



# IEEE Aerospace Electronic Systems AEISS India Section

*Puneet Kumar Mishra*

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## Puneet Kumar Mishra

Head, Satellite Antenna Characterization, Test & Design Section  
U R Rao Satellite Centre  
Indian Space Research Organization, Bangalore, India

Experience of RF Characterization of 47 Satellites  
Conceived, Conceptualized & Commissioned S/C Level EMC Chamber  
Subsystem level Magnetic Field Measurement Facility  
Conceived & Conceptualized World's First & Largest Compact Range Developed  
Langmuir Probe Payload for reentry spacecraft  
Compact Range feeds in C-,Ku-,K, Ka, Q& V Bands

2021-2022 Corresponding Member, IEEE Industry Engagement  
2022 IEEE Technical Program Integrity Committee  
2021-2022 & 2017-2018 Vice Chair, IEEE India Council  
2020 Chair, IEEE Bangalore Section  
2019-2020 Secretary, IEEE India Council



# Main Activities : Making AESS Relevant and Vibrant



- ▶ Present Status
- ▶ Strength
  - 50K+ Professionals in AESS Designated fields
  - Govt has opened up the Space & Defence Sector
  - Exponential growth observed in AESS ecosystem
- ▶ Weakness
  - Only 3 chapters in 13 sections
  - 155 AESS members in 45K+ IEEE members
  - 2 Student Chapters in 1000+ Student Branches
  - No Flagship Conference
- ▶ Opportunity
  - To open Chapters at Section and Student Branch Levels
  - Start a flagship conference/ Collaborate with existing one
  - Engaging 500+Large/ MSMEs & 100+Startups
- ▶ Threat
  - Engagement with other societies and professional bodies

| S No. | Section   | Membership |             | AESS Chapter Existence |
|-------|-----------|------------|-------------|------------------------|
|       |           | Section    | AESS        |                        |
| 1     | Bangalore | 7854       | 55          | Yes                    |
| 2     | Bombay    | 2452       | 14          | Yes                    |
| 3     | Delhi     | 3869       | 10          |                        |
| 4     | Gujarat   | 975        | 4           |                        |
| 5     | Hyderabad | 5205       | 26          |                        |
| 6     | Kerala    | 11000      | 15          |                        |
| 7     | Kharagpur | 257        | 1           |                        |
| 8     | Kolkata   | 2807       | 7           |                        |
| 9     | MP        | 686        | 0           |                        |
| 10    | Madras    | 5137       | 19          | Yes                    |
| 11    | Pune      | 1406       | 2           |                        |
| 12    | UP        | 2603       | 2           |                        |
| 13    | Vizag     | 939        | 0           |                        |
| Total |           | 45195      | 155 (0.34%) |                        |



## ► Initiatives Taken

- Started YP In Space and organized it in iAIM 2017, InCAP 2018, 2019, 2021. Planned during MAPCON2022
- Organizing an AESS track in IEEE Bangalore flagship conference CONECCT 2022
- Approached various sections, following 4 have shown positive interest
  - [Delhi, Gujarat, Hyderabad & Kerala](#)
- Approached Various Student Branches (SBs) to open Student Chapters, following 6 have shown positive interest
  - [IIIT-Delhi, VEC-Hyderabad, CUK, BEC-Bagalkot, Christ University Bangalore and VVIET Mysore](#)

## ► Initiatives Planned

- Provide necessary assistance and guidance to sections and SBs to open chapters by physically meeting them
- Organize Workshop/Panel Discussions/Talks/Hands-on in AESS designated fields across India
- Identify potential Senior Members and Fellows and nominate them for elevation
- Submit a proposal to organize an AESS flagship conference
- Collaborate with existing conferences with focus in AESS designated fields (IRSI, MAPCON)
- Engagement with 7<sup>th</sup> Bangalore Space Expo (5-7 September 2022)

## ► Attainable Metrics For Next 3 Years

| SNo. | Description  | 2022    | 2023    | 2024    |
|------|--|---------|---------|---------|
| 1    | Opening of Section Chapters  | 4       | 3       | 3       |
| 2    | Opening of Student Branch Chapters   | 5       | 7       | 10      |
| 3    | Identify potential Senior Members  | 5       | 10      | 15      |
| 4    | Identify potential Fellows   | 1       | 1       | 2       |
| 5    | Organize Workshop/Panel Discussions/Talks/Hands-on in AESS designated fields across India      | 5       | 10      | 15      |
| 6    | Submit a proposal to organize an AESS Flagship conference                                      | 1       | 1       | 1       |
| 7    | Collaborate with existing conferences with Focus in AESS designated fields (IRSI, MAPCON etc.) | 1       | 2       | 2       |
| 8    | Engagement with Bangalore Space Expo, Defense Expo, AERO India                                 | 1       | 1       | 1       |
| 9    | Starting flagship AESS conference for India/R10  | -       | 1       | 1       |
| 10   | AESS membership in India   | 300(2x) | 450(3x) | 600(4x) |

**IEEE TAB Established New Objectives For 2022-2025**

- ▶ India membership growth initiative 2022
- ▶ Pros:
  - Making AESS relevant and vibrant
  - 2X membership growth
  - 4 additional Chapters & 6 additional SB chapters
  - AESS visibility to 10K+ delegates of Bangalore Space Expo (BSX) & 1K delegates of MAPCON & AISYWLC
- ▶ Cons:
  - Enhanced recurring expenditure on chapters
- ▶ Financial Implications: US\$ 5K
  - AESS engagement with BSX, MAPCON, AISYWLC (\$3K)
  - Meeting with various Section and Chapter officers to meet above objectives (\$2K)

MOTION: Bob Rassa moves to support the \$5,000 expense for the India membership growth initiative in 2022.