



Indian Institute of Space Science and Technology (IIST) NEWSLETTER

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Director's Message



I am happy to reach out to the larger IIST stakeholder community with a new issue of IIST Newsletter. It marks entry to second annual cycle of sharing various achievements and events of IIST during July to December 2019.

The admission process (2019-20 academic year) had many new features: (i) doing away with travel requirement to counselling centers by UG applicants, (ii) larger number of MTech admissions made directly with GATE-based rank, (iii) PhD admission examinations at multiple locations, participation in interview by Skype, (iv) enhancing digital technology adoption from enrolment to acceptance of fees, and (v) enhanced UG admission by providing 10 per cent supernumerary seats for students under EWS programme of MHRD/GOI.

Seventh convocation was organized on July 5, 2019, reducing time between declaration of results to convocation to less than 2 months. A full report on the event that had Dr Ajay Mathur, Director General, TERI as Chief Guest is covered in this issue. With this convocation the institute has awarded 1677 degrees comprising of 1154 UG, 424 PG, 30 DD and 69 PhD degrees. As our alumni strength has reached a critical mass, organizing the alumni into a participatory association with chapters was another activity that was being done in background.

Celebration of Institute's Foundation Day was started in 2018 with an Open Day and invited lectures and student activities. This year's celebration were a 2-day affair and on a much grander scale incorporating (i) Fifth Dr A P J Kalam Lecture by Wg. Comdr. Rakesh Sharma (ii) Commemoration workshop with delegation from CalTech/JPL including Provost (CalTech) and Deputy Director (JPL) marking 10 Years of collaborative activities, (iii) Open Day for students, (iv) Invited lectures, (v) Investiture ceremony of IIST Alumni Association. I express my special gratitude to Wg.Cmdr. Rakesh Sharma and Chancellor Dr B N Suresh for their presence and making the Foundation Day Celebrations a memorable event.

With coverage of above events and many achievements of students and faculty, I am sure you would spare time to go through IIST Newsletter (Volume 5, Issue 1). Editorial Team and I would be delighted to receive your feedback. Happy reading.

Dr. Vinay Kumar Dadhwal
Director



(Left to Right) Dr. V K Dadhwal, Dr. Ajay Mathur, Dr. B N Suresh, Dr. K Sivan and Shri. S Somanath along with other Members of Board of Management, IIST

The seventh convocation of IIST was held on 5th July 2019 at Dr. Srinivasan Auditorium, VSSC, Thiruvananthapuram. In this convocation, 112 B. Tech, 30 Dual Degree, 71 M. Tech and 12 Ph.D students were conferred degrees. *Dr. Ajay Mathur*, Director General, The Energy and Resources Institute (TERI), New Delhi was the chief guest of the convocation. *Dr. B N Suresh*, Hon. Chancellor, IIST declared the convocation 'open' and *Dr. V K Dadhwal*, Director and Chairman, BoM, IIST welcomed the dignitaries, invitees, graduating students, faculty, staff and parents to the convocation and introduced the Chief Guest, *Dr. Ajay Mathur*, to the audience.

Inside this Issue

| | |
|--|----|
| Independence Day Celebrations | 4 |
| IIST Foundation Day Events | 5 |
| Parliamentary Standing Committee Visit | 8 |
| National & International Awards/Recognition..... | 8 |
| Seminars / Colloquia | 9 |
| Dhanak 2019 | 13 |
| Foreign Visits | 14 |
| Hindi Events @ IIST | 15 |
| Social Outreach @ IIST | 16 |
| Students Corner | 17 |
| National Programmes | 19 |



At the outset, Director congratulated the graduating students for their accomplishments. In his academic report, he covered on-going academic programmes, curricula revision, introduction of choice based credit system, new electives, AICTE fellowship for M Tech students and other initiatives for improving the quality of academics. Director also briefed on implementation of UGC/AICTE guidelines and approval of B.Tech, M. Tech and Ph D programmes by the AICTE Committee and recommendations of the 'Peer Review Committee', headed by Dr. P S Goel, Former Secretary, Ministry of Earth Sciences, Govt. of India for enhancing collaborative research with various ISRO Centers. Director informed about establishments of various space technology and research laboratories / centres like Advanced Propulsion and High Speed Flows, Nano-Science and Energy Materials, Small Space Craft and Payload Centre (SSPACE), Nano-MEMS Opto-Electronics, Multi Disciplinary Computing Center and UHF/VHF Antennas for Receiving Direct Satellite Data. Director congratulated the team behind 'Advanced Retarding potential analyser for Ionospheric Studies' (ARIS), the first space mission of IIST, which was launched on 1st April 2019 in the PS4 stage of PSLV C45. The team members, *Dr. Umesh R Khadane* (Physics), *Dr. R Sudarshan Karthik* (Avionics), *Dr. V Soorj* (Aerospace) and *Dr. C S Anoop* (Avionics), project fellows and students worked hard to make the mission possible within 49 days. He acknowledged the support received from VSSC and IISU in this regard. He briefed about the MOU's signed by IIST with national and international Universities and highlighted achievements made by students and faculty.

Shri. S Somanath, Director, VSSC - the Guest of Honor - spoke about the need for IIST to inculcate creativity in



Academic Procession

the minds of its students for advancing future ISRO's missions. He wished a bright career for all the graduating students.

Dr. B. N. Suresh, Hon. Chancellor and founding Director of IIST, recalled, how he hoisted national flag on August 15, 2010 in the current IIST campus nine year ago with just one building and few hostels. He mentioned that IIST was founded with a vision to make it as a world class space institute. He remarked that the report of the Director, IIST clearly indicates the growth trajectory of the institute over the years and this is achieved because of contributions from students, faculty, Governing Council and Board of Management, with the support from Dept. of Space and ISRO. *Dr. Suresh* congratulated all successful students and implored them to continue their learning process for all times. He quoted Swami Vivekananda "learning is a continuous and unending process and should continue till our last breath". Further *Dr. Suresh* emphasized that education must help us to stand on our feet and must use it for nation building. He advised the students that to achieve impossible one has to sweat it out. He quoted Dr. A P J Abdul Kalam "in order to shine like a sun one has

to burn oneself like sun". He counselled the students on the need to set targets and achieve the same without losing heart. He elaborated about complexity involved in rocket technology, launching process and how within 20 minutes after launch the rocket injects the satellite into the orbit. He stressed upon the importance of team work, how to face challenges and the need to be optimistic. He further asked the youngsters to contribute to make India a developed nation in whatever possible way. He wished the graduated students all the best for a great career in ISRO.

Dr. K Sivan, President, GC, IIST and Chairman ISRO in his speech conveyed his happiness to attend IIST convocation as he can see and address the next generation's budding ISRO's Scientists/Engineers who are likely to shape the aspirations of billions of people. He said that the vision behind starting IIST, a decade ago, was to create human resources for addressing the challenges in Indian space programme and the above task is being ably carried out by IIST alumni. He congratulated graduating students, faculty and proud parents and told to students that he can sense in their eyes the enthusiasm and energy of youth who will dedicate their lives for national



Dr. Ajay Mathur Delivering 7th IIST Convocation Address

development. He advised students to use all available opportunities in the best possible manner and quoted Dalai Lama "sometimes if you do not get what you want, that itself is a wonderful stroke of luck". He stressed upon the importance of asking questions and how good questions that are posed correctly, rather than the answers, help one to judge the quality of people. He further elaborated that in ISRO, good questions have resulted in improved design and/or better project and emphasized the need for innovations and lateral thinking for achieving greater success. He also spoke about the impending Chandryann II mission, the stiff deadlines and schedules of the human spaceflight mission and finally the challenges ahead and the opportunities awaiting the young graduates who will be joining in ISRO.

After the speech of Dr. K. Sivan, B.Tech, M.Tech and Ph.D degrees were awarded individually to students, which was followed by oath taking. Institute Gold Medal for the Best Academic Performer in UG programme was awarded to Kum. Garima Aggarwal, B.Tech, Aerospace

Engineering and Institute Gold Medal for the Best Academic Performer in PG programme was awarded to Kum. Rwitika Chatterjee, Dual Degree, Master of Science in Astronomy & Astrophysics. Shri. Ankit Verma, B.Tech in Electronics & Communication Engineering (Avionics) bagged the Cash award and Excellence Certificate for the 'Best Academic Score'. Cash Award and Excellence Certificate for the all rounder in UG Programme was awarded to Kum. Garima Aggarwal.

Dr. Ajay Mathur in his Convocation Speech thanked the Chancellor, Chairman ISRO and Director for inviting him for the 7th convocation of IIST where the future space leaders are groomed. He congratulated all the graduating students and their parents for putting years of hard work. Dr. Mathur hinted that as the existing technologies change to newer ones, so are the challenges. Dr. Mathur underscored the importance of learning in such situations where technologies change swiftly. He cautioned that success ultimately depended on the future challenges and how they are met rather than taking care of yesterday's challenges. He recalled, how 40 years ago when he graduated, many of his friends had taken up employment in civil/engineering services, public sector undertakings and other academic institutes became successful in their domains. He underlined that in each of the above-mentioned non-conventional jobs, the problems and challenges were all very different; despite the trials and tribulations in the work front, all of his friends excelled in their career.

Dr. Mathur highlighted the new challenges that IIST students



Graduating students with guests, faculty, staff and parents



Kum. Garima Aggarwal receiving Institute Gold Medal for the best academic performer in UG Programme



Kum. Rwitika Chatterjee receiving Institute Gold Medal for the best academic performer in PG Programme



Shri. Ankit Verma receiving Cash Award and Excellence Certificate for the Best Academic Score

have to face when they enter the work force, despite the excellent training they have received from the institute during their student years. The basics and fundamentals that the students have learnt during their college days will have to be utilized to solve future problems as well. *Dr. Mathur* emphasized on the ever growing challenges in the energy, transportation and other infrastructure sectors and how the above have improved greatly from 1990's to today. He stressed on the need to solve the problem of shortage of electricity, since clean

energy is an important and growing consumer demand. He cautioned that these developments are to be taken up in a war footing along with other major challenges like pollution, climate change and traffic congestion.

Dr. Mathur indicated that India looks upon the existing and future space technology for solutions that can solve the country's problems. He urged the graduating students to take up such future challenges and solve it via space technology. He finally, emphasized the need

for cheap batteries to run electric cars and buses since these cheaper options are important for a country like India. He, however, cautioned that the country would require enough charging stations to realise the above and IIST graduates should take up such tomorrow's challenges.

After the Convocation Address by the Chief Guest, the Hon. Chancellor declared the convocation closed. The convocation ended with National Anthem and return of academic procession.

Independence Day Celebrations

Seventy third Independence Day was celebrated in IIST on 15th August 2019. The function started with unfurling of national flag by *Dr. V K Dadhwal*, Director, IIST in front of the administrative building, to the accompaniment of the singing of National Anthem. It was followed by Guard of Honour by the CISF personnel. Students, faculty, staff and family members participated in large numbers with patriotic fervor. Director delivered the Independence Day speech after hoisting the national flag. In his speech, he highlighted the sacrifices of our forefathers in getting India's independence, especially the freedom fighters and soldiers who safeguarded the country in adverse weather conditions. He mentioned about various new initiatives and changes taken place in IIST during last year and highlighted the achievements of students and faculty. He elaborated the new upcoming infrastructure developments like Students Activities Center (SAC) and under passage front gate via LPSC. Independence day speech was followed by cultural programmes by students and CISF personnel.



Dr. V K Dadhwal, Director, IIST unfurls the national flag in IIST Campus

IIST Foundation Day Events



Wg. Comdr. Rakesh Sharma with students, faculty and staff of IIST

In connection with IIST Foundation Day, a series of programmes such as 150 Years of Celebrating the Mahatma, Vikram Sarbhai Centenary Celebration, 5th Dr. APJ Abdul Kalam Lecture, IIST Open Day, 10 Years of IIST – Caltech / JPL Collaboration, 2nd IIST Alumni Meet and Felicitation to *Dr. B. N. Suresh* were organised during 13th – 14th September 2019.

Fifth Dr. A P J Abdul Kalam Lecture

IIST Foundation Day

The fifth Dr. APJ Abdul Kalam Lecture was delivered by Wing Commander *Rakesh Sharma* AC (Retd), Research Cosmonaut on 13th September 2019, who spoke on 'Making of A Professional'. He stressed upon the importance of being a professional and mentioned Dr. APJ Abdul Kalam as a wonderful example of how a professional should be. He shared his experiences of space travel with students, staff and faculty. He recalled that during his space journey his first instinct was to identify and see his country from space. He lauded the astronauts who would be involved in Gaganyaan, as they would be getting multiple opportunities in travelling to space. He also spoke of the various successful ISRO's planetary missions and reiterated that all countrymen are extremely proud of ISRO's achievements.



Wg. Comdr. Rakesh Sharma delivering the fifth Dr. APJ Abdul Kalam Lecture

IIST Open Day 2019

IIST organised 'Open Day' for school children on 14th September 2019. The labs and other facilities of IIST were kept open to the school children from 11.30 am to 4 pm. The day started with the memorable experience of listening the lecture and interaction of school children with Wg. Cdr. Rakesh Sharma and was followed by department level exhibitions in various buildings. All the academic departments and library were actively participated in this programme by organizing various exhibits, streaming videos, live experiments and demonstrations. An exhibition about the 'Life of Dr. Vikram Sarabhai' and 'Mapping of the Historical Life time of Mahatma Gandhi by Using Geospatial Technology' were also organised as part of the Open Day. About 600 schools students and 80 teachers from 16 schools have been enthusiastically participated in the program.



School students visiting labs on Open Day

Ten Years of IIST - Caltech / JPL Collaboration - Special Lecture

As part of 10 Years of IIST – Caltech / JPL collaboration, a special lecture by Prof. Ares J Rosakis, Theodore Von Kármán, Professor of Aeronautics; Mechanical Engineering, Caltech was organized on 13th September 2019 at 2 pm in the Student Activity Center. The title of the lecture was 'Caltech/JPL – IISc, NAL, ISRO, IIST stories – One Hundred Years of Friendship'. Professor Rosakis gave an excellent account of Dr. Vikram Sarabhai's contributions to India's space program and the relationship between ISRO and Caltech since Professor Satish Dhawan's days. He dwelled on the various developments in collaboration chronologically and stressed the importance of such collaborations for both countries. He also spoke about 10 years of IIST/JPL collaborations and about the successful Professor Satish Dhawan Endowment Programme that provides IIST undergraduate toppers to pursue Masters programme at Caltech.



Prof. Rosakis giving special lecture during celebration of 10 years of IIST- Caltech/ JPL collaboration

A memoir of 10 years of IIST – Caltech / JPL Collaboration was released jointly by Hon. Chancellor, IIST, Director, IIST, Provost Caltech and Deputy Director, JPL with congratulatory messages from all of them. Prof. Chandrasekar, Dean, (Academic & Continuing Education), IIST has written on the 'Evolution of the ten year long IIST-Caltech/JPL Collaboration' in the memoir. Several of the students who underwent Master programme at Caltech and others who underwent internship at JPL shared their experiences in the memoir.

Felicitation to Dr. B N Suresh, Chancellor, IIST

IIST Foundation Day



Dr. B. N. Suresh, Chancellor, IIST
receiving felicitation

IIST students, faculty, staff and alumni (first 3 batches whom he had taught during 2007-2010) organised a felicitation programme on 14th September to honour Dr. B N Suresh, Hon. Chancellor and Founding Director, IIST for completing 75 years of age and almost 50 years of continuous contributions to ISRO/DOS. The programme started with Director's welcome and introductory speech about Dr. Suresh's continuing contributions to IIST. After that Prof. Narayanamurthy, Prof. Kuruville Joseph, Prof. A. Chandrasekar, Prof. Raju K George, Prof. Anandmayee Tej, Dr. Shaijumon, Shri. K V S V Ch Mallikarjuna Rao, representatives of non-teaching staff and alumni spoke briefly about their association with Dr. B N Suresh and his contributions to IIST since its inception in 2007. In his acceptance speech Dr. B N Suresh told about his experiences in building IIST and how he is happy now to see the growth of IIST as a world class space institute. He also expressed his happiness of the important strides the IIST alumni have made in ISRO. Faculty, staff and alumni presented mementos to Dr. B. N. Suresh.

IIST Alumni Meet 2019

IIST Foundation Day

The second IIST Alumni Meet was conducted on the Alumni Day, 14th September, 2019. Around 100 alumni attended the meet. The meeting agenda included installation of elected office bearers of National IIST Alumni Executive Committee namely Mr. Prakhar Aggarwal as National President, Mr. Parth Sharma as Vice President, Ms. Surbhi Baghotia as Secretary, Mr. Manish Kumar Mishra as Joint Secretary, Mr. Jayakrishna M as Treasurer, Dr. Bhaskar Dubey as Ph.D representative, Mr. Parthiban as M.Tech representative, Dr. Deepthi Sivadhas as representative of ISRO sponsored candidates, Mr. Madhav Nakani and Mr. Prabodh Sreedhar Katti as executive members and Mr. Ananya Ray as nominated member. As part of the program, an alumni interaction with Wg. Cdr. Rakesh Sharma was organised and he shared his experiences of space flight and discussed about future Indian space missions. He urged the alumni to involve deeply in the future space developmental programs of ISRO. The official inauguration of



(Left to Right) Dr. Kuruville Joseph, Dr. V K Dadhwal, Wg. Cmdr. Rakesh Sharma, Dr. B N Suresh and Dr. YVN Krishna Murthy

Association was done by the Hon. Chancellor Dr. B N Suresh by lighting the lamp. Director IIST addressed the alumni and explained about his expectations and role of IIST alumni association. Dr. YVN Krishna Murthy, Registrar and Dr. Kuruville Joseph, Dean, IIST felicitated alumni on the occasion. Chancellor IIST made a special address and interacted with alumni. IIST Alumni has also participated in the felicitation function organized for honoring IIST Chancellor Dr. B N Suresh. A meeting of alumni with current IIST students was also organised.



Alumni interaction during the Alumni Meet

Parliamentary Standing Committee Visit

Parliamentary Standing Committee on Science & Technology, Environment, Forests and Climate Change under the Chairmanship of *Shri. Jairam Ramesh*, M.P visited IIST on 26th December 2019. Other Distinguished Members of the Committee, who have visited IIST, were *Shri Anurag Sharma*, *Dr Jayanta Kumar Roy*, *Shri Kotha Prabhakar Reddy*, *Shri Sudarshan Bhagat*, *Shri Nekkanti Bhaskar Rao*, *Shri Guharam Ajgalley*, *Shri Rajiv Saxena*, *Shri Ranjan Singh Rajkumar*, *Shri Shatabdi Roy Banarjee* and *Shri Ram Shiromani*. *Dr V K Dadhwal*, Director, IIST along with IIST officials, received the distinguished members. Director briefed the Committee about IIST and its activities. The parliamentary committee, after its return, had submitted its report to Chairman Rajya Sabha by recommending that IIST should be made as an Institute of National Importance.



Dr. V K Dadhwal, Director, IIST with Shri. Jairam Ramesh, Chairman, Parliamentary Standing Committee Members explaining IIST Library services

National and International Awards/Recognition

IIST

i) AICTE has awarded 'Letter of Appreciation' to IIST for organising 'One Student One Tree Programme'.



(ii) IIST has been selected by the Town Official Language Implementation Committee (TOLIC), Thiruvananthapuram for Rajbhasha Award for outstanding performance in the implementation of Official Language Hindi for the year 2018-19

Faculty

Prof. Kuruvilla Joseph, Senior Professor, Department of Chemistry and Dean (Student Activities, Student Welfare & Outreach Programme), IIST was admitted as a **Fellow of the Royal Society of Chemistry** on 26 July, 2019 for his outstanding contributions to Polymer Science and Technology, Green Chemistry etc. *Prof. Kuruvilla* has citation index of more than 10,000 for his research contributions and has guided 20 Ph.D students.



Dr. Rajesh Joseph Abraham, Associate Professor, Department of Avionics was awarded the ISTE's Syed Sajid National Award for outstanding research work in the field of renewable energy 2019 during the 49th ISTE National Annual Faculty Convention held at Siksha 'O' Anusandhan University, Bhubaneswar.



Dr. Sudharshan Kaarthik, Asst. Professor, Dept. of Avionics has received the prestigious, **Young**

the Indian National Academy of Engineering (INAE) on 13th December 2019 in the area of Electrical Engineering. He is also inducted as a **Young Associate** of the Indian National Academy of Engineering.

Seminars / Colloquia organized by IIST

Inauguration of IEEE MTT-S IIST Student Chapters and One Day Workshop on Microwave Theory Techniques and Application (MTTA 2019), July 29, 2019

IEEE Microwave Theory and Techniques society (IEEE MTT-S), Kerala Chapter and IEEE MTT-S Student Branch, IIST was inaugurated at Indian Institute of Space Science and Technology, Thiruvananthapuram on July 29, 2019 in presence of MTT-S R-10 coordinator *Prof. Shibon Koul*, IIT, Delhi, India and Adcom member *Dr. Goutam Chattopadhyay*, JPL, NASA, USA. *Dr. B S Manoj*, IIST and *Dr. Chinmoy Saha*, IIST delivered the welcome address which was followed by presidential address by *Dr. V K Dadhwal*, Director, IIST. *Dr. Goutam Chattopadhyay* inaugurated the IEEE MTT-S Student branch and IEEE-MTT-S Kerala Chapter was inaugurated by *Prof. S.K Koul*, CARE, IIT, Delhi. The inauguration was followed by a one day workshop on Microwave Theory Techniques and Application (MTTA-2019), which was a joint initiative of IEEE MTT-S Kerala chapter and IEEE MTT-S IIST Student Branch. In that, *Dr. Goutam Chattopadhyay*, JPL, NASA, USA, *Prof. S.K Koul*, CARE, IIT, Delhi, *Dr. D C Panda*, LRDE, DRDO, *Prof J Y Siddiqui*, IRPE, University of Calcutta and *Prof. Ashik Paul*, IRPE, University of Calcutta delivered lectures and the event was attended by 95 participants



(a) Mr. Prasun welcoming dignitaries. Dr. Chinmoy Saha, Dr. D.C. Pande, Dr Goutam Chattopadhyay, Prof. S.K. Koul, Dr. V. K. Dadhwal, Prof. Ashik Paul, Prof. J Y Siddiqui, Prof. Kuruvilla Joseph and Dr. B. S. Manoj(left to right) (b) Prof. SK Koul inaugurating the MTT-S IIST Student Branch and MTT-S Kerala Chapter (c) Director, IIST giving

including professional MTT-S members, scientists from ISRO, academicians, students and faculty members from various colleges.

IEEE Distinguished Lecture (DL) and One Day Workshop on Recent Advances in Wireless and Space Antennas, 24th Dec 2019



(a) Inauguration by Dr V K Dadhwal (b) Lighting of lamp © Address by Dr. Sudhakar Rao (d) Welcome Address by Dr. Chinmoy Saha (e) Presenting memento to Dr Sudhakar Rao (f) Vote of Thanks by Dr YVN Krishna Murthy

The IEEE-Distinguished Lecture and one day workshop on recent advances in wireless space antennas was conducted on 24th December, 2019 in SP Grand Days Hotel, Trivandrum. This meet was a joint initiative of IEEE IIST APS Student branch, IEEE IIST MTT-S student branch and Kerala chapter of IEEE MTT-S and APS society. The workshop featured speakers namely, *Dr. Sudhakar Rao* (IEEE Life Fellow, Northrop Grumman was invited as the APS Distinguished Lecturer), *Dr. DC Pande*, Outstanding scientist LRDE Bangalore, DRDO, *Prof C K Anandan* CUSAT, Cochin, *Ms. Sherly Joy*, VSSC, *Prof. S. Raghavan*. NIT, Trichy and *Dr.T.J. Apren*, SFO Technologies. The event was inaugurated by *Dr. VK Dadhwal*, Director IIST followed by the welcome address by *Dr. Chinmoy Saha*, Chair IEEE APS and MTT-S Kerala chapter. *Shri Arijit Mitra*, VSSC, delivered the vote of thanks. A total of 70 participants from academia and research Laboratories took part in the workshop.

National Conference on Materials Science and Technology 2019

Department of Chemistry has organised the sixth conference in the Materials Conference series 'National Conference on Recent Trends in Materials Science and Technology' NCMST 2019 at IIST campus during December 18-20, 2019. The conference witnessed a grand inaugural function with welcome address by *Dr. V K Dadhwal*, Director, IIST, Presided over by *Dr. B N Suresh*, Chancellor, IIST, Guest of Honor *Dr. KN Moorthy*, Director, IISER-Tvm, Inaugural Address by *Sri. S Somanath*, Director, VSSC, Felicitation by *Dr. YVN Krishna Murthy*, Registrar, IIST, and vote of thanks by the convener of the conference *Dr. Kuruvilla Joseph*, Dean, SA, SW & OP. The technical sessions that followed was packed

with a key note lecture, 20 plenary talks and 12 contributory lectures and witnessed considerable scientific deliberations in the emerging areas of materials synthesis and applications. The conference was attended by 204 delegates from 48 different institutes across the country. The poster session spanned over two days witnessed the presentation of 120 posters in 9 themes and the best posters in each category were rewarded during the valedictory function.



(a) Inaugural Ceremony of NCMST 2019 (b) Prof. Kuruvilla Joseph, Dr. V. K. Dadhwal, Dr.K. N. Moorthy, Dr. B. N. Suresh, Sri. S. Somanath, Dr YVN Krishna Murthy and Dr K N Ninan (left to right)

OSA Travailing Lecture



Professor Chris Dainty Delivering the lecture (Left) and with Director and Senior Faculty (Right)

Professor Christopher Dainty, Past President of Optical Society of America (OSA), and Senior Researcher, University College, London and Retired Professor from Imperial College, London, U.K visited IIST for four days under IIST/OSA student Chapter. His visit was sponsored by Optical Society of America (OSA), with a travel under the OSA Traveling Lecturer Program. Professor Dainty, delivered a technical talk on "An Introduction of smart Adaptive Optics" on 5th November 2019 at seminar hall. On 6th November 2019 he delivered a talk on "The fundamental limits of mobile phone cameras."

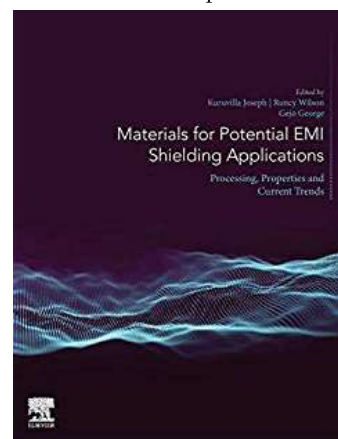
Though his first talk was intended as a tutorial for graduate students, it drew the attention of both graduate students and faculty members of

IIST. There was wonderful response from audience for both the lectures. The session was interactive and informative. He also showed samples of adaptive optics system used in DVD player and mobile cameras to the audience. The presentation was followed by in-depth and a wide range of questions. Professor Dainty was very patient in clearing everyone's queries during the session. He visited applied and adaptive optics laboratory of Physics Department and appreciated the wide space and available facilities in IIST's laboratory. He interacted with research scholars and B. Tech / M. Tech students working in the laboratory. Professor Dainty, also had interaction session with OSA-SPIE student chapter members and other students. He shared his experience as an OSA member. He discussed how to approach on outreach activities in schools.

Books Published

Prof. Kuruvilla Joseph

Senior Professor, Dept. of Chemistry



'Materials for Potential EMI Shielding Applications: Processing, Properties and Current Trend', Joseph Kuruvilla, Wilson Runcy George Gejo (Editors), Elsevier, ISBN: 9780128175903

SPIE , USA Traveling Lecturer Programme



Prof. Toyahiko Yatagai delivering the lecture (Left) and (Right) seen with SPIE student Chapter members and Faculty

Professor Toyohiko Yatagai, Former President SPIE, USA, Emeritus Professor, CORE, Utsunomiya University, Japan has visited IIST for four days (December 4 to 8, 2019) under SPIE-IIST student chapter's Visiting lecturer programme. His visit was sponsored by The International Society for Optics and Photonics (SPIE) under the SPIE Travelling Lecturer Program. He delivered a talk on “Holographic memory for cold data storage in data centres” in Swayam prabha Hall on 4th Dec, 2019.

During his talk, he presented the conventional techniques used for data storage and their limitations. Holographic memory is a kind of volume memory with large data capacity and high data transfer rate. He introduced a holographic technique that uses two-shot 4-level phase coding to increase the recording capacity and compared it with the current Blu-Ray technique. The efficiency of this new technique is three times that of the Blu-Ray technique whereas the life time of this technique is twice as that of the Blu-Ray technique. The talk was very informative and inspired the students. He also visited applied and adaptive optics laboratory of Physics Department and interacted with B.Tech, M.Tech and research students.

Satellite Oceanography and Meteorology (STORM)

The Department of Earth and Space Sciences conducted a three day school on Satellite Oceanography and Meteorology from December 4 - 6, 2019 for 30 MSc and B.Tech students selected from across the country. The participants were given an overview and training on the latest operational and research satellite missions and the use of satellite observations for understanding the weather and climate of the Earth's atmosphere. The program consisted of lectures in the forenoon sessions followed by hands-on training in the afternoon.



Participants of STORM with organisers

Annual Astronomy School



Participants of Astronomy School with organisers

The Department of Earth & Space Sciences conducted its annual 10 day long school from December 4 – 13, 2019. The school was meant to acquaint undergraduate and post-graduate students of science with a wide range of introductory topics in astrophysics and data analysis. Forty-five students from universities across the country participated in this school. The lectures and data analysis activities were handled by astronomy & astrophysics faculty from the ESS Department with support from students and staff. This was for the eighth consecutive year that the astrophysics school was organized at IIST, with over 300 students benefitting from this program till date.

GeoSmart 2019



Inaugural session of GeoSmart 2019 (Left) Dr. YVN Krishna Murthy, Registrar, IIST addressing audience during GeoSmart 2019 (Right)

The DST-NRDMS Sponsored, three day workshop “Orientation Programme on Geospatial Technologies for Decision Makers” was organized by the Department of Earth and Space Sciences during 28 – 30 Nov. 2019. With a focus on advanced remote sensing technology for smart cities, the workshop contained multiple invited lectures and hands-on sessions using high resolution optical and LiDAR data. The participants, faculty from different institutions, are fully supported financially by the grant from DST-NRDMS.

Workshop on “Synthetic aperture radar data processing and analysis”



Director, IIST inaugurating the workshop



Participants with the faculty members

Marking the Inauguration of the IEEE Geoscience and Remote Sensing Society (GRSS), Kerala Chapter on 16 October, 2019, the Department of Earth and Space Sciences and IEEE organized a one day workshop on “**Synthetic aperture radar data processing and analysis**” which included expert lecture by the IEEE Distinguished Lecture (DL) by *Prof. Alejandro C Frery*, Universidade Federal de Alagoas, Brazil, former President, IEEE Geoscience and Remote Sensing Society. With more than 40 participants of Masters, PhD and faculty members from different institutions, the workshop showcased evolving methods of SAR data modeling and analysis perspectives.

National Library Week Celebration

National Library Week was celebrated in IIST during 14-20 November 2019 with various programmes. As part of celebration, *Dr. V. K. Dadhwal*, Director, IIST inaugurated the 'Book Fest' and official social media pages of IIST. A special 'Exhibition of Books on and by Dr APJ Abdul Kalam' was organised. 'Donate A Book: A Read & Share Initiative' was organised during the week to support other Govt. school / college libraries. Students from Govt. Higher Secondary School, Kamaleswaram visited the library on 14th September 2019. *Dr. YVN Krishna Murthy*, Sr. Professor & Registrar, IIST gave a talk on 'Space Science and its Applications' and *Smt. Devi R Das*, Counsellor, IIST talked on 'Stress Management through Reading'. Talks on 'Means for Effective Technical Presentations' by *Dr. Gigy J Alex*, Asst. Professor, IIST and 'How to Avoid Plagiarism in Publications' by *Shri. Abdunnasar. A*, Library Officer-D, IIST were

arranged for students from University of Kerala. A training on IEEE Xplore by *Shri. Nanda Lal T.S*, Sr. Training Manager, EBSCO-IEEE followed by an 'online quiz' was organised for students. *Prof. A. Chandrasekar*, Dean, Outstanding Professor & Dean, Academics distributed prizes for winners.



Inauguration of social media pages of IIST by the Director, IIST



Balloon Launch

A solar eclipse provides a rare and unique opportunity to study photochemistry, dynamics and impact on the atmosphere due to abrupt change in the incoming solar radiation. Sudden blockage of the solar radiation during the eclipse leads to both prompt and delayed effects on both the stratospheric and the tropospheric ozone. An annular solar eclipse was observed on 26 December 2019. An integrated campaign named as "Suryagrahan-2019" was undertaken at IIST Ponmudi Climate Observatory (PCO) in co-ordination with SPL-VSSC/ISRO for the measurement of ozone profiles along with meteorological parameters from the surface to upto 35 km using ozonesonde balloon at different locations over India during 25-27 December 2019. Five homogeneous latitudinal separated locations have been identified of which one is IIST-Ponmudi, Thiruvananthapuram. As part of this campaign, coordinated six balloon launches (upto 33.4 km) with Ozonesonde and Radiosonde payloads were successfully carried out from the IIST Ponmudi Climate Observatory during 25-27 December 2019. Four M. Tech. students from the Department of Earth and Space Sciences (ESS) of IIST actively participated in the Suryagrahan-2019 campaign and got rigorous training on the various aspects of balloon experiments including testing, integration of state-of-the-art sensors, elementary balloon launch operation and data analysis.



Dr. V K Dadhwal, Prof. A Chandrasekar and Dr. P R Sinha, are seen with students during Ozonesonde balloon launch from Ponmudi Climate Observatory of IIST during solar eclipse (Suryagrahan-2019)

Dhanak 2019

The eleventh edition of IIST's student cultural festival 'Dhanak' was organised from the 27th to 30th September 2019. It was inaugurated by *Shri. Bose Krishnamachari*, renowned painter, curator, and director of the Kochi Muziris Biennale. The festival spread over three days saw a large number of student participation for competitions in dance and music from colleges across the country. The festival also featured a professional musical night by the band NRJ PROJECT, accompanied by *Abhaya Hiranmayi* and the music director, *Gopi Sunder*.



Shri. Bose Krishnamachari inaugurating Dhanak 2019



Foreign Visitors

Professors and Scientists who visited IIST for academic programmes

| Sl No | Name and Address | Nationality | Date of Visit | Purpose |
|-------|---|---------------|-----------------------------|--|
| 1. | Dr. Goutam Chattopadhyay Jet Propulsion Laboratory | USA | 29th July | Inaugural talk about Microwave theory and technique Society |
| 2. | Dr. Gautier Koenig Jacomex | France | 30th July | Technical discussion with Dr. Palash kumar Basu |
| 3. | Prof. Kieran David Kirk Dean, ANU College of Science | Australia | 09th September | Academic and Research Collaboration between IIST and ANU |
| 4. | Dr. Robert Lawrence Ward Department of Quantum Science, ANU Research School of Physics and Engineering | Australia | | |
| 5. | Prof. Penelope Jane Brothers Director, ANU Research School of Chemistry | New Zealand | | |
| 6. | Prof. Pier Gerard Bouwknecht, Director, ANU Mathematical sciences Institute | Australia | | |
| 7. | Mr. Jayant Poria International Relations and Partnerships, ANU | Australia | | |
| 8. | Dr. David A Tirrell JPL / Caltech | USA | 13th September | Celebration of 10 years of IIST- Caltech Collaboration |
| 9. | Dr. Larry Dean James JPL / Caltech | USA | | |
| 10. | Prof. Virendra Sarohia JPL / Caltech | USA | | |
| 11. | Dr. Ares John Rosakis JPL / CalTech | USA | | |
| 12. | Dr. Richard General Madonna JPL / CalTech | USA | | |
| 13. | Dr. Sergio Pellegrino JPL / CalTech | Italy | | |
| 14. | Dr. Seyed Ali Hajimiri JPL / CalTech | USA | | |
| 15. | Prof. Marcelo Martinelli University of Sao Paulo, Brazil | Brasileiro(A) | 19th September | Interaction with faculty |
| 16. | Prof. Alejandro C Frery Federal university of Alagoas, Brazil | Brazil | 16th October | Lecture in connection with inauguration of IEEE Geoscience and Remote Sensing Society Kerala Chapter |
| 17. | Mr. Hug Sebastien, CEO/Consul General, Switzerland | Switzerland | 24th October | Meeting with Director, IIST |
| 18. | Prof. Dainty John Christopher Consultant, Professor Emeritus, National University of Ireland, Galway. | Irish | 03rd to 08th November 2019 | Talk and to interaction with IIST students |
| 19. | Majewski Wojciech Engineer, Vision Asia Technology Pte Ltd, Singapore | USA | 14th and 15th November 2019 | Discussion on PIV system |
| 20. | Prof. Gue Anne Marie Jeanne Directrice de Recherche, CNRS.LAAS-CNRS, Toulouse, France | France | 18th and 19th November 2019 | Collaboration Project (DST-CNRS) with CNRS as part of CEFIPRA Program |
| 21. | Prof. Boireau Wilfrid Herve Directeur de Recherche, CNRS, FEMTO-ST, Besancon, France | France | 18th and 19th November 2019 | Collaboration Project (DST-CNRS) with CNRS as part of CEFIPRA Program |
| 22. | Dr. Camon Henri Louis Marie Sr. Scientist, CNRS-LAAS, France | France | 19th November 2019 | Discussion on Optical Gas Sensors |
| 23. | Prof. Yatagai Toyohiko Professor, Utsunomiya University, Japan | Japan | 03rd to 06th December 2019 | Lecture and interaction with students |

IIST Faculty who Visited Abroad for Academic Programmes

Dr. Chinmoy Saha, Department of Avionics attended, chaired a technical sessions and presented two papers in IEEE Antenna and Propagation Society Annual Symposium at Atlanta, US during July 7-12, 2019. His trip was supported by Indian Institute of Space Science and Technology and Science and Engineering Research Board, Department of Science and Technology, Government of India.

Dr. K Sakthivel, Dept. of Mathematics, received full travel grant award by National Board for Higher Mathematics (NBHM/DAE), Govt of India to participate in ICIAM-2019 at Valencia, Spain during July 15-19, 2019.

Hindi Events @ IIST

आईआईएसटी में आयोजित विविध हिंदी कार्यक्रम

संस्थान में जुलाई से दिसंबर 2019 तक निम्नलिखित कार्यक्रम आयोजित किए गए।

हिंदी पखवाड़ा समारोह 2019

हिंदी पखवाड़ा समारोह - 2019 के उपलक्ष्य में कर्मचारियों के लिए **सितंबर 23, 2019** को तथा संस्थान के छात्रों के लिए **सितंबर 19, 20 व 23, 2019** को हिंदी में विविध प्रतियोगिताएं चलाई गईं। संस्थान के छात्रों तथा कर्मचारियों ने अलग अलग वर्गों के लिए निर्धारित प्रतियोगिताओं में भाग लिया। प्रतियोगिताओं के विजेताओं को निदेशक महोदय द्वारा नकद पुरस्कार एवं प्रमाण पत्र वितरित किए गए।



हिंदी पखवाड़ा समारोह में प्रतियोगिताओं में भाग लेते हुए छात्र

हिंदी कार्यशालाओं का आयोजन

i) संकाय सदस्यों के लिए हिंदी कार्यशाला

आईआईएसटी में राजभाषा कार्यान्वयन की गतिविधियों के भाग के रूप में, संस्थान के **संकाय सदस्यों के लिए सितंबर 20, 2019** को एक अर्ध दिवसीय हिंदी कार्यशाला का आयोजन किया गया जिसमें 9 संकाय सदस्यों ने सक्रिय रूप से भाग लिया। इस कार्यशाला का औपचारिक उद्घाटन डॉ. विनय कुमार डढ़वाल, निदेशक, आईआईएसटी द्वारा किया गया। सत्र का संचालन डॉ. पी. हरिंद्र शर्मा, सहायक निदेशक, राजभाषा, दूरदर्शन केंद्र, तिरुवनंतपुरम ने किया। उन्होंने **शैक्षिक संस्थाओं में सरकार की राजभाषा नीति का कार्यान्वयन** विषय पर विस्तृत व्याख्यान दिया।

ii) सहायकों, वरिष्ठ सहायकों, वैयक्तिक सहायकों तथा लिपिक वर्गीय कर्मचारियों के लिए हिंदी कार्यशाला

सहायकों, वरिष्ठ सहायकों, वैयक्तिक सहायकों तथा लिपिक **वर्गीय कर्मचारियों के लिए 12 व 13, दिसंबर 2019** को हिंदी कार्यशाला का आयोजन किया गया। जिसमें कर्मचारियों ने सक्रिय रूप से भाग लिया। श्री. आर. जयपाल, वरिष्ठ हिंदी अधिकारी, आईआईएसटी ने **राजभाषा नीति कार्यान्वयन-अद्यतन आदेश/निर्धारित लक्ष्य** विषय पर विस्तृत व्याख्यान दिया तथा श्री. ए. सोमदत्तन, उप निदेशक, राजभाषा (सेवानिवृत्त) आयकर विभाग, तिरुवनंतपुरम ने **हिंदी की प्रशासनिक शब्दावली एवं उसका प्रयोग** विषय पर अभ्यास कराया। तीसरे सत्र में डॉ. पी. हरिंद्र शर्मा, सहायक निदेशक, राजभाषा, दूरदर्शन केंद्र, तिरुवनंतपुरम ने **राजभाषा हिंदी का मानक स्वरूप और प्रयोग** पर अभ्यास कराया। चौथे सत्र में श्री. राम प्रकाश यादव, हिंदी अधिकारी, एलपीएससी ने **हिंदी में टिप्पण एवं आलेखन** विषय पर कक्षा का संचालन किया। सभी प्रतिभागियों ने इस कार्यशाला के अंत में हुए विचार-विमर्श में भी बड़े उत्साह के साथ भाग लिया।



कार्यशाला का संचालन करते हुए डॉ. पी. हरिंद्र शर्मा



केरल हिंदी प्रचार सभा के मंत्री से पुरस्कार ग्रहण करते हुए श्री. अभय जैन

iii) हिंदी प्रचार सभा में आयोजित राज्य स्तरीय हिंदी प्रतियोगिताओं में भागीदारी

आईआईएसटी, वलियमला ने हिंदी प्रचार सभा में आयोजित राज्य स्तरीय हिंदी प्रतियोगिताओं में भाग लिया। डॉ. रवि वी. सह आचार्य, मानविकी विभाग एवं श्री. अभय जैन, वरिष्ठ सहायक, हिंदी अनुभाग ने प्रतियोगिताओं में भाग लिया। अभय जैन ने डीटीपी प्रतियोगिता में प्रथम स्थान प्राप्त किया।

Social Outreach @ IIST

NIRMAAN IIST - July-November, 2019

Nirmaan is the social outreach club of Indian Institute of Space science and Technology. Recent activities of NIRMAAN are as follows:

- i) School Sessions** - Aimed to ignite the scientific curiosity among high school kids in government schools, NIRMAAN had chosen the VKK government high school, Panacode. Eight sessions were organised during August to November 2019. The sessions included explaining the science behind everyday activities, astronomy, optics, rocket science, value education and career guidance.
- ii) Orphanage/Care Home Visit**- Team Nirmaan visited a government institution, Asha Bhavan for men, a shelter for the care and protection of mentally cured patients and Saigramam, global village for the orphans managed by the Sathyasai orphanage trust on 27th October 2019. Sweets, cakes and apples were distributed to the inmates.
- iii) Flood relief activities** - A collection drive was organised and fifty three thousand rupees was collected. Essential items such as clothes, sanitary items, food items were transported to various collection points in the city for further transportation and distribution to the affected areas.
- iv) Beach cleaning drive** - In collaboration with an NGO from Thiruvananthapuram, Nirmaan took part in a Beach Cleaning drive on 30th November 2019. Together the members cleared some area of Sanghumugham Beach and collected plastic and other wastes. Awareness about the damaging effects of plastic was also spread in the form of distribution of pamphlets to the local vendors in the beach. An oath not to use 'single use plastic' was taken at the end of the programme.
- v) Bi-Annual paper collection drive** - Sticking to tradition, Nirmaan hosted this semester's paper collection drive as part of which boxes were kept in front of every hostel with the inmates requested to drop off their unwanted books and notebooks for recycling. These boxes were then taken to a second hand book shop and then to a local recycling point in Nedumangad. The money thus received will go to Nirmaan's funds which will be used for its further endeavours.



Glimpses of NIRMAAN Activities

Students Corner

Awards and Recognition

Future Research Talent Award Winners (2020), organised by Australian National University, Canberra, Australia

Ms. Ushasi Bhowmick, (B.Tech EP 6th Semester), *Ms Kolencheri Jithendran Nikitha* (DD, Master of Science in Astronomy and Astrophysics, 8th Semester), *Mr. Pratik Sharma* (B.Tech ECE, 6th Semester), *Mr. Gaurav Kumar* (M.Tech, ESS, 2nd Semester), *Ms. Reema Mathew* (DD, M.Tech, ESS, 8th Semester), *Ms. Chinmai Sai Jureddy* (DD, MoS, SSP, 8th Semester) have been selected by Australian National University (ANU) for their Future Research Talent (FRT) Awards for the year 2020. It may be noted here that, ANU has selected the largest contingent of Indian students from IIST this year. Last year, ANU has selected 5 IIST students for the ANU-FRT Awards from among 51 students selected all over India spanning 19 institutions. ANU FRT provides air travel and living expenses for each student amounting to 6000 Australian Dollars. Selected students will get to spend close to 3 months of summer internship at ANU during May-July 2020.



Ushasi Bhowmick



Kolencheri
Jithendran Nikitha



Pratik Sharma



Gaurav Kumar



Chinmai Sai Jureddy



Reema Mathew

Dare to Dream Contest by DRDO

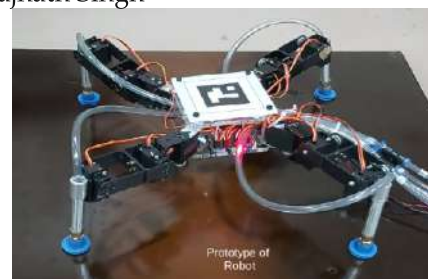
The IIST Team consisting of *Shri Saurabh Chatterjee* (PhD Scholar) and *Abhijith Prakash* (B Tech Student) won the first prize in the DRDO organized "**Dare to Dream Contest**" based on the topic 'Multi Leg Mobility'. The team has designed a four legged walking robot with vacuum suction pads which is able to climb on to surfaces of aircrafts and launch vehicles and inspect them for defects. The prototype was built and demonstrated as climbing an inclined plane. DRDO organised the 'Dare to Dream Contest' to bring together entrepreneurs, academicians and individual innovators and encourage them to 'dare to dream'. The contest attracted over 3,000 entries in 12 topics of which 20 were awarded prizes. The prize distribution was done by **Hon. Defense Minister of India, Shri. Rajnath Singh** during the DRDO's directors conference in New Delhi on 15th Oct, 2019.



Shri. Saurabh Chatterjee receives award from Hon. Defence Minister Shri. Rajnath Singh



Abhijith Prakash



National Academic Depository (NAD)

As part of Digital Initiative by Government of India, a National Academic Depository (NAD) has been created to hold the certificates of all students and Universities in the country in a common repository. IIST has uploaded Degree certificate of 7th Convocation to NAD.

International Travel Grant

S.Keerthipriya, M.Tech (RF and Microwave Engineering), *Dept. Of Avionics* received the **International travel support** from AICTE-INAE for presenting her paper entitled "Dual Tunable Multifunctional Reconfigurable Vivaldi Antenna for Cognitive/Multi-Standard Radio Applications" in the IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, held at Atlanta, USA during July 7-12, 2019.

Best Paper Awards

- i) *Ms. Neethu N, B Tech, Dept. of Aerospace Engineering* received the best paper award for her paper titled 'Comparison of Prediction Models for the Hot Deformation Behaviour of Cast Mg-Zn-Y Alloy' in the 2nd International Conference on Recent Trends in Metallurgy, Materials Science and Manufacturing - IMME 2019 - held at National Institute of Technology, Tiruchirappalli during 27 -28 Decemembr 2019.
- ii) *Mr. Mallikarjun Kompella, Dept. of Avionics* has won 1st prize in MV Chauhan Student's paper contest at IEEE India Council International Conference (INDICON-2019) on 13th day of December, 2019 held at Rajkot, India. He won the prize for his technical paper tiled "Parallel Operation of Battery Chargers in Small Satellite Electrical Power Systems". The award includes a citation and a cash prize of Rs. 6000/-
- iii) *Ms. S. Keerthipriya*, M.Tech , RF and Microwave Engineering, student of *Dept. of Avionics* has won NNSSRK Prasad Best Female student paper Award in InCAP-2019 (Indian Conference on Antennas and Propagation) held at Ahmedabad on December 19-22,2019 for the paper entitled "Reconfigurable Multifunctional Vivaldi MIMO Antenna for Cognitive Radio Applications". The award carries a certificate, plaque and a cash prize of Rs.5000.
- iv) *Ms.Gopika R*, Ph.D , Electromagnetic Engineering, *Dept. Of Avionics* has won the **Best Paper Award** in Antenna Propagation Society track in TENGARSS-2019 (**IEEE Region-10 Geoscience and Remote Sensing Conference**) held at Hotel Grand Hyatt, Kochi, Kerala on October 17-20,2019 for the paper entitled "Millimeter Wave Grid Array Antenna for Wireless Power Transmitter". The award carries a certificate, plaque and a cash prize of Rs.2000.

Indian National Academy of Engineering (INAE) Innovative Student Project Awards (B.Tech/M.Tech)

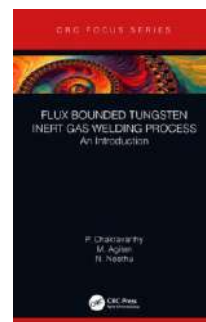
- i) *Mr. Suraj*, B.Tech (Avionics) has won the innovative project award for his project entitled "PS4Net: An Opportunistic Software Defined Networking Framework over PSLV Debris" (Project Guide: Dr. B S Manoj)
- ii) *Ms. Archana C M*, B.Tech(Avionics) has won the innovative project award for her project entitled "Dodecagonal Voltage Space Vector Based Direct Torque Control Scheme for Open-End Winding Induction Motor with a Single DC Source" (Project Guide: Dr.Sudarshan Karthick & Dr.Rajeevan P P)
- iii) *Ms. Sneha Gem Mathew* B.Tech (Avionics) has won the innovative project award for her project entitled "'Low Complexity Cyclostationary Feature Detection from Sub-Nyquist Samples' " (Project Guide: Dr. Chris Prema)
- iv) *Mr. Rohit Gandikota*, B.Tech (Avionics) has won the innovative project award for his project entitled" Harnessing Deep Generative Models for Multimedia Data Hiding" (Project Guide: Dr. Deepak Mishra)
- v) *Ms. Neethu M* has won the innovative project award for her M.Tech project entitled " Actuator interface board design for momentum biased cubesat ADCS" (Project Guide:Dr.Harsha Simha)

Books Published

P. Chakravarthy
Associate Professor
Dept. of Aerospace Engineering



'Shape Memory Materials' by D I Arun, P. Chakravarthy, R. Arockiya Kumar, B. Santosh, CRC Press, ISBN: 978-0815359692



Flux Bounded Tungsten Inert Gas Welding Process: An Introduction, P Chakravarthy, M Agilan, N Neethu, CRC Press, ISBN 9780367422875

Sports @ IIST

i) IIST Students participated in All Kerala Open Chess Tournament on 5th March 2019 (NEXUZ-19), which is organized by Mar Baselious College of Engineering Trivandrum and won the Best College in Trivandrum Award and *Abhishek A* (3rd year - EP) won the Tournament's Championship.

ii) *Mr. Abhishek A* (3rd year Engineering Physics) participated in All Kerala Chess Tournament on 19th October 2019, which is organized by NIT Calicut and won **Second position** in the TATHVA event.



IIST Chess Team with Dr. V K Dadhwal, Director and Prof. Kuruvilla Joseph, Dean (SA, SW & OR)



IIST Chess Team (Left to Right) Mr. Dakshin Tillo - 3rd Year Engineering Physics, Mr. Harikrishnan S - 2nd Year Engineering Physics, Mr. Jaswanth Waddi - 3rd Year Avionics, Mr. Abhishek - 3rd Year Engineering Physics and Mr. Fenil Shah - 4th Year Engineering Physics

National Programmes

Vigilance Awareness Week in IIST

IIST observed 'Vigilance Awareness Week' during Oct 28 - Nov 2, 2019 with the theme - 'Integrity : A Way of Life'. Dr. V. K. Dadhwal, Director, IIST administered the integrity pledge to faculty, staff and students of IIST. All staff were advised to take e-pledge and get online certificate of commitment from CVC. As part of the programme, Shri. H. Venkatesh IPS, Inspector General of Police, Vigilance and Anti-corruption Bureau, Thiruvananthapuram delivered an invited talk on 'Integrity : A Way of Life' on October 30, 2019.



Dr. YVN Krishna Murthy and Shri. M V Dhekane administering the pledge



Director, IIST welcoming the Chief Guest Shri. H. Venkatesh, IPS to deliver the invited talk

Observance of Constitution Day in IIST

Dr. YVN Krishna Murthy, Sr. Professor and Registrar, IIST and Shri. M V Dhekane, Prof. Satish Dhawan Professor, IIST administered the pledge to faculty, staff and students of IIST during observance of Constitution Day on 26.11.2019.

Glimpses of Onam Celebration in IIST



Welcome



Dr. Sayantani Ojha joined as Assistant Professor in the Dept. of Earth and Space Sciences on 31.7.2019. Dr. Ojha attained Ph D in Atmospheric Science from Savitribai Phule Pune University (2016). Her current area of research includes understanding the sea level rise in the future projections of climate models. She strengthens the Department with her Ocean Modelling expertise. IIST Newsletter Team welcome her and wish her a bright academic career.



IIST Newsletter Committee

Prof. C. S. Narayanamurthy - Chairman

Dr. C R Bijudas

Dr. K G Sreejalekshmi

Dr. Lekshmi V. Nair

Dr. Anand Narayanan

Dr. M. S. Harsha Simha

Dr. Solomon Ivan

Dr. E Natarajan

Shri. A Abdunnasar - Convenor

Indian Institute of Space Science and Technology

Declared as Deemed to be University under Section 3 of the UGC Act, 1956

An autonomous institute under Department of Space, Govt. of India

Valiamala P O, Thiruvananthapuram - 695 547, Kerala

