



Annual Review of SAC Space Technology Cell (STC) projects was organized during 02-05 December 2019 at Space Applications Centre, ISRO Ahmedabad. 71 SAC STC Projects were reviewed during this meeting.



Registration of Participants and Information Desk



Inaugural Session of ASR-2019 on 2nd December, 2019



Welcoming the Dignitaries



Welcome Address by Shri Chirag Dewan, Group Director, PPG SAC



Brief on SAC STC activity by Dr Parul Patel, Head RESPOND & Research Coordination Division, SAC



Inaugural Address by Shri D. K . Das, Director, SAC



Presentation on 'Research Areas of SAC' by Shri Nilesh M Desai, Associate Director, SAC



Compering, Records and Minutes of Meeting



Glimpses during Presentation/Interaction Sessions

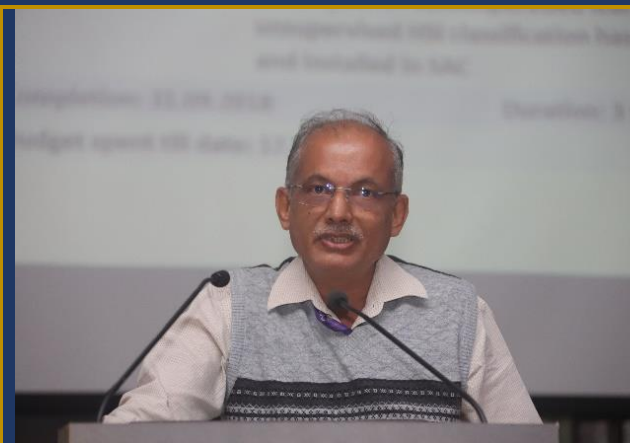






SAC Co-PIs explained the Utilisation of deliverables from recently completed STC Projects





Memento Presentation



Shri A. N. Bhattacharya, SAC JPC member felicitated Director-SAC



Dr. Tirtha Pratim Das, Deputy Director DTDI, ISRO HQ, receiving the memento



Prof. Santanu Chattopadhyay, Convenor STC IIT-Kharagpur, receiving the memento



Prof. Deepthi Deobagkar, ISRO Chair Professor SPPU, Pune receiving the memento



Prof. Shubhasis Dutta, Co-ordinator STC IIT-Guwahati, receiving the memento



Shri Nilesh Desai, JPC Member, STC IIT, Madras receiving the memento



Shri Rajeev Jyoti, JPC Member, STC SPPU Pune receiving the memento



Shri Apurba Bhattacharya, JPC Member, STC IIT, Kharagpur receiving the memento



Shri Sumitesh Sarkar, JPC Member, STC IIT, Kanpur receiving the memento



Shri Hemen Kansara, JPC Member, STC IIT, Roorkee receiving the memento



Dr. Milind Mahajan, JPC Member, STC IIT, Guwahati receiving the memento

Laboratory Visits of ASR 2019 participants on 05 December, 2019



Vibration Test Facility Lab visit



MRSA Lab visit





Planetary Simulation and Immersive Visualisation (PLASIV) Lab visit







Presentations made during Annual STC Review 2019


1.	STC_ID:	STC0023	 <p style="text-align: center;">PI: Dr. Indrajit Chakrabarti</p> <p style="text-align: center;">Co-PI: Dr. A S Dhar</p>
	Research Title:	Implementing a Scalable Video Transcoder based on Motion Compensated Temporal Filtering	
	Organisation:	IIT Kharagpur	
2.	STC_ID:	STC0024	 <p style="text-align: center;">Ms. Sangita Dhara, JRF</p> <p style="text-align: center;">PI : Dr. Raja Datta & Co-PI: Dr. Kalyan Bandyopadhyay</p>
	Research Title:	Protocol Development for Interplanetary Delay Tolerant Network	
	Organisation:	IIT Kharagpur	
		Presented by Ms. Sangita Dhara, JRF	
3.	STC_ID:	STC0025	 <p style="text-align: center;">Dr. Dipanwita Roy Chowdhury</p> <p style="text-align: center;">PI : Dr. Abhijit Das</p>
	Research Title:	Design and Efficient Implementation of Advanced Encryption and Decryption Techniques for Use in Spacecraft Communications (EEC)	
	Organisation:	IIT Kharagpur	
		Presented by Co-PI: Dr. Dipanwita Roy Chowdhury	


4.	STC_ID:	STC0026	 <p>PI: Dr. Anindya Sundar Dhar</p> <p>Co-PI: Dr. Indrajit Chakrabarti</p>
	Research Title:	Design of Fault-Tolerant VLSI Systems for Applications in Satellite Communication	
	Organisation:	IIT Kharagpur	
5.	STC_ID:	STC0044	 <p>Dr. Rashmi Sharma, SAC</p> <p>PI : Dr. Arun Chakraborty</p>
	Research Title:	Retrieving of Temperature and Salinity of the Ocean from Satellite Surface Observation	
	Organisation:	IIT Kharagpur Presented by Dr. Rashmi Sharma, SAC	
6.	STC_ID:	STC0057	 <p>Shri Arup Banerjee</p> <p>PI : Dr. Tanmoy Maiti</p>
	Research Title:	Development of Novel Plasmonic Devices for Next Generation Chip-scale Technology based on Nanophotonics	
	Organisation:	IIT Kanpur Presented by Shri Arup Banerjee, SAC Co-PI	
7.	STC_ID:	STC0058	 <p>Shri V S Jagadesh</p> <p>PI : Dr. Nachiketa Tiwari</p>
	Research Title:	Vibration Control of Cryo-coolers for Satellite Applications	
	Organisation:	IIT Kanpur Presented by Shri V S Jagadesh, SAC Co-PI	



8.	STC_ID:	STC0060	 <p>PI: Dr. Pradip Mandal</p> <p>Co-PI: Dr. Mrigank Sharad</p>
	Research Title:	Design and Implementation of a 250 MSPS, 8-bit ADC in sub-micron technology for Space Applications (BTA)	
	Organisation:	IIT Kharagpur	
9.	STC_ID:	STC0061	 <p>Shri Kirti Padia</p> <p>PI : Dr. Pabitra Mitra</p>
	Research Title:	Deep learning for Automated Feature Discovery in Hyperspectral Images	
	Organisation:	IIT Kharagpur Presented by Shri Kirti Padia, SAC Co-PI	
10.	STC_ID:	STC0070	 <p>PI: Dr. Jayanta Mukherjee</p>
	Research Title:	Fractional NPLL and ADC for IRNSS User Receiver	
	Organisation:	IIT Bombay	
11.	STC_ID:	STC0071	 <p>PI: Dr. Manikandan Mathur</p>
	Research Title:	Identification of mesoscale eddies in the Bay of Bengal using Lagrangian Coherent Structures	
	Organisation:	IIT Madras	


12.	STC_ID:	STC0072	 <p>PI: Dr. Nagendra Krishnapura</p> <p>CO-PIs: Dr. Shanthi Pavan & Dr. S Aniruddhan</p>
	Research Title:	16 bit 5MS/s analog to digital converter	
	Organisation:	IIT Madras	
13.	STC_ID:	STC0077	 <p>Shri Balendu Pandey</p> <p>PI : Dr. M K Mandal Co-PIs :Dr. S R Bhadra Chaudhuri & Dr. K. Bandyopadhyay</p>
	Research Title:	Studies on Retro-Directive Array for Space Applications (RAA)	
	Organisation:	IIT Kharagpur Presented by Shri Balendu Pandey, SAC	
14.	STC_ID:	STC0078	 <p>PI: Dr. A Bhattacharya</p> <p>Co-PI: Dr. K Bandyopadhyay</p>
	Research Title:	Ka Band Propagation Experiments over Indian Tropical Region for Improvement of Ka Band Satellite Communication	
	Organisation:	IIT Kharagpur	
15.	STC_ID:	STC0083	 <p>PI: Dr. A Bhattacharya</p>
	Research Title:	Development of Earth Simulator For Time Domain GPR Applications (EDG)	
	Organisation:	IIT Kharagpur	


16.	STC_ID:	STC0144	 <p>PI: Dr. Debashish Chakravarty</p> <p>Co-PIs: Dr. B Samanta & Dr. P Mitra</p>
	Research Title:	Assessment and Implementation of Complex Image Co-registration and Phase Unwrapping Algorithms for Interferometric SAR Processing	
	Organisation:	IIT Kharagpur	
17.	STC_ID:	STC0145	 <p>Shri Jay Hind Kumar Verma</p> <p>PI : Dr. Yogesh Singh Chauhan</p>
	Research Title:	Characterization and Modeling of Radiation hardened CMOS transistors for space applications	
	Organisation:	IIT Kanpur Presented by Shri Jay Hind Kumar Verma, JRF	
18.	STC_ID:	STC0146	 <p>PI: Dr. Gannavarpu Rajshekhar</p>
	Research Title:	High throughput surface characterization using coherent optical imaging	
	Organisation:	IIT Kanpur	
19.	STC_ID:	STC0147	 <p>Shri S Manthira Moorthi</p> <p>PI : Dr. Tanaya Guha, Co-PIs: Dr. Gaurav Pandey & Dr. V K Subramanian</p>
	Research Title:	Application Aware Image Quality Evaluation	
	Organisation:	IIT Kanpur Presented by Shri S Manthira Moorthi, SAC Co-PI	

20.	STC_ID:	STC0149	 <p>PI: Dr. Naren Naik</p>
	Research Title:	RTE-tomography based cloud and ocean monitoring	
	Organisation:	IIT Kanpur	
21.	STC_ID:	STC0153	 <p>Shri Ishrat Jamal</p> <p>PI : Dr. Sandeep Anand Co-PI: Dr. Yogesh Singh Chauhan</p>
	Research Title:	Design and Development of GaN Based Compact DC-DC Converter	
	Organisation:	IIT Kanpur Presented by Shri Ishrat Jamal, SAC	
22.	STC_ID:	STC0155	 <p>Shri Ratheesh Ramakrishnan</p> <p>PI : Dr. Anirban Guha</p>
	Research Title:	Numerical investigations on surface gravity waves and internal tides	
	Organisation:	IIT Kanpur Presented by Shri Ratheesh Ramakrishnan, SAC Co-PI	
23.	STC_ID:	STC0159	 <p>PI: Dr. Rajib Maity</p>
	Research Title:	Exploration of vertical soil moisture profile by assimilating the surface soil moisture data retrieved from remotely sensed SAR data	
	Organisation:	IIT Kharagpur	


24.	STC_ID:	STC0160	 <p>PI: Dr. Dipanwita Roy Chowdhury</p>
	Research Title:	Indigenous Encrypted Authentication for Satellite Communication (IAE)	
	Organisation:	IIT Kharagpur	

25.	STC_ID:	STC0164	 <p>PI: Dr. K Pathak</p> <p>Co-PIs: Dr. Abhisek Chakrabarty & Dr. V. M. Chowdary &</p>  <p>Shri Narayan Kayet, JRF</p>
	Research Title:	Development of forest health monitoring model based on Hyperion data for Geo-Environmental Impact management in the Iron Ore mining belts of Saranda Forest, Jharkhand	
	Organisation:	IIT Kharagpur	


26.	STC_ID:	STC0167	 <p>PI: Dr. Sabyasachi Maiti</p>
	Research Title:	Shoreline Change Analysis along Andaman and Nicobar Islands: Implication for Coral Conservation (AAC)	
	Organisation:	IIT Kharagpur	

27.	STC_ID:	STC0168	
	Research Title:	Gigahertz and Terahertz antenna on photonic crystal substrate	
	Organisation:	IIT Kanpur	

PI : Dr. R Vijaya

28.	STC_ID:	STC0170	
	Research Title:	Development of a Gas sensor to detect leakage of Helium gas from inflatable space structure	
	Organisation:	IIT Kanpur	


PI: Dr. Shantanu Bhattacharya

29.	STC_ID:	STC0172	
	Research Title:	Space-Time Trellis Coding (STTC)/Turbo coding based robust satellite image processing and communication	
	Organisation:	IIT Kanpur	

Presented by Shri Chandra Prakash, SAC Co-PI


Shri Chandra Prakash


PI : Dr. Ketan Rajawat
Co-PI: Prof Aditya K. Jagannatham


30.	STC_ID:	STC0176	
	Research Title:	Polarimetric Analysis of SAR Images for Segmentation, Classification and Recognition of Objects (ARI)	
	Organisation:	IIT Kharagpur	


PI: Dr Jayanta Mukhopadhyay


Co-PIs: Dr. Shamik Sural & Dr SK Ghosh

31.	STC_ID:	STC0178	 <p>Dr. Hari Shanker Gupta</p> <p>PI : Dr. Mrigank Sharad</p>
	Research Title:	Design of SET Tolerant High-Speed Transceiver for Chip to Chip Backplane Interconnect	
	Organisation:	IIT Kharagpur Presented by Dr. Hari Shanker Gupta, SAC Co-PI	

32.	STC_ID:	STC0179	 <p>Shri Suresh K</p> <p>PI : Dr. R Venkatesh Babu</p>
	Research Title:	Aerial Image understanding	
	Organisation:	IISc Bangalore Presented by Shri Suresh K, SAC	





33.	STC_ID:	STC0181	 <p>PI: Dr. N. Arunachalam</p>
	Research Title:	Design and Development of Five Axis Magnetic field Assisted fluid jet polishing for nano-surface generation	
	Organisation:	IIT Madras	

34.	STC_ID:	STC0210	 <p>Shri Rahul Dasgupta</p> <p>PI : Dr. Ramananda Chakrabarti</p>
	Research Title:	Petrographic, Geochemical, Isotopic and Remote Sensing study of the Dhala impact crater, India	
	Organisation:	IISc Bangalore Presented by Shri Rahul Dasgupta, JRF.	

35.	STC_ID:	STC0211	 <p>PI: Dr. G N Rathna</p> <p>Co-PI: Dr. Chandra Sekhar Seelamantula</p>
	Research Title:	Satellite Image Denoising in Hardware	
	Organisation:	IISc Bangalore	





36.	STC_ID:	STC0214	 <p>PI: Dr. Partha Pratim Das &</p>  <p>Ms. Srijoni Majumdar, JRF</p>  <p>Shri Himadri Bhuyan, JRF</p>
	Research Title:	Hands-free Gesture Control for 3D Data Visualization by Immersive Image Navigation (Phase-II_STC0038)	
	Organisation:	IIT Kharagpur	


37.	STC_ID:	STC0215	 <p>PI: Dr. Apurba Laha</p> <p>Co-PIs: Dr. Dipankar Saha & Dr. Swaroop Ganguly</p>
	Research Title:	Growth and Characterization of AlGaIn/GaN Heterostructure by Plasma Assisted Molecular Beam Epitaxy (PA-MBE) Technique for High Mobility Electron Transistor	
	Organisation:	IIT Bombay	
38.	STC_ID:	STC0220	 <p>Shri Chandra Prakash</p> <p>PI: Dr. V A Wankhede Co-PI: Prof. R M Chudiwal</p>
	Research Title:	QPSK Demodulator based on Wideband Acquisition Technique	
	Organisation:	SPPU Pune Presented by Shri Chandra Prakash, SAC Co-PI	
39.	STC_ID:	STC0225	 <p>Smt. Saumi S</p> <p>PI : Dr. Susmita Bhattacharyya</p>
	Research Title:	A Kalman Filter-Based Multi-Constellation GNSS Integrity Monitor	
	Organisation:	IIT Kharagpur Presented by Smt. Saumi S, SAC Co-PI	
40.	STC_ID:	STC0228	 <p>Dr. Sahil Kalra</p> <p>PI: Dr. Bishakh Bhattacharya Co-PI: Dr. P K Panigrahi</p>
	Research Title:	Shape Memory Alloys actuated Mechanically Active Reconfigurable light weight PEEK material based parabolic reflector for active control on RF patterns for High frequency Micro / Nano Spacecraft Applications	
	Organisation:	IIT Kanpur Presented by Dr. Sahil Kalra, Co-PI	


41.	STC_ID:	STC0229	 <p>Shri Jay Hind Kumar Verma</p> <p>PI : Dr. Yogesh Singh Chauhan</p>
	Research Title:	PDK Development and modeling support for ISRO's GaN HEMT Technology	
	Organisation:	IIT Kanpur Presented by Shri Jay Hind Kumar Verma, JRF	
42.	STC_ID:	STC0231	 <p>PI: Dr. Deepak Dhingra</p>
	Research Title:	Impact Melt Cover on Central Peaks of Lunar Impact Craters: Evaluating its Implications for Deriving Sub-surface Mineralogy using data from Chandrayaan-1 & other recent lunar missions	
	Organisation:	IIT Kanpur	
43.	STC_ID:	STC0232	 <p>PI: Dr. Shailendra K Varshney</p> <p>Co-PI: Dr. Suvra Sekhar Das</p>
	Research Title:	Establishment of Quantum Communication Link for Space Application	
	Organisation:	IIT Kharagpur	
44.	STC_ID:	STC0233	 <p>Shri Manudeo Narayan Singh</p> <p>PI: Dr. Rajiv Sinha</p>
	Research Title:	Optical characterization of wetlands from Earth Observations	
	Organisation:	IIT Kanpur Presented by Shri Manudeo Narayan Singh, JRF	


45.	STC_ID:	STC0234	 <p>Dr. Brajesh Kr. Saini PI : Dr. Onkar Dikshit</p>
	Research Title:	Integration of spectral and spatial information for hyperspectral image classification	
	Organisation:	IIT Kanpur Presented by Dr. Brajesh Kr. Saini, Co-PI	
46.	STC_ID:	STC0236	 <p>Ms. Sonali Maurya PI : Dr. Mahendra Verma Co-PIs: Dr. S A Ramakrishna & Dr. Kumar Vaibhav Srivastava</p>
	Research Title:	Parallel Electro-Magnetic Solver for Microwave, Infrared, and Optical applications (MIO-PEMS)	
	Organisation:	IIT Kanpur Presented by Ms. Sonali Maurya, JRF	
47.	STC_ID:	STC0237	 <p>Shri Vishal Kumar Chakradhary PI : Dr. M. Jaleel Akhtar Co-PI: Dr. Kamal K Kar</p>
	Research Title:	Design of polymer based wideband microwave absorbers for stealth and electromagnetic shielding applications	
	Organisation:	IIT Kanpur Presented by Shri Vishal Kumar Chakradhary, JRF	


48.	STC_ID:	STC0238	 <p>Shri Adarsh S</p> <p>PI : Dr. Samit Ray Chaudhuri</p>
	Research Title:	Detectability of Critical Delamination in Composite Space Components: Vibration based Approach	
	Organisation:	IIT Kanpur Presented by Shri Adarsh S, JRF	
49.	STC_ID:	STC0239	 <p>Shri Ashwini Kumar Rawat</p> <p>PI : Dr. Debabrata Goswami</p>
	Research Title:	Molecular Size and Mass Sensitive Thermal Ultrasensitive Spectrometer Applications	
	Organisation:	IIT Kanpur Presented by Shri Ashwini Kumar Rawat, JRF	
50.	STC_ID:	STC0241	 <p>PI: Dr. Shalabh Gupta</p>
	Research Title:	Development of a NIR laser based platform for emulating single event effects on integrated circuits due to radiation strikes	
	Organisation:	IIT Bombay	
51.	STC_ID:	STC0245	 <p>PI: Dr. K Ramesh</p>
	Research Title:	Development of far-infrared transmitting Te based chalcogenide glasses for space applications	
	Organisation:	IISc Bangalore	





52.	STC_ID:	STC0246	 <p>Dr. G N Rathna</p> <p>PI: Dr. Chandra Sekhar Seelamantula</p>
	Research Title:	Satellite image restoration in multiplicative noise conditions	
	Organisation:	IISc Bangalore Presented by Dr. G N Rathna, Co-PI	
53.	STC_ID:	STC0250	 <p>PI: Dr. Biswajit Samanta</p>
	Research Title:	Development of software tool for multi-and hyperspectral data processing of earth science data for integration of spatio-spectral information for mineral identification and mapping using SVM and Graph-cut based method	
	Organisation:	IIT Kharagpur	
54.	STC_ID:	STC0251	 <p>PI: Dr. Saurabh Saxena</p>
	Research Title:	Energy efficient & wide-range 15Mb/s-1.5Gb/s SERDES	
	Organisation:	IIT Madras	
55.	STC_ID:	STC0253	 <p>Shri Srinivas Kolluru</p> <p>PI : Dr. Shirishkumar CO-PIs: S Gedam & Dr. Anirban Chakraborty</p>
	Research Title:	Modelling of Water Quality Parameters for Coastal and Inland Water Bodies using Data from Multispectral and Hyperspectral Imaging Systems	
	Organisation:	IIT Bombay Presented by Shri Srinivas Kolluru, JRF	





56.	STC_ID:	STC0254	 <p>PI: Dr. Santanu Banerjee</p> <p>Co-PI: Dr. Kanchan Pande</p>
	Research Title:	Physico-chemical conditions of formation of bole beds within Deccan basalt for Martian analogue	
	Organisation:	IIT Bombay	


57.	STC_ID:	STC0257	 <p>PI: Dr. Ashwini M Deshpande</p>
	Research Title:	Development of image quality improvement algorithms for satellite imagery/ radiometric data	
	Organisation:	SPPU Pune	


58.	STC_ID:	STC0263	 <p>PI: Dr. Varsha W Wankhade</p> <p>Co-PI: Dr. Indranil Banerjee</p>
	Research Title:	Effects of simulated microgravity on expression profile of micro RNA in human cardiomyocytes	
	Organisation:	SPPU Pune	


59.	STC_ID:	STC0264	 <p>PI: Dr. Sachin S Gunthe</p>
	Research Title:	Relation between atmospheric aero-sols and plant productivity: A missing link between agricultural production and pathogenic bio aerosols	
	Organisation:	IIT Madras	


60.	STC_ID:	STC0265	 <p>PI: Dr. S. Soundarapandian</p>
	Research Title:	Design and develop India's most advanced carbon fibre 3D printer	
	Organisation:	IIT Madras	
61.	STC_ID:	STC0266	 <p>PI: Dr. Shilpa Pimpalkar</p>
	Research Title:	Ontology enabled disaster management web service using data integration	
	Organisation:	SPPU Pune	
62.	STC_ID:	STC0267	 <p>PI: Dr. Basudev Biswal</p> <p>Co-PIs: Dr. Sarthak Gaurav & Dr. Subimal Ghosh</p>
	Research Title:	A flood warning system for entire India optimal utilization for satellite based data and development of a computationally efficient flood inundation model	
	Organisation:	IIT Bombay	
63.	STC_ID:	STC0269	 <p>PI: Dr. Eswar Rajasekaran</p>
	Research Title:	Modelling and validation of evapotranspiration from India Space borne thermal sensors	
	Organisation:	IIT Bombay	

64.	STC_ID:	STC0270	 <p>Dr. Eswar Rajasekaran</p> <p>PI: Dr. Raaj Ramsankaran</p>
	Research Title:	Modelling and Mapping of Supraglacial Debris Cover Thickness using UAS and Satellite Remote Sensing Data in selected Glaciers of Western Himalayas	
	Organisation:	IIT Bombay Presented by Dr. Eswar Rajasekaran, Co-PI	
65.	STC_ID:	STC0271	 <p>Dr. Ashutosh Tripathi</p> <p>PI : Dr. Deepak Gupta</p>
	Research Title:	Development of Reconfigurable Flat-Panel Metasurface Antenna	
	Organisation:	IIT Kanpur Presented by Dr. Ashutosh Tripathi , Senior Scientist	
66.	STC_ID:	STC0272	 <p>Shri Swarnadip Mukherjee</p> <p>PI : Dr. Bhaskaran Muralidharan</p>
	Research Title:	Comprehensive Simulation Engine for Type-II Superlattice based Barrier Infrared Photodetectors	
	Organisation:	IIT Bombay Presented by Shri Swarnadip Mukherjee, JRF	
67.	STC_ID:	STC0282	 <p>PI: Dr. Girish N. Kotwal</p> <p>Co-PIs: Prof. Sunil S. Kuber, Prof. Ramkrishna Bharsakade</p>
	Research Title:	Development of Nano-polishing technology for metal mirror	
	Organisation:	SPPU Pune	

68.	STC_ID:	STC0286	 <p>PI: Dr. Bhalchandra Pujari Co-PI: Raymond Duraiswami</p>
	Research Title:	Data driven modeling of morphology and formation of impact craters in Basalt: A case study of Lonar	
	Organisation:	SPPU Pune	

69.	STC_ID:	STC0293	 <p>PI: Dr. Bibhudatta Sahoo</p>
	Research Title:	Radiation Tolerant All Digital Wide-Tuning Range Fractional-N Phase-Locked Loop (PLL)	
	Organisation:	IIT Kharagpur	

70.	STC_ID:	STC0294	 <p>PI: Dr. Dipanwita Roy Chowdhury</p>
	Research Title:	Design and Implementation of Fault Attack Resilient Encryption for Secure Communication	
	Organisation:	IIT Kharagpur	

71.	STC_ID:	STC0296	 <p>PI: Dr. Akhilesh Mohan</p>
	Research Title:	Design and Development of Substrate Integrated Waveguide (SIW) based Bandpass Filters	
	Organisation:	IIT Kharagpur	

Concluding Remarks by SAC- STC JPC Members





Comments and Observations on ASR 2019 by Dr. Tirtha Pratim Das, ISRO HQ



Dr. Parul Patel, Member Secretary SAC STC Review Committees and Head, RESPOND & Research Coordination Division, SAC thanked all participants from Space Technology Cells, SAC Co-PIs and SAC STC Review Committee members for successful conduct of Annual STC Review 2019

GROUP PHOTOGRAPH OF ANNUAL STC REVIEW 2019 PARTICIPANTS



अंतरिक्ष प्रौद्योगिकी कक्ष (अं. प्रौ. क.) परियोजनाओं की वार्षिक समीक्षा

दिसम्बर 02-05, 2019

अंतरिक्ष उपयोग केंद्र (अं. उ. कें.), अहमदाबाद

Annual Review of Space Technology Cell (STC) Projects

December 02-05, 2019

Space Applications Centre (SAC), Ahmedabad



IIT Kharagpur



IIT Kanpur



IIT Bombay



IIT Madras



IISc Bangalore



SPPU Pune



IIT Roorkee



IIT Guwahati



IIT Delhi