nuevo Leon)
 Space Science and Technology Network

Participants Group Photo



Results and Conclusion

During the Cansat Training Course, seven cansat were obtained, and it was verified that the course could be imparted through video conferencing to the Autonomous University of Chihuahua. It should be noted that the best works of Nuevo Leon and Chihuahua participated in the First National Competition of Cansat.

UNISEC-Mexico - Activity Report (2)

UNISEC-Mexico
 POC: Barbara Bermudez Reyes
 Email: Barbara.bermudezry@uanl.edu.mx
 URL: www.unisec.mx



Overview

Second Cansat Training Course:

Topics include Cansat introduction, Cansat mission, System engineering introduction, Cansat manufacturing, Deployable structures, Electric System, Communication System and Launch.

Date and Venue

Announcement Date 03/15/2016
 Event Date: 22/06/2016
 Venue: Facultad de Ciencias Fisicomatemáticas

Participation

Total number of participants 30 (
 Category of Participants ☐ Students ☐ Engineers/Instructors ☒ Both
 International Participants ☐ No ☒ Yes
 If yes, how many international participants were attended the activity?
 Only one, M. C. Gorki Ernesto Encarnación-Morrobel

Sponsors

Autonomous University of Nuevo Leon (Universidad Autonoma de Nuevo Leon)
 Space Science and Technology Network

Participants Group Photo



Results and Conclusion

The second Cansat course was face-to-face and video conference with several institutions from other states (Puebla, Queretaro, Baja California, Chihuahua and Tamaulipas), belonging to UNISEC-Mexico. Each institution made the launches of cansat that were manufactured. In addition, this course was used for students from the various institutions to start preparing the cansat for the second national cansat contest.

UNISEC-Mexico - Activity Report (3)

UNISEC-Mexico
 POC: Barbara Bermudez Reyes
 Email: Barbara.bermudezry@uanl.edu.mx
 URL: www.unisec.mx



Overview

Rockets Course

- Rocket introduction
- Rocket structure
- Explosives
- Rocket manufacturing
- Launch

Date and Venue

Announcement Date 11/20/2015
 Event Date: 01/22/2016
 Venue: Centro de Investigación e Innovación en Ingeniería Aeronáutica

Participation

Total number of participants 20
 Category of Participants ☒ Students ☐ Engineers/Instructors ☐ Both
 International Participants ☐ No ☐ Yes
 If yes, how many international participants were attended the activity?

Sponsors

Autonomous University of Nuevo Leon (Universidad Autonoma de Nuevo Leon)
 Autonomous University of Baja California (Universidad Autonoma de Baja California)
 Research and Technology Transfer Institute (I2T2)

Participants Group Photo



Results and Conclusion

The Rocket course was planned to introduce students of Aerospace Engineering and Aeronautical Engineering to Rocket Science and Technology. This was accomplished in two weeks and the course was completed with the launching of five fiberglass rockets that the students designed and manufactured.

UNISEC-Mexico - Activity Report (4)

UNISEC-Mexico
 POC: Barbara Bermudez Reyes
 Email: Barbara.bermudezry@uanl.edu.mx
 URL: www.unisec.mx



Overview

In the Satellites Educational Cansat 2015 contest was evaluated according to a Single category of TELEMETRY, which consists of sending data in time Real to an earth station. The type of mission to be developed is open, as per Example, to test an equation, to send meteorological data, to perform an experimentation Scientific, etc. In this contest, success will be assessed in its objectives, originality, design and the scientific relevance of the measurements they perform.

Date and Venue

Announcement Date 03/15/2015
 Event Date: 10/05/2015
 Venue: Autonomous University of Baja California (Universidad Autonoma de Baja California)

Participation

Total number of participants 18 teams
 Category of Participants ☒ Students ☐ Engineers/Instructors ☐ Both
 International Participants ☐ No ☐ Yes
 If yes, how many international participants were attended the activity?

Sponsors

Autonomous University of Baja California (Universidad Autonoma de Baja California),
 Space Science and Technology Network (REDITE), UNISEC Mexico

Participants Group Photo



Results and Conclusion

CanSat educational pico-satellites are important in higher education institutions, both in developed countries and in developing countries. These simulators provide the basic knowledge and principles of design, development and operation essential to a space mission. In addition, they can be designed and built using commercial electronic components. The pico-satellite training programs offered in our country have been able to establish new patterns of interest and motivation in undergraduate students to continue in the postgraduate studies or to go to the labor sectors with this specialty. The first national contest of pico-satellites CanSat gave us the opportunity to exchange knowledge and experience among participating institutions; This leads us to generate national and international collaborations in order to undertake larger projects.

UNISEC-Mexico - Activity Report (5)

UNISEC-Mexico
 POC: Barbara Bermudez Reyes
 Email: Barbara.bermudezry@uanl.edu.mx
 URL: www.unisec.mx



Overview

Generate creative and innovative ideas through the use of space technology In the solution of a mission for a CANSAT educational pico-satellite. In students in teamwork, theoretical and practical, through Of the use of science and aerospace technology. For this competition was considered two categories:

TELEMETRY Category, the CanSat shall transmit the following Data

1. Cansat Internal and External Temperature
2. Pressure
3. Relative Humidity.
4. Altitude
5. Length.
6. Latitude
7. Battery Level.
8. Vibration
9. Acceleration
10. Photography / Video.

COMEBACK Category, the CanSat must comply with the following:

1. All of the above in the telemetry category
2. Return to the starting point using a Rover vehicle.
3. The complete system (cansat and vehicle) must have a weight Maximum of 1 kg

Date and Venue

Announcement Date 03/015/2015
 Event Date: 10/08/2015
 Venue: Autonomous University of Nuevo León (Universidad Autonoma de Nuevo Leon)

Participation

Total number of participants 9 teams
 Category of Participants ☒ Students ☐ Engineers/Instructors ☐ Both
 International Participants ☐ No ☐ Yes
 If yes, how many international participants were attended the activity?

Sponsors

Autonomous University of Nuevo Leon (Universidad Autonoma de Nuevo Leon)
 Space Science and Technology Network (REDITE)
 UNISEC Mexico

Participants Group Photo



Results and Conclusion

The Cansats have an important role in higher education institutions in developing countries. The Cantabrian educational peaks are playing a very important role in higher education institutions in developing countries. It is obvious that building small satellites is much cheaper than making large devices for science or communications; However, the cost of these small satellites still remains very high for public universities in Mexico

UNISEC Samara - Activity Report

UNISEC-Samara
 POC: Igor Belokonov
 Email: ibelokonov@mail.ru
 URL: <http://uniseksamara.ssau.ru/>



Overview

UNISEC Samara is based on Samara National Research University (Space Research Department) and join teachers, scientists and students of three Universities. UNISEC Samara has designed two Cubsat projects: Samsat-218D (launched in April, 2016 from new Russian cosmodrome Vostochny) and SamSat-QB50 (which are fulfill ready for launch in the frame of QB50 project). Most of the on-board systems for these projects has been developed and produced by UNISEC Samara. Also UNISEC Samara are working on project of nanosatellite with jet propulsion system for realization of formation flight missions. UNISEC Samara has labs and facilities for complete testing of nanosatellites and their subsystems. UNISEC Samara hosts Russian nanosatellite symposium RusNanoSat and annually conducts Summer space school “Future space technologies and experiments in space” with the participation of students from different countries of the world including from developing countries. UNISEC Samara open for international cooperation in space projects.

Date and Venue

XII Summer space school (June 20 – July 2, 2016)
 XIII Summer Space School (June 19 – July 1, 2017)
 Announcement http://volgaspace.ru/school_cms/
 Symposium RusNanoSat2017 (June 28 – June 30, 2017)
 Announcement <http://www.volgaspace.ru/RusNanoSat-2017/>
 Venue of events: Samara National Research University

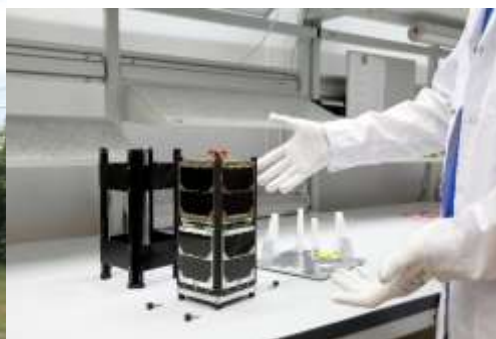
Participation

Total number of XII Summer space school participants	42		
Category of Participants	<input checked="" type="checkbox"/> Students	<input type="checkbox"/> Engineers/Instructors	<input type="checkbox"/> Both
International Participants	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	
If yes, how many international participants were attended the activity?			34

Sponsors

Samara National Research University
 Supported by Administrative Committee for Space Universities of IAF

Participants Group Photo



Results and Conclusion

42 students were successfully provided hands-on training of CubeSat.

UNISEC-Turkey - International Activity Report

UNISEC-TURKEY
 POC: ALIM RUSTEM ASLAN
 Email: aslanr@itu.edu.tr
 URL: <http://usttl.itu.edu.tr/en/>



UNISEC-Global Participation

<input type="checkbox"/> Nano-Satellite Symposium (NanoSat);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th
<input type="checkbox"/> UNISEC-Global Meeting (UNI-GLO);	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th			
<input type="checkbox"/> Mission Idea Context (MIC);	<input type="checkbox"/> MIC1	<input type="checkbox"/> MIC2	<input type="checkbox"/> PreMIC3	<input type="checkbox"/> MIC3	<input type="checkbox"/> PreMIC4	<input type="checkbox"/> MIC4	
<input type="checkbox"/> Deorbit Devise Competition (DDC)/Deorbit Mitigation Competition (DMC)	<input type="checkbox"/> DDC		<input type="checkbox"/> DMC				
<input type="checkbox"/> CanSat Leader Training Program	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th	<input type="checkbox"/> 6 th	<input type="checkbox"/> 7 th

UNISEC Global Members' Event Participation

☐ UNISEC-Samara Summer School

Other (specify)

CLTP-TURKEY-1, June 2014
 CLTP-TURKEY-2, August 2015
 10 local UNISEC-TR Meetings

Non-UNISEC International Participations

- IAC, RAST and ECS among others

If there were oral presentations given above, write their title with details.

-Many presentations