

# UNISEC INDIA

## *Student Representative Presentation*

- ▶ 19-21 November 2018,
- ▶ 6th UNISEC Global Meeting, International Space University, Strasbourg, FRANCE



**Proposed Activities of UNISEC India**

# 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 1<sup>st</sup> International Seminar on Students' Satellites to be held along with 6<sup>th</sup> 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 **18<sup>th</sup> October 2018** and communicated by **Ms. Rei Kawashima**, Secretary General, UNISEC Global, Japan.

# 1<sup>st</sup> 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 1<sup>st</sup> 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.
- ▶ **1<sup>st</sup> 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 6<sup>th</sup> 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 ITCA and NHCE. *Last Date: 30 November 2018*
- ▶ **2<sup>nd</sup> International Programme on Students’ Satellite: Mission 2022** with an active involvement of “**UNISEC India Chapter**” has been planned with the support of the President, **Dr. L. V. Muralikrishna Reddy** in association with Other Space Agencies and Industries.



# 1<sup>st</sup> International Seminar on Students' Satellites

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





# 1<sup>st</sup> International Seminar on Students' Satellites

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



# 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](mailto:vasagam@gmail.com))

**President:** Dr. L. M. Muralikrishna Reddy ([mlingireddy@yahoo.com](mailto:mlingireddy@yahoo.com))

**Secretary General:** Dr. K. Gopalakrishnan ([profgoki@yahoo.com](mailto:profgoki@yahoo.com))

**SPOC:** Dr. G. P. Ganapathy ([seismogans@yahoo.com](mailto:seismogans@yahoo.com))

**Students Representative:** Mr. Nikhil Riyaz ([nikhilryz@gmail.com](mailto:nikhilryz@gmail.com))

**Core Student Coordinators:** Mr. Denzel Abraham George & Ms. Bhavana Savanth

*(The Core Committee is in the process of evolving suitable federal arrangements considering the largest number of Universities/ Engineering Educational Institutions (EELs) 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)*



# Major Initiatives of UNISEC India

[www.unisec-india.in](http://www.unisec-india.in)

- ▶ UNISEC India has been actively involved in the process of Organizing 2<sup>nd</sup> 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).
- ▶ **We are Open for Collaboration with any Interested UNISEC Chapters across the World!**

## UNISEC India

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

### Contact Info

+91 80 6559 2501; +91 80 4850 8380; Email: [profgoki@yahoo.com](mailto:profgoki@yahoo.com) ; Website: [www.unisec-india.in](http://www.unisec-india.in)

# UNISEC Global Events at India *(Proposed)*

## *With an Active Support of UNISEC Global*

- ▶ We wish to host 7<sup>th</sup> UNISEC Global Meeting at India in 2019!

### *The Following Successful Programs of UNISEC Global/Japan at India!*

- ▶ Hands-on Education Program for Technical Advancement: **HEPTA-Sat Training**
- ▶ Mission Idea Contest
- ▶ Deorbit Device Competition
- ▶ Debris Mitigation Competition
- ▶ CanSat Leadership Training Program
- ▶ Nano-Satellite Symposium
- ▶ **Internships and Exchange Programmes among UNISEC Countries/Chapters**

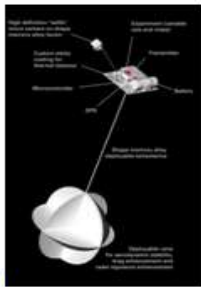
# 2<sup>nd</sup> International Seminar on Student Satellites! *Launch Your Own Satellites!*

- ▶ 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

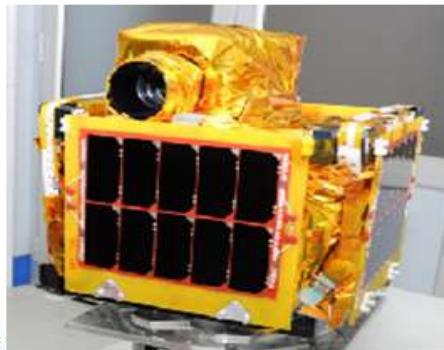
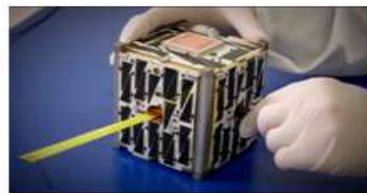
*NanoSat, PicoSat, CubeSat, ThumbSat, FemtoSat etc*



ThumbSat (FemtoSat)



CubeSat (NanoSat):



NanoSat:

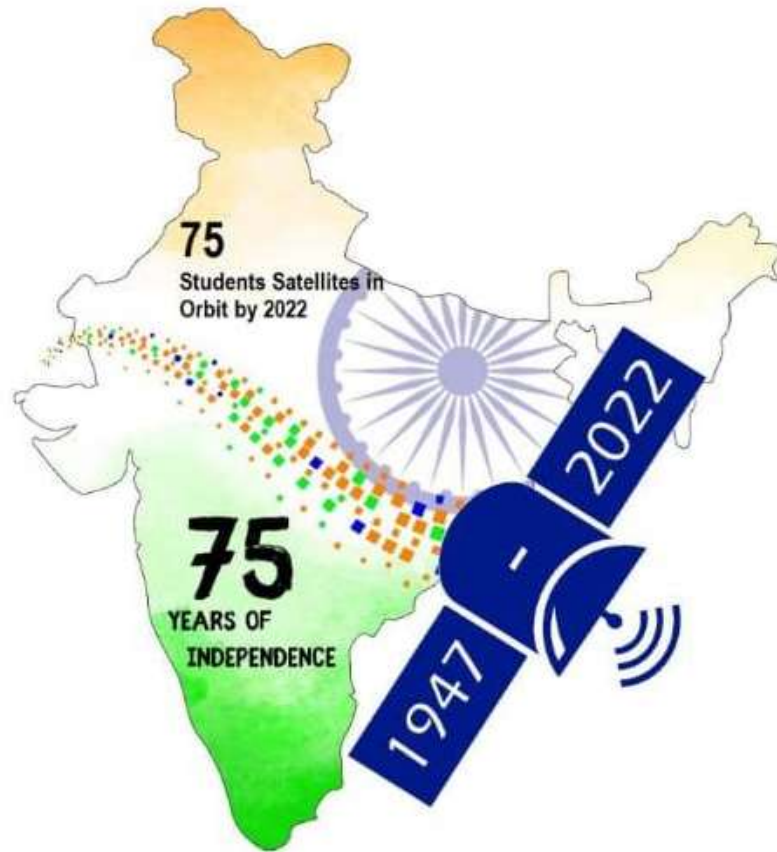
## Classification/Category of Satellites

- Minisatellite (100–500 kg)
- Microsatellite (10–100 kg)
- Nanosatellites (1 -10 kg)
- Picosatellites (100 gm-1 kg)
- 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 is Playing an Active Role to Disseminate this Great Efforts among Universities



# Major Areas to be covered

- ▶ **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**
- ▶ **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



# National Advisory Board

- ▶ **Padmashri. Prof. R.M.Vasagam**, 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**, 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
- ▶ **Mr. Andrew Quintero**, CANEUS Small Satellite Sector Consortium Director
- ▶ **Innovative Solutions In Space (ISIS)**, Delft, Netherlands
- ▶ **Cubesat.org and Thumbsat.com**
- ▶ **CANEUS Small Satellite Sector Consortium, Canada/USA**



# Invited Dignitaries/Chief Guests



- ▶ **Mr. H. D. Kumaraswamy**, Chief Minister of Karnataka



- ▶ **Mr. Ofir Akunis**, Minister of Science, Technology and Space



- ▶ **Dr. Harsh Vardhan**, Minister of Science & Technology, Minister of Environment, Forest and Climate Change and Minister of Earth Sciences



- ▶ **Dr. K. Sivan**, Chairman, Indian Space Research Organization, will Inaugurate the International Seminar on Students' Satellites





Indian  
Technology  
Congress  
Association

## ITCA's Global Technology Cooperation Initiatives with ISRAEL




ITCA Delegation led by its President, **Dr. L.V. Muralikrishna Reddy** had a meeting with **Mr. Ofir Akunis**, Israel's Minister of Science, Technology and Space at the Israeli Parliament "Knesset" on **Wednesday, 06 June 2018**. Collaboration and joint pursuit in the areas of capacity-building for futuristic requirements; and small satellites and space applications ecosystem were discussed during the meeting.

The ITCA team comprising of **Mr. M. Milind**, **Dr. K. Gopalakrishnan**, Dean (R&D), NHCE, **Dr. Enti Ranga Reddy** and **Dr. Wooday P. Krishna** briefed the Israeli team about the forthcoming **Indian Technology Congress-2018** at Bengaluru during **05-06 September 2018** and invited him to the event.





# NHCE and French Collaboration

## *Student Satellite Programme Supported by 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**



The poster features a dark background with a satellite launch trail. At the top, it displays the logo of New Horizon College of Engineering. Below this, a row of logos includes the Indian Technology Congress Association, NHCE, WFEO-CIC, IEEE NHCE, and CNES. The central text reads: 'NHCE STUDENTS' SATELLITE INNOVATIVE PAYLOAD COMPETITION'. Below this, it states: 'Win Up To ₹ 1 Lakh Cash Award', 'Top 10 Best Ideas will be Honoured!', and 'Which will make you a Proud Member of Students' Satellite Program of NHCE!'. In the bottom left corner, there is a QR code and the text 'bit.ly/nhcesat'. In the bottom right corner, contact information is provided: 'Contact: Rohit Mulay +91 8951102065, Denzel George +91 9482019653, Nikhil Riyaz +91 9741896297'.

**NEW HORIZON**  
COLLEGE OF ENGINEERING

Indian Technology Congress Association

NHCE

WFEO-CIC

IEEE NHCE

CNES

**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!

  
bit.ly/nhcesat

**REGISTER!!!**  
Last date for Submissions:  
**30 NOVEMBER 2018**

Contact:  
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Nikhil Riyaz +91 9741896297