

UNISEC INDIA

Local Chapter Report

- ▶ 01 December 2019, 09:50-10:00 hrs
- ▶ 7th UNISEC Global Meeting, The University of Tokyo, JAPAN



Report on Activities of UNISEC India
(For the Period: October 2018-November 2019)

Thank You!

Ms. Rei Kawashima, *Secretary General, UNISEC Global, Japan*

Dr. G. P. Ganapathy, *Single Point Contact for India (SPOC)*

Preamble:

- ▶ During the preparation (August 2018) for the 1st International Seminar on Students' Satellites to be held along with 6th Indian Technology Congress at NIMHANS Convention Centre at Bangalore on 5-6 September 2018, **Ms. Rei Kawashima**, Secretary General, UNISEC Global, Japan has been in touch with the Organizing Committee and introduced the Single Point of Contact for India (SPOC), **Dr. G. P. Ganapathy** who have initiated the process of establishment of **UNISEC India Chapter**.
- ▶ **UNISEC India Chapter** has been formally established on **18th October 2018** and communicated by **Ms. Rei Kawashima**, Secretary General, UNISEC Global, Japan.

1st International Seminar on Students' Satellites

NIMHANS Convention Centre, Bangalore, India
5-6 September 2018



L to R: Dr.K.Gopalakrishnan (*Secretary General, UNISEC India*), Padmashri Prof.R.M.Vasagam (*Mentor, UNISEC India*), Dr.W.P.Krishna (*Founder Member, UNISEC India*), Hon'ble CM of Karnataka, Mr.H.D.Kumaraswamy, Dr.L.V.Muralikrishna Reddy (*Founder President, UNISEC India*), Dr.Sanjay Sanchetti (*Founder Member, UNISEC India*) and Mr. P.K.Thiagarajan.



"Compendium of Students' Satellites" released by Honorable Chief Minister of Karnataka State, India, Mr. H. D. Kumaraswamy



Dr. G.P.Ganapathy, (SPOC, UNISEC Global and Founder Member, UNISEC India)



Video Presentation of Ms. Rei Kawashima, (Secretary General, UNISEC Global)

Major Events of UNISEC India

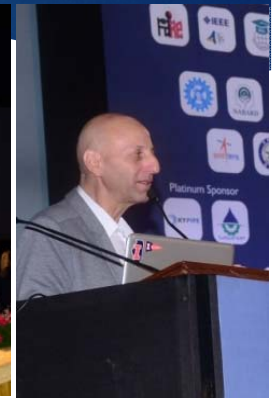
- ▶ UNISEC Global has actively participated in the **1st International Seminar on Students' Satellites** as one of the Invited Agency, represented by SPOC, **Dr. G. P. Ganapathy** during the **Inaugural Session** and highlighted the various activities of **UNISEC Global** and other Satellites Projects supported by UNISEC.
- ▶ **Ms. Rei Kawashima** has sent her recorded Video Presentation which has been screened during the event. The active support and services of UNISEC has been recognized during the event and logo of UNISEC has been displayed in all print materials and event display backdrops etc.
- ▶ **1st International Seminar on Students' Satellites** (*For More Information and Photo Gallery, Visit to <https://drive.google.com/drive/folders/1PISISWwoPEhXjLxLUikPGtdU7B3oBDMR>*)

Major Events of UNISEC India

- ▶ UNISEC has supported the publication of “**Compendium of Students, Satellites**” which has been published by Indian Technology Congress Association (ITCA) in association with World Federation of Engineering Organisations (WFEO) and BRICS Federation of Engineering Organisations (BRICS FEO). The Compendium has been released by **Honorable Chief Minister of Karnataka State, India, Mr. H. D. Kumaraswamy** during the Inaugural Session of 6th Indian Technology Congress held on 5 September 2018 at Bangalore, India.
- ▶ **Competition for Designing Innovative Payload for Students’ Satellites** has been announced in Association with **UNISEC India, ITCA and NHCE**.
- ▶ During the two days of Seminar the initiative for establishing “**UNISEC India Chapter**” has been completed with the support of the President, ITCA, **Dr. L. V. Muralikrishna Reddy, President, UNISEC India** and he has provided necessary support to house the Secretariat at his office.

1st International Seminar on Students' Satellites

NIMHANS Convention Centre, Bangalore, India, 5-6 September 2018



1st International Seminar on Students' Satellites

NIMHANS Convention Centre, Bangalore, India, 5-6 September



Local Chapters/Institutional Chapters Established in India

1. New Horizon College of Engineering, Visvesvaraya Technical University, Bangalore, Kamataka
2. Bangalore University, Bangalore, Kamataka
3. REVA University, Bangalore, Kamataka
4. VIT University, Vellore, Tamil Nadu
5. SRM University, Chennai, Tamil Nadu
6. Dr.MGR University, Chennai, Tamil Nadu
7. Saveetha Engineering College, Saveetha University, Chennai,
8. Karpagam University, Coimbatore, Tamil Nadu
9. Kalasalingam University, Krishnankoil, Tamil Nadu
10. Thiagarajar College of Engineering, Madurai, Anna University, Tamil Nadu
11. S. V. National Institute of Technology, Surat, Gujarat
12. SRKR Engineering College, Bhimavaram, JN Technical University, Kakinada, Andhra Pradesh
13. Andhra University, Visakhapatnam, Andhra Pradesh
14. Indian Institute of Technology-Kanpur, Uttar Pradesh

Contact

UNISEC India (Key Executives/Core Team)

Mentor: Padmashri Prof. R. M. Vasagam (vasagam@gmail.com)

President: Dr. L. M. Muralikrishna Reddy (mlingireddy@yahoo.com)

Secretary General: Dr. K. Gopalakrishnan (profgoki@yahoo.com)

SPOC: Dr. G. P. Ganapathy (seismogans@yahoo.com)

Students Representative: Mr. Nikhil Riyaz (nikhilryz@gmail.com)

(The Core Committee is in the process of evolving suitable federal arrangements considering the largest number of Universities/ Engineering Educational Institutions (EETs) in India. According to the HRD Ministry, India has 6,214 engineering and technology institutions which are enrolling 2.9 million students. Around 1.5 million engineers are being graduated every year in India from 900 Degree Awarding Universities/Institutions)

In the Process of Establishing UNISEC India, Institutional Chapters at the following Technical Institutions in INDIA

- ▶ S. V. Engineering College for Women, Tirupati-517507
- ▶ Sri Vidya College of Engineering & Technology, Virudhunagar-626005
- ▶ Saveetha Engineering College, Chennai-602105
- ▶ Jerusalem College of Engineering, Chennai-600100
- ▶ Jeppiaar Institute of Technology, Kunnam, Chennai-631604
- ▶ Sri Shakthi institute of Engineering and Technology, Coimbatore-641062
- ▶ Solamalai College of Engineering, Madurai-625020
- ▶ Priyadarshini Engineering College, Vaiyambadi-635751
- ▶ R.L. Jalappa Institute of Technology, Bangalore-561203
- ▶ Kathir College of Engineering, Neelambur, Coimbatore-641062
- ▶ Adithya Institute of Technology, Coimbatore-641107
- ▶ Mohamed Sathak Engineering College, Kilakarai-623806
- ▶ K.S. Institute of Technology, Bangalore-560062
- ▶ K.S. School of Engineering and Management, Bangalore -560062
- ▶ Paavai Engineering College, Pachal -637 018, Namakkal Dist, TN
- ▶ Gopalan College of Engineering and Management, Bangalore-560048
- ▶ Vardhaman College of Engineering, Shamshabad, Hyderabad, Telangana
- ▶ Karunya University, Coimbatore, Tamilnadu

CanSat /Rocketry Competitions in India/Abroad, Balloon Launches, Payload Design Competitions and Deorbiting/Mitigation of Space Debris Competitions/Idea Contests etc

UNISEC India Supported CanSat Workshops Held at during May-September 2019

- ▶ New Horizon College of Engineering, Bangalore, Karnataka
- ▶ Paavai Engineering College, Pachal, Namakkal Dist, Tamilnadu
- ▶ Thiagarajar College of Engineering, Madurai, Tamil Nadu
- ▶ Jeppiaar Institute of Technology, Kunnam, Chennai, Tamil Nadu
- ▶ Sri Shakthi Institute of Engineering and Technology, Coimbatore, Tamil Nadu
- ▶ K.S. Institute of Technology, Bangalore, Karnataka
- ▶ Gopalan College of Engineering and Management, Bangalore, Karnataka
- ▶ Kathir College of Engineering, Neelambur, Coimbatore, Karnataka
- ▶ SRKR Engineering College, Bhimavaram, Andhra Pradesh
- ▶ Indian Institute of Technology-Kanpur, Uttar Pradesh
- ▶ Vardhaman College of Engineering, Shamshabad, Hyderabad, Telangana
- ▶ Karunya University, Coimbatore, Tamilnadu

Major Initiatives of UNISEC India

On Going Projects/Initiated

- ▶ UNISEC India has been actively involved in the process of Organizing 3rd International Programme on Students' Satellite: Mission 2022 (Link to <http://itca.org.in/satellite>). Universities/Institutions Associated with UNISEC India has been given priority in participation during the event.
- ▶ Major Initiatives of UNISEC India: Nano Satellite for Class Room Teaching at University/EEIs
- ▶ *Design and Development of 1U & 2U Functional Engineering Model (Timeline: 9-12 Months)*
- ▶ *Design and Development of "Single Card Satellite-Bus (SiCS-B)": 10 cm x10 cm (Timeline: 18 Months)*

UNISEC India

Secretariat, 4th Floor, #3, First Main, BDA Layout, Kodihalli, HAL 2nd Stage, Bengaluru – 560008, Karnataka, India

Contact Info

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UNISEC India: *Learning Resources*

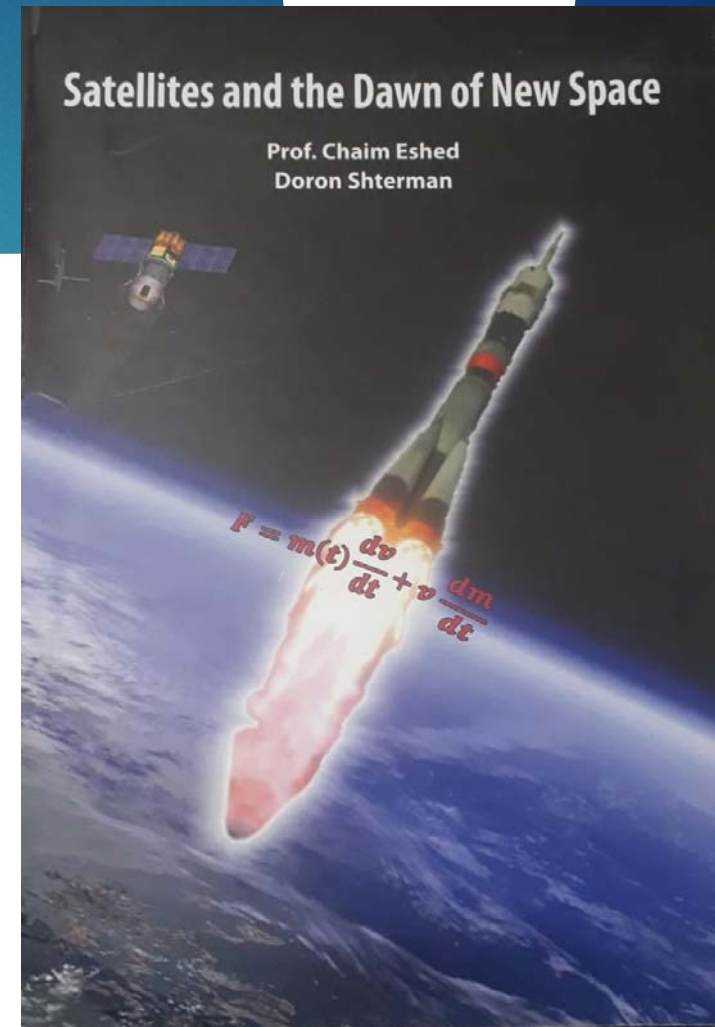
In the Process of Publishing English Translation of Hebrew book titled "Satellites and the Dawn of New Space" as Limited Edition to be Circulated in India with Special Permission from

Prof. Chaim Eshed and Doron Shterman, Israel

With the Support of

Indian Technology Congress Association and

75 Students' Satellites Consortium: Mission 2022

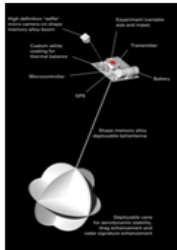


2nd International Seminar on Student Satellites! *Launch Your Own Satellites!*

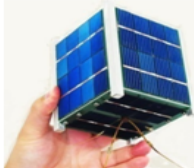
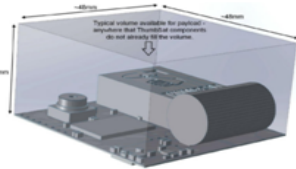
- ▶ Affordable Small Satellites! Associate with UNISEC India and ITCA!
- ▶ Collaborate Globally! Guidance of Global Scientists!
- ▶ Nano Satellites! Picosatellites! Students' Satellites!
- ▶ Realize Your Dream of Sending Satellites to Orbit!
- ▶ Achieve Your Dreams! Access to Global Funding/Soft Loan!
- ▶ Affordable Terms! First Come First Serve Basis!
- ▶ Ensure Your Participation! Join the Elite League!
- ▶ Opportunity for Signing MoUs! Funding/Soft Loan from Israel!
- ▶ Do not Miss 29-30 November 2018 @ Bangalore, India

Era of Small Satellites

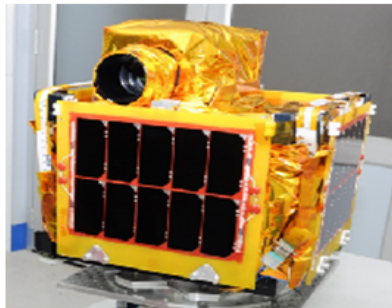
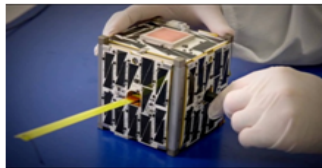
NanoSat, PicoSat, CubeSat, ThumbSat, FemtoSat etc



ThumbSat (FemtoSat)



CubeSat (NanoSat):



NanoSat:

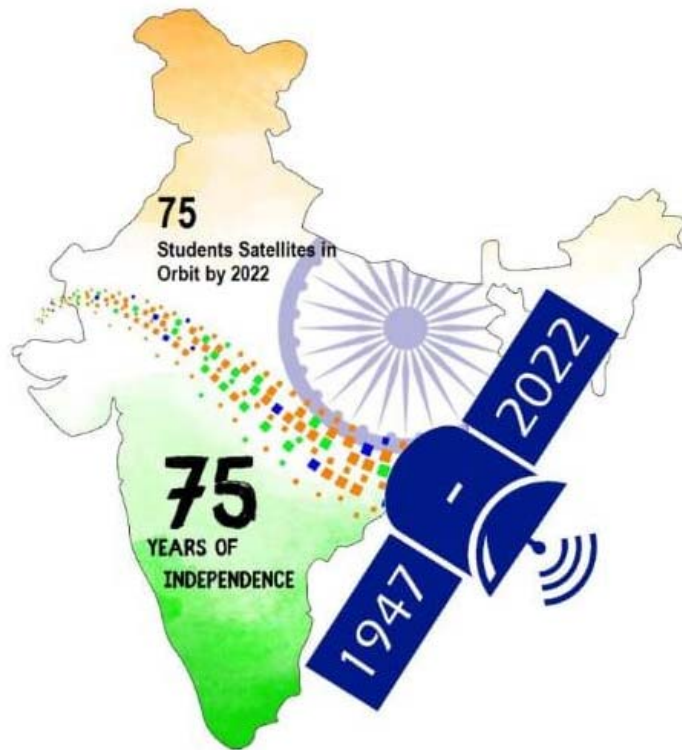
Classification/Category of Satellites

- ▶ Minisatellite (100–500 kg)
- ▶ Microsatellite (10–100 kg)
- ▶ Nanosatellites (1 -10 kg)
- ▶ Picosatellites (100 gm-1 kg) /CanSat/PocketCube
- ▶ Femtosatellites (10-100 gm)
- ▶ *Institutions can choose their Own Satellites and Payload & Mission Objectives*
- ▶ *Takeaways for Participants: Signing MoUs/Eols/ Access to Funding @ 2% Interest/Joint Development of Students Satellite/Post Event Trainings/Internships on Small Satellites etc*

Celebrate India's Freedom: 75 Years!

75 Students' Satellites will be Launched by 2022!

UNISEC India and ITCA Consortium



75 Students' Satellites will be Launched by 2022!

Major Areas to be covered

UNISEC India and ITCA Consortium

- ▶ CanSat, CubeSat and NanoSat/PicoSat Missions: Antenna Systems, Attitude Control Systems, Communication Systems, Command Data Handling Systems, CubeSat Structures, Solar Panels
- ▶ CubeSat Platforms
- ▶ Payload Development and Integration
- ▶ CanSat Competitions, Internships and Exchange Programmes
- ▶ Launch Services
- ▶ Ground Stations
- ▶ Commissioning and Operations Support
- ▶ Training and Mentoring Sessions/Modular Courses for Beginners

International Collaborations

Hand Holding/Mentoring by Global Experts

Invited Agencies/Countries for Collaborations



Supporting Countries/Agencies: India, Israel, France, Russia, Canada, Netherlands, UK, USA & Japan



India

Israel

France

Russia

Canada

Netherlands

UK

USA

Japan

National Advisory Board

- ▶ ***Padmashri. Prof. R.M. Vasagam, Mentor, UNISEC India***, Former Project Director, "APPLE" India's First Geo-stationary Communication Satellite, Former VC, Anna University and Dr.MGR University
- ▶ ***Padmashri. & Padmabhushan. Dr. B. N. Suresh***, Former Director, Vikram Sarabhai Space Centre, (VSSC), Former Director, Indian Institute of Space Science and Technology and Vikram Sarabhai Distinguished Professor, ISRO HQ.
- ▶ ***Padmashri. Dr. Mylswamy Annadurai***, Former Director, ISRO Satellite Centre (ISAC)
- ▶ ***Padmashri. Y. S. Rajan***, Honorary Distinguished Professor in Indian Space Research Organisation, Former Vice-Chancellor in Punjab Technical University (PTU)
- ▶ ***Padmashri. Dr. Dataguru***, Former Professor & HoD, Aerospace Department, Indian Institute of Science, Bangalore

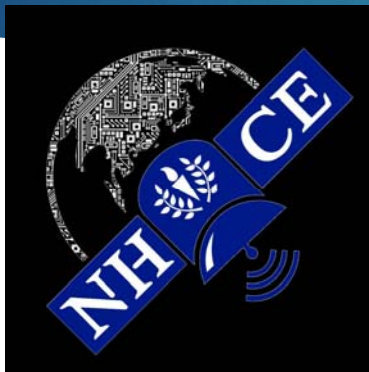
International Experts/Agencies Invited

International Advisory Committee

- ▶ *Dr. Shaun Whitehead, Creationeering/Scoutek Ltd (UK)*
- ▶ *Mr. Mathieu J Weiss, Managing Director, Liaison Office India, CNES, France*
- ▶ *Dr. Meir Ariel, Director, The Herzliya Science Centre*
- ▶ *Brig. Gen. (Res.) Abraham (Avi) Bachar, Founder & CEO IsraTeam 98 LTD, Israel*
- ▶ *Ms. Rei Kawashima, Secretary General, UNISEC Global, Japan*
- ▶ *Dr Sharan Asundi, AP, Tuskegee University and Visiting Researcher at NASA, USA*
- ▶ *Mr. Milind Pimprikar, CANEUS Founder and Chairman*
- ▶ *Innovative Solutions In Space (ISIS), Delft, Netherlands*
- ▶ *Cubesat.org and Thumbsat.com (Awaiting Confirmation)*
- ▶ *CANEUS Small Satellite Sector Consortium, Canada/USA (Awaiting Confirmation)*

NHCE and French Collaboration

Student Satellite Programme Supported by UNISEC India and ITCA



NHCE Students' Satellite Programme with the Support of National Space Agency, France

INAUGURATION OF INDO-FRENCH CENTRE OF EXCELLENCE



INDO-FRENCH PARTNERSHIP AGREEMENT



ITCA Initiative of Students Satellites

*Innovative Payload Competition: Rs. 1 Lakh Cash Award
For Top 10 Best Ideas*



NEW HORIZON
COLLEGE OF ENGINEERING
Autonomous College Permanently Affiliated to VITU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

Indian Technology Congress Association

NHCE

WFEO-CIC

IEEE NHCE

CNES
CENTRE NATIONAL D'ETUDES SPATIALES

NHCE STUDENTS' SATELLITE INNOVATIVE PAYLOAD COMPETITION

Win Up To ₹ 1 Lakh Cash Award
Top 10 Best Ideas will be Honoured!
Which will make you a Proud Member of
Students' Satellite Program of NHCE!

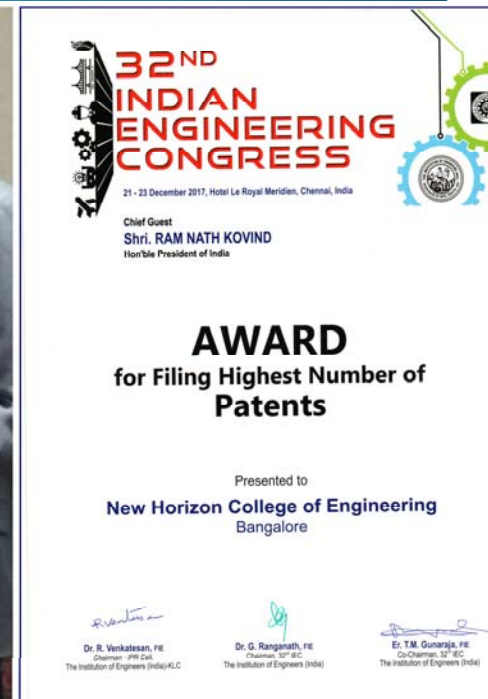


REGISTER!!!
Last date for Submissions:

Contact:
Rohit Mulay +91 8951102065
Denzel George +91 9482019653

Award for Filing Highest Number of Patents

Presented to New Horizon College of Engineering, Bangalore: Member of UNISEC India & ITCA



Dr. Marlene Kanga, President, World Federation of Engineering Organizations (WFEO) from Australia has presented an "Award for Filing Highest Number of Patents" during 32nd Indian Engineering Congress held at Hotel Le Royal Meridian, Chennai on 21 Dec 2017, Organized by the Institution of Engineers (India). Padmashri Prof. R. M. Vasagam and Dr. R. Venkatesan, Chairman, IPR Cell, IEI, KLC both are Council Members of IEI look on.