

UNISEC-Global 2018

Student Representative Profile





December, 2018

Contents

** Alphabetical Order of Local Chapters*

Local Chapter	Student Representative	Page
 UNISEC-Bulgaria	 Ivan Petrov Mihov	<u>4</u>
 UNISEC-Egypt	 Shady Ammar Ahmed	<u>5</u>
 UNISEC-India	 Nikhil Riyaz	<u>6</u>
 UNISEC-Italy	 Alice Pellegrino	<u>8</u>
 UNISEC-Japan	 Nobuhiro Funabiki	<u>10</u>
 UNISEC-SAR	 Francois Nicolaas Lombard	<u>11</u>

 <p>UNISEC-SAR</p>	 <p>Luke van der Stokker</p>	<p><u>12</u></p>
 <p>UNISEC-Turkey</p>	 <p>Sibel Türkoğlu</p>	<p><u>14</u></p>

Preparatory Committee	Student Representative	Page
<p><i>(no logo)</i></p> <p>Costa Rica</p>	 <p>Esteban Martínez Valverde</p>	<p><u>15</u></p>
<p><i>(no logo)</i></p> <p>Argentina</p>	 <p>Talia Bessone</p>	<p><u>16</u></p>



Organization	Sofia University "St. Kliment Ohridski", Faculty of Physics
Specialty	Aerospace engineering and communications
E-mail	ipmihov@gmail.com

1. Could you share your academic and/or professional experience in the past?

Last year I graduated with a Bachelor degree in Engineering Physics from Sofia University in Bulgaria. I have just started the final year of my Master degree in Aerospace engineering and communications. This program is focused mainly on small spacecraft such as micro- and nanosatellites. Apart from my education, I am working in the field of microelectronics as an electronic design automation engineer for one of the biggest semiconductor foundries in the world. My job is consisting of generating decks for extraction of parasitic resistances and capacitances from integrated circuits. These decks are part of the process design kit for different leading-edge technologies.

2. What are you recently absorbed in?

Research Activities	I am a member of a non-governmental organization which is participating in different aerospace projects in Bulgaria. Now we are working on our first CubeSat project. We are also trying to set up our own ground station and establish communication with different satellites.
Personal Interests	I am interested in sports. I am practicing road cycling, swimming, table tennis, and tennis on court. I also like to play different kinds of board games.

3. What do you want to achieve in the near future?

First, I want to finish my master's degree. I also want to continue to develop myself and improve my knowledge in the field of satellite design. I want to be part of a team that successfully will make and launch CubeSat. I hope to be able to work on other real, practical projects that will help the development of the aerospace industry in my country.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

My role as student representative for UNISEC Bulgaria will be to mainly engage more students from Bulgaria to participate in UNISEC activities, such as conferences and contests organized by UNISEC. I believe this is a good way for Bulgarian students to get more experience in space projects and meet other people with similar interests. Also, I will be involved with the organization and conducting of upcoming UNISEC trainings in Bulgaria, such as the HEPTA-Sat training.



Organization	Aerospace department, Faculty of Engineering, Cairo University
Specialty	Space and Control
E-mail	shady_ammam96@yahoo.com

1. Could you share your academic and/or professional experience in the past?

I am a 4th year student in Aerospace department. I had Distinction level and 1st Ranked up till now. I am interested in Space, control, Embedded systems and deep learning. I am Team Leader and Instructor at Space Systems Technology Laboratory (SSTL), We conduct a training to design and implement CANSAT and ROVER. I am a Certified LabVIEW associate developer (CLAD) and LabVIEW student ambassador. I had a certification in Neural Networks and Deep learning. I took an Embedded Systems Diploma. I also worked on a project to design and implement multi-copter used in Agriculture. I designed a LabVIEW and Matlab program for Electric Vehicles sizing and performance analysis.

2. What are you recently absorbed in?

Research Activities	I am working on ROS to use it in Aerospace and SLAM applications.
Personal Interests	I am recently absorbed in learning Embedded linux and knowing more about deep learning and its potential applications

3. What do you want to achieve in the near future?

In the near future, I want to successfully deploy ROS in Aerospace and SLAM applications which is very important in Space field to localize and map the unknown worlds. So using a very powerful tool like ROS in Aerospace applications where reliability and rigor is very important, is a good subject to study and hope to fulfil successfully.

4. How do you want to contribute to UNISEC-Global activities (Vision 2030-ALL)?

As a student representative, I'd like to share our achievements in the last years with students from all around the world and exchanging experience which is definitely will be very fruitful and widen the horizons for more ideas in space field.



Full Name	Nikhil Riyaz
Organization	New Horizon College of Engineering, Bangalore, Visvesvaraya Technological University, India
Specialty	Electronics and Communication Engineering
E-mail	nikhilryz@gmail.com

1. Could you share your academic and/or professional experience in the past?

I am currently doing my bachelors in Electronics and Communication Engineering In New Horizon College of Engineering (NHCE), Bangalore, in India. I have Interned in IIT Kanpur in the 4i Imagineering Lab and at IBM, California as a part of the IBM Cognitive research group. I am part of the Founding members of UNISEC, India. And part of the Core Team of the Student Satellite Program in NHCE. Actively coordinating the “First Students’ Satellite Innovative Payload Design Competition” supported by Indian Technology Congress Association and other Professional bodies. Also played an active role as the member of Core Organizing Committee of Karnataka Smart Village Hackathon. Member of the technical team designing and developing “Class Room Satellite (2U) Engineering Model” and “Single Card Satellite-Bus (SiC-B)” Design and Development Project at NHCE in association with D’Vine Research Labs.

2. What are you recently absorbed in?

Research Activities	My current field of research lies in Robotics, Automation & Rapid prototyping.
Personal Interests	Since my childhood I have been interested in Electronics & more Specifically Robotics. In my free time I do Electronics based projects and try learning new things. Develop IoT System for facilitate farmers and rural development

3. What do you want to achieve in the near future?

In the near future I plan to complete my masters in Robotics and Start my own Company. Apart from which I would like to participate in developing technology to solve problems faced in day to day life by common man and help people in need with the use of technology. Also wish to design and develop assistive system for physically challenged people.

4. How do you want to contribute to UNISEC-Global activities (Vision 2030-ALL)?

Try create an ecosystem for design and development of small satellites with an affordable cost for many nations in general and third world countries in particular. Disseminate the knowledge and tools related to the development of small satellites by academic institutions. We are in the process of development of 2U and 3U Class Room Satellites (Engineering Model with Functionalities) for teaching and training at class rooms at an affordable price (Less than 800-1000 USD).

5. Other Comments

We are also in the process of design and development of “Single Card Satellite-Bus (SiC-B)” Design and Development Project at NHCE in association with D’Vine Research Labs P Ltd which has been incubated at New Horizon College of Engineering, Bangalore, India. Such development will be very useful in disseminating knowledge and interest among Universities and Engineering Educational Institutions (EElS) at affordable cost in third world countries.



Alice Pellegrino



Organization	Sapienza Space Systems and Space Surveillance Laboratory (S5Lab) at Sapienza University of Rome (Department of Astronautical, Electrical and Energy Engineering – DIAEE – and Department of Mechanical and Aerospace Engineering – DIMA) – Italy
Specialty	Space and Astronautical Engineering / Space Remote Sensing
E-mail	ali.pellegrino.92@gmail.com

1. Could you share your academic and/or professional experience in the past?

I graduated from Sapienza University of Rome with BSc's Degree in Aerospace Engineering in March 2014. My bachelor's degree thesis, titled "New Satellite Mission Concept for Arctic Monitoring" was carried out during a three-month trainee at ESRIN, the ESA's center for Earth Observation (EO) in the ESA's POLARIS project. Currently, I am graduating in the MSc course of Space and Astronautical Engineering (focus on Space Remote Sensing) always at Sapienza University of Rome (Italy). In the last four years, I have also performed four working experience as trainee in different space companies, in Italy and in The Netherlands, about Mission Analysis and design, 3D modeling and structural analysis, processing of images related to the EO field and for attitude determination applications (MSc thesis project). Furthermore, I decided also to dedicate some time to student projects related to CubeSat design and development (URSA MAIOR 1U CubeSat, HORUS cluster, and LEDSAT 1U CubeSat) and space systems (ESA's BEXUS programme with the STRATONAV experiment). Finally, I am supporting the activities of UNISEC and UNISON Italy Local Chapter and organization as Italian Student Representative since 2014.

2. What are you recently absorbed in?

Research Activities

My main research topic is related to the Earth Observation field, especially in terms of instruments (both optical and radar) and their design and compatibility with a proper space mission. Lately, I mainly focused on images processing (Matlab, Python and C programming languages) to be used in the on-board software of a small sensor for Horizon detection suitable for the CubeSat standard (my MSc thesis project).

Personal Interests

I am a sporty person, and I have always practiced different kind of sports(rugby, running, etc.). I also like reading and visiting new places for meeting new people and discovering new countries and realities. I am a very sociable person. I really like enjoying my time with my friends and with people I care about. Finally, I love sailing and skiing.

3. What do you want to achieve in the near future?

I am going to graduate in the next months and I am planning to go abroad for starting my working career. I am mostly interested in the design and development of optical and EO instruments, so I am starting focusing on the possibility to learn more and to have a working experience related to this application. Anyway, I am also interested in other aspects of the space field, so I am not putting any limits to my future job of working field. I would like also to continue collaborating with my professors and organizations active in the space field in order to share the knowledge about the existing possibilities that helped me during my academic path in becoming more self-confident and prepared.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

As Italian Student representative, I would like to share this experience with colleagues from my University in order to pass them the baton and contribute in the growing of the UNISEC Italy Local Chapter. Moreover, I would like to cooperate with the Global association to support future events and activities.



Organization	Department of Aeronautics and Astronautics, The University of Tokyo
Specialty	Space Engineering (Active Debris Removal, Spacecraft Formation Flight)
E-mail	funabiki@space.t.u-tokyo.ac.jp

1. Could you share your academic and/or professional experience in the past?

I graduated from the University of Tokyo in Japan with B.S degree in Aeronautics and Astronautics. In April 2017, I entered the Master course in the same university and continue to conduct the research and satellite development in Intelligent Space Systems Laboratory (ISSL) led by Prof.Nakasuka and Prof.Funase.

2. What are you recently absorbed in?

Research Activities

Personally, I'm very interested in formation flight composed of CubeSats, which has huge potential to realize innovative missions which cannot be achieved by a conventional monolithic satellite. Therefore, I have studied the navigation algorithm of spacecraft formation flight in the laboratory. I'm also involved in a project called EQUULEUS, which is a 6U-Cube Sat for cis-lunar exploration. In the project, I manage its electrical power system including the power control unit, batteries, and solar array paddles.

Personal Interests

Recently, I'm interested in robotics. From this summer, I have learned ROS (Robot Operating System) programming. In holidays, I enjoy playing the guitar and watching Japanese animation often called "anime".

3. What do you want to achieve in the near future?

After I finish Ph.D course, I would like to work for satellite development as an engineer or a researcher. Currently, I'm interested in three topics related to space, debris removal for sustainable space development, solar system exploration by spacecraft formation flight, and Lunar base development. For the time being, I would like to contribute to these topics in my future career.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

I have involved in some satellite development projects in Japan, so I would like to share the experience with UNISEC-Global members and encourage each other.



Organization	Department of Electrical and Electronic Engineering at Stellenbosch University
Specialty	Control Systems and Embedded Design
E-mail	18375170@sun.ac.za

1. Could you share your academic and/or professional experience in the past?

I graduated from Stellenbosch University with a bachelor's degree in electrical and electronic engineering majoring in robotics. Since then, I have been pursuing my master's degree in satellite systems at Stellenbosch University whilst tutoring undergraduate and primary school students and attending machine learning and control system workshops.

2. What are you recently absorbed in?

Research Activities	I am looking into possible solutions regarding illegal fishing in South Africa's coast by using a combination image and AIS data. This data will be collected using a smallsat constellation.
Personal Interests	I enjoy playing hockey, squash and computer or board games. On weekends I like to explore new places in and around Cape Town and Stellenbosch.

3. What do you want to achieve in the near future?

Completing my master's degree and have a better understanding of satellites, orbital mechanics and machine learning techniques.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

I want to encourage students at Stellenbosch University to partake in the competitions to broaden their knowledge regarding space missions.



Organization	Stellenbosch University, Department of Electrical and Electronic Engineering, Electronic Systems Laboratory (ESL)
Specialty	Space Systems, Control Systems and Embedded Design
E-mail	18205909@sun.ac.za

1. Could you share your academic and/or professional experience in the past?

In 2017, I graduated with a degree from Stellenbosch University obtaining a Bachelor of Engineering in Electrical and Electronic Engineering specializing in Robotics. Whilst studying, I involved myself in various vacation training programs with multiple Electronic and Electrical Engineering companies such as Altech Netstar and Barloworld Power - to name a few.

2. What are you recently absorbed in?

Research Activities

This year (2018) I have taken on a Master's degree in Electronic Engineering, specializing in Space Systems at Stellenbosch University. My research topic is to investigate the imager pointing accuracy of a CubeADCS on a CubeSat in sun-synchronous LEO. During the course of the year, I have also completed a Dutch Language acquisition course where I obtained a certificate in Informal Dutch. I have also completed a Satellite Systems masters course with distinction.

Personal Interests

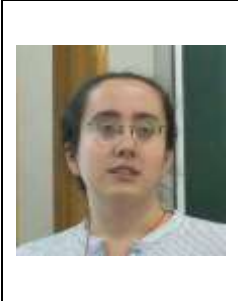
My interests lie in anything space orientated and space systems related topics. I love to travel and am planning to do a lot more in my near future. I value time with my friends and family and like to keep busy with outdoor activities. Keeping fit and strong is a priority of mine and I try to maintain a decent fitness level by training in the gym regularly. I develop applications and websites as both a hobby and a part-time job. I enjoy playing pool and watching rugby on the weekends.

3. What do you want to achieve in the near future?

I would like to complete my Master's degree. I would like to become more involved in the development of satellite missions and to one day work for ESA in their young graduate program.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

I would like to get more involved in UNISEC-Global's activities as well as make other students in my local Chapter more aware of the activity within the UNISEC-Global community. I would also like to get to know more professionals in my field to open doors for my professional career.



Full Name	Sibel Türkoğlu
Organization	<i>Istanbul Technical University, Space Systems Design and Test Laboratory (SSDTL)</i>
Specialty	<i>Guidance, Navigation and Control</i>
E-mail	turkoglushi@itu.edu.tr

1. Could you share your academic and/or professional experience in the past?

Currently, I'm a PhD candidate in the Program of Aerospace Engineering of Graduate Institute of Science and Technology at Istanbul Technical University (ITU). I received my MSc degree from the same program in 2015 and graduated as an Aerospace Engineer from the Astronautical Engineering Department of ITU Faculty of Aeronautics and Astronautics in 2012. I'm working as a Research Assistant in the Space Systems Design and Testing Laboratory of ITU (ITU-SSDTL). I've been working in the ITU-SSDTL since 2014 and participated in 4 nanosatellite projects, three of which is already in orbit (two of them called BeEagleSat and HavelSat which are both participated in EU FP7 QB50 project, UbakuSat and a still-ongoing project ASELSAT). I've been one of the teaching assistants of Astronautical Engineering Department capstone design course "Spacecraft System Design" since 2013. In addition to that, I'm one of the graduates of CLTP8 (Cansat Leader Training Program) of UNISEC-Japan. With the experience of CLTP, I assisted a freshman year course, "Astronautical Engineering & Design" whose topic is designing and development CanSat.

2. What are you recently absorbed in?

Research Activities	My research activities mostly focuses on guidance, navigation and control (GN&C) and the design, analysis and development of nanosatellites.
Personal Interests	Besides being a licensed radio ham, I'm interested in machine learning and virtual reality. Also, I love music and playing accordion.

3. What do you want to achieve in the near future?

After finishing my Ph.D, I would like to work in space projects as an GN&C engineer.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

As student representative of Turkey, I want to get more involved in UNISEC-Global's activities and support them. Also, i'd like to help to UNISEC-Global community gain recognition in Turkish students.



Organization	Costa Rica Institute of Technology, Space Systems Laboratory
Specialty	Telecommunications Small Satellites
E-mail	estemarval@gmail.com

1. Could you share your academic and/or professional experience in the past?

I graduated from the Costa Rica Institute of Technology, as an electronic engineer, and now I'm studying to obtain my Master's degree in embedded systems. I was part of the developing team of the Irazú CubeSat and now working at the Space Systems Laboratory for developing the scientific mission of the GW Cubesat.

2. What are you recently absorbed in?

Research Activities	Telecommunications, LEO digital link communications, Software Defined Radio, Ground stations network, Store-and-forward missions, Remote Sensing, Machine Learning.
Personal Interests	Everything related with space, electronics and communications. I love to travel and meet new people. My favorite hobby is to ride the bike and explore new places in the nature. I like to participate in congresses, hackathons and innovation events. Something that I also enjoy, is organizing events for knowledge transferring, like the First CanSat Bootcamp Costa Rica and First Satellite Feminine Hackathon.

3. What do you want to achieve in the near future?

I would like to complete my Master's degree, obtain experience by working in a space-related institution and if possible enroll in a PhD program. I would like to become more involved in the development of satellite and space exploration missions.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

I want to contribute by assisting to the UNISEC-Global's activities and providing my experience through blogs and events. I would like to cooperate in the creation of a Central American chapter, and generate the best possible relationships with all Latin American chapters.

Argentina

Talia Bessone



Organization	UTN-FRC (National Technology University – Regional Faculty from Cordoba)
Specialty	Electronic Engineering
E-mail	taliabessone@gmail.com

1. Could you share your academic and/or professional experience in the past?

I graduated in the city of Cordoba, Argentina from a high school with orientation to Economic affairs, I really knew from the beginning I didn't like that specialization but I didn't have a choice. Later on, when I had to think what should I study I was really lost, I never been near before of technology. Then my brother asked me if I want to live in the country he lives (Dubai, United Arabs Emirates) and make an English course for 7 months at Eton Institute. After that I got the possibility to work for Wavetec Company in Karachi Pakistan for 1 year in Marketing and R&D department, I was in Pakistan where I had a weird connection to space activities after work timing, where I realized many things, as one of those, what I would like to be, so then I decided to come back for my studies.

2. What are you recently absorbed in?

Research Activities	Educational Satellite Kit: "CubeSat, 3D Printing and COTS"
Personal Interests	Deep learning; on board processing; SP and PL simulators; space mission analysis tools

3. What do you want to achieve in the near future?

I want to specialize by myself in Deep Learning networks for on board processing in small satellites constellations. I'm doing online courses for it, this is something really exciting to me. I would love to design a space mission for the near future for my country, and foment the space education for my community, motivate them and show them that we are capable of develop space system for contribute to the benefit of all.

4. How do you want to contribute to UNISEC-Global activities(Vision 2030-ALL)?

First of all, I want to help grow up the practical education of open systems to space and earth exploration in our country from the university environment, to get the opportunity to be attached and participate in the new open space revolution. For that as UNISEC-Argentina we must to work hard in trying to generate in our community the space philosophy, attract and train undergraduate students towards space technology and scientist missions.