

PSG INSTITUTE OF TECHNOLOGY AND APPLIED RESEARCH

Quarterly Report (October – December 2019)

Events Organized:

Blood Donation Camp

In connection with Gandhi Jayanthi and National Voluntary Blood Donation Day, the Youth Red Cross (YRC) Society and National Service Scheme (NSS) have organized blood donation camp in association with PSG Institute of Medical Sciences and Research (PSGIMSR), Coimbatore in the college premises on 1st October 2019. Dr. P.V Mohanram, Principal, inaugurated the camp and Dr. Prasanna N Kumar, Professor and Head, Department of Pathology, PSGIMSR congratulated the students and faculty members for coming forward to organize this event. 52 students have donated blood in this camp.

Principal extended his sincere thanks to doctors team from PSGIMSR for their support and also assured to support for similar events in the days to come. The Chief Guest, Dr Jeyabalan S, Director (Examinations) congratulated the YRC and NSS team for organizing an event of social benefit. Mr. P. Chinnaraj, NSS Program officer and Mr. M. Sathiyathan, YRC Program officer appreciated the initiative taken up by the students of PSG iTech and also assured to extend support for similar activities in the institute in future.



Dr. P V Mohanram, Principal, PSG iTech, Dr Jeyabalan S, Director (Examinations), Chief Guest along with YRC and NSS Club Co-ordinators and Volunteers on 1st October 2019 at PSG iTech



Active participation by the students in the blood donation camp held on 1st October 2019 at PSG iTech

Ganthi Jayanthi Day Celebration:

Ganthi Jayanthi Day Celebration was held on 1st October 2019 at PSG iTech. Mr. Sai Krishna, Final year CSE and Mr. Gopala Krishnan, Final Year – ECE performed a Gandhi Jayanthi Bhajan during the celebration.



Mr. Sai Krishna, IV-CSE and Mr. Gopala Krishnan, IV-CSE Performing Gandhi Jayanthi Bhajan held on 1st October 2019 at PSG iTech

Swatchh Bharat Campaign:

As part of celebrations of Gandhi Jayanthi, Eco- Club of PSG Institute of Technology and Applied Research, Coimbatore conducted a Swatchh Bharat Campaign at Govt. Hr. Sec. School, Ganapathi on 02.10.2019. The service rendered by the Gandhiji to the nation was commemorated by Mr. Kalyanasundaram, HeadMaster and the Eco Club Co-ordinator, Dr A Kumaravel. The eco-club volunteers cleaned the entire campus and planted 20 saplings in the campus. 25 students participated in the event. Dr. A. Kumaravel, Eco-Club Co-ordinator, thanked the volunteers for their support and active participation.



Eco-club volunteers of PSG iTech planted 20 saplings in the school campus on 02.10.2019

Awareness programme on GRE

An awareness programme on GRE was conducted by IMTP (Institute of Management Training and Placement) in association with Higher Education Forum on 4th October 2019. Around 50 students attended the session. Mr. Mohammed Samiuddin, from ETS (Educational Testing Service) along with his coordinators explained the preparation process for the exam and provided plenty of information about the exam. He started the session with some interactive games. Criteria for the exam were also shared with the students. They also discussed about the books and materials for preparation. Contact details were also given for further clarifications. Students who attended the session, were motivated by the Speaker.



Mr. Mohammed Samiuddin interacted with students was held on 4th October 2019 at PSG iTech

Ultimate Up-Cycler and Poster Competition for International Ozone Day

As a part of AICTE's Swachhata Hi Seva Campaign, from 11th September to 2nd October 2019, PSG iTech Drawing and Painting Club in collaboration with Harmony Club (Sustain iTech Club) jointly organized the Ultimate up cycler event to collect and up cycle the used/discarded/waste materials into decorative or useful products. The students were encouraged to innovatively use the bio and non-biodegradable waste materials and create products ranging from artful funky crafts to home décor and sculptures. Some of the creative ideas were shoe rack using waste cardboard boxes, newspaper pen stand and flower vase, Paper Mache bowls, and decorative coconut shell, boxes made out of straw, Paper wall hangings, Ice cream stick boat and decorative model of a car using worn out batteries. The students displayed their enthusiasm in collecting all the waste materials and transforming them into useful household articles. International Ozone Day was observed on 16th September annually. In lieu of that, Poster Competition was also organized. The students displayed their colourful and thought provoking posters depicting the given theme "32 years and healing". The Up-cycled products and the posters were displayed during the NSS Day celebration on 25th September, 2019.

Prizes were also distributed to all the student participants by the coordinators, Dr. M. Devasena (Asso. Professor, Civil), Ms. M Deepa (AP Sr.Gr, ECE) and Ms. N. Susithra (AP, ECE) in the presence of the Principal, Vice Principal and Chief Guest.



Display of Art and Craft work being witnessed by students of PSG iTech

Project Exhibition-EEE:

The Department of Electrical and Electronics Engineering in association with the EEE Association (EEEEA) and Institute of Engineers (IE) organized a one-day project exhibition on 3rd October 2019. Nearly 50 students of 2nd year EEE participated and demonstrated their projects. Head of the Department Dr. C. L. Vasu along with faculty members of the department reviewed all the 14 projects. Principal Dr. P. V. Mohanram, Vice-Principal, Dr. G. Chandramohan and faculty members from other departments also visited the exhibition and gave valuable tips for students. It was an informative, interesting day for all first year EEE students too, who visited the exhibition and interacted with senior students. This interaction encouraged them to get involved in doing projects. Three student-teams from 2nd year were selected for top three project awards. Ms. K. Bavithra, AP, EEE organised this exhibition.



Dr. G. Chandramohan, Vice-Principal PSG iTech gave valuable input to students on 3rd October 2019 at PSG iTech

Interactive Session on “International Summer School at GCU”

The Civil Engineering Department organised an Interactive Session on “International Summer School at GCU” on 9th October 2019 in association with the Student Chapter of Association of Consulting Civil Engineers (India). Dr.M.I.Abdul Aleem, Professor & Head of Civil Engineering Department welcomed the gathering. Professor Andrew Quinn, International Lead, Glasgow Caledonian University (GCU), Scotland delivered a lecture about the summer school programmes at GCU. Professor D.Muralidhar, Associate Dean - Higher Education and Training and Manager Training, PSG Tech interacted with the students and shared his experiences at GCU. Mr.Umasundar, Final year Mechanical Engineering Student also shared his experiences and the benefits he attained through the GCU summer school during July 2018.

Dr. P. Manoj Kumar, Associate Professor in Mechanical Engineering concluded the session with the vote of thanks. Sixteen students from various departments attended the session.



Dr. P.V.Mohanram, Principal presenting a memento to Prof. Andrew Quinn of GCU, Scotland on 9th October 2019 at PSG iTech

Navarathri Golu Alangaram

As a part of the Navarathri celebrations, PSG iTech’s first of its kind Golu Alangaram was organized in the college premises by the collaborative efforts of the Drawing and Painting Club (Tulika), Cooking Club (Pushti:), PSG iTech Music Club, and Tarangini Club. The Golu Alangaram was setup in the E1 block Ground floor starting from the fifth day of Navarathri (3rd October 2019) and it lasted until the completion of the ninth day (8th October, 2019). Around 150 clay dolls were arranged in 9 tiers with the idols ranging from Navasakthi, Astalakshmi, Dasavatharam, Aaru Padai Veedu, Vishnu, Brahma, etc., The golu was also adorned with a small park setup at the end of the first tier depicting the Panjabhoothams Land (Nilam), Water (Neer), Air (Kaatru), Sky (Aagayam) and Fire (Neruppu). A Varalakshmi idol was setup using the pots and it was adorned with jewels as an epitome of health, wealth and prosperity. There were 20 sketches of Gods and Goddesses exclusively drawn to adorn the golu alangaram by students from different departments. A troupe of vocalists and instrumentalists from the PSG iTech Music Band performed Bhajans on 3rd and 4th October, 2019 which resonated and reverberated the hall with devotion and positivity.



PSG iTech's Golu Alangaram with flower kolam and grains kolam and the organizing committee members which was held on 8th October 2019 at PSG iTech

"The Joy of Giving Week"

The Wellness Centre and Drawing & Painting Club of PSG iTech celebrated Daan Ustav-“The Joy of Giving Week” from 9th October to 12th October 2019 with students and staff. The celebration commenced with the activity of collecting old dress and books from students and staff from 9th October to 12th October 2019. The boxes were placed in each department office and Wellness centre to collect the items. The one- day expo was conducted on 11th October 2019 for collecting the charity amount. Students and Faculty members of PSG iTech visited the expo, bought the things and donated the amount. The collected Old dresses were given to Mercy Home for HIV Affected Destitute Children, Puliyakulam. The collected charity amount of nine thousand seven hundred and two rupees was given to the Education Fees of HIV affected Children in the Mercy Home.



Dr. G. Chandramohan, Vice Principal donated the collected amount to Ms. Marjuk Begum Mercy Home Founder on 12th October 2019 at PSG iTech

Workshop on Advanced Field Testing Techniques in Geotechnical and Structural Engg.

A one day workshop on Advanced Field Testing Techniques in Geotechnical and Structural Engineering was held on 03rd October 2019. Mr.L.D.Mohapatra, National Manager, AIMIL Ltd, New Delhi was the Chief Guest and Mr.K.Aravindh, Quality Manager, Hitech concrete Solutions Chennai Pvt Ltd was the Guest of Honour. Vice Principal Dr.G.Chandramohan welcomed the gathering and explained the importance of using geophysical instruments in strength evaluation. The Chief guest, on his speech insisted that Geophysical instrumentations are highly necessary for understanding the subsurface features which helps us in deciding the best & optimized foundation, tunnel routes, sewer lines and conduits. The Guest of Honour, Mr.K.Aravindh, shared a lot of field investigation data and discussed few case studies on strength evaluation of dilapidated structures. The Organizing Secretary Mr.S.Elayaraja proposed the vote of thanks. 61 participants attended the FDP.



Participants along with the Deep resistivity meter equipments in the ground at PSG iTech

Project Expo on “ECE connect 2K19

The ECE Association (ECEA) and The Institution of Engineers (India) PSGI (EC) Students chapter jointly organized a one-day project exhibition on 11th October 2019 at NI Graphical Design Center. All 65 students of Second year ECE has participated and demonstrated their projects with a total project count of 24. Dr. T Hamsapriya, HoD-ECE welcomed the gathering and Dr V Jailaxmi, HoD-Mathematics inaugurated the Project Expo “ECE Connect 2K19”. The first year ECE students’ interaction encouraged them to get involved in doing projects. Top Three projects were selected for cash award. The event was organized by Mr. Jothibas M, AP (Sr.Gr), Mr. Paldurai K, AP (Sr.Gr) and Dr S Vanitha, ASP, ECE Department.



Faculty members interacting with the ECE students and provided their valuable inputs on 11th October 2019 during the Project Expo “ECE Connect 2K19” at PSG iTech

Research Advisory Meeting

Dr. D. R. Prasada Raju, Former Head of DST, New Delhi, visited the campus. He has provided input to the faculty members regarding preparation of research proposals. He has extended assistance to the following faculty of PSG iTech as listed below. The meeting was coordinated by Dr. K. Balaji, AP (Sr. Gr)/Chemistry.

S. No.	Date of meeting	Faculty who got input for preparing research proposals	Research proposal to be submitted (Scheme details)
1.	12.10.2019	Dr. E. Malar Professor/EEE	DST/TIDE
2.		Dr. P. Vetrivelan Associate Professor/ECE	DST/SERB
3.		Dr. V Rajkumar Associate Professor/Mechanical	DST/SERB
4.	06.11.2019	Dr. C. S. Subash Kumar Associate Professor/EEE	DST/SERB
5.		Dr. I. Kala Associate Professor /CSE	DST/SERB
6.		Dr. G. Santhanamari Associate Professor/ECE	DST-CSIR
7.		Dr. K. Sivananda Devi Assistant Professor (Sl. G)	DST/SERB



Dr. I. Kala, ASP/CSE discussing her research project proposal at PSG iTech

DRDL Project Discussion

Dr Krishna Mohan Vadali, Former Scientist of DRDL, Hyderabad visited and interacted with the following faculty members on 23rd October 2019 at PSG iTech.

1. Dr G Chandramohan – Vice Principal
2. Dr N Saravanakumar – HoD (Mechanical Engineering) and team

Easy Programming using C Language

The Placement Cell and The Institution of Engineers (India) PSGiTech Students chapter jointly organised a three day faculty development programme on “Easy Programming using C Language” for the faculty members of all departments during 29.10.2019 to 31.10.2019. The three day sessions were handled by Mr.Karthik Ellur, Chairperson, BYTS Technologies, Hyderabad. 30 faculty from various departments got benefitted out of his detailed way of teaching with analogies and examples to understand the concepts. The topics covered in the sessions were: Basic Data types, Operators, Pointers, Recursive functions and Arrays. He related the key concepts of programming and illustrated in different languages such as C, C++, JAVA and Python at every stage.



Participants with Resource Person Mr. Karthik Ellur, Chairperson, BYTS Technologies, Hyderabad during Three Day FDP on "Easy programming using C language" on 31.10.2019 at PSG iTech

Vigilance Awareness Week 2019

The Vigilance Awareness Week is observed every year across India to promote integrity in public life and achieve a corruption free society. PSG Institute of Technology and Applied Research, Coimbatore observed the Vigilance Awareness Week from 28th October to 2nd November, 2019 to mark the birthday of Sardar Vallabhbhai Patel and to bring social awareness among the students. The theme for this year was “Integrity- A way of life”. The Vigilance Awareness Programme was held on 30th October 2019 and 20 student participants



Students' taking Pledge during the Vigilance Awareness Programme, held on 30th October 2019 at PSG iTech

were present. Dr. M. Devasena, Associate Professor, Coordinator of Harmony Club, readout the pledge and all the members present took the oath to adopt integrity as a part of their life. Dr. M. Devasena spoke on the importance of integrity, accountability and transparency in public life.

Harmony Club - National Education Day

To commemorate the birth anniversary of Maulana Abul Kalam Azad, the first education minister of independent India, who served from 15th August 1947 until 2nd February 1958, National Education Day was observed every year on 11th November. In this regard, a speech



contest was conducted for students on 11th November 2019 on the topic 'Meaningful change that our education system needs today.' Harmony club of PSG Institute of technology and Applied Research conducted the speech contest and all participants received a self-help book signed by the Principal Dr.P.V.Mohanram. Dr.M.Devasena, Co-ordinator of the event evaluated the contest on basis of students' presentation, clarity and relevance to the topic.

**Participants of Speech Contest held on
11th November 2019 at PSG iTech**

Tutorial on "Usage of Calculator"

Using calculator can be extremely helpful, only if the user knows the various mathematical computations that are possible with the calculator. It is found from the experiences of the teachers that students are not able to use the calculator with ease, since they have not been introduced to the calculators' full potential in schools and as well as in colleges. Hence tutorials were conducted by Dr. P. Subbaraj, Dean-Research (Electrical Sciences) for the benefit of the students of first year between 4th November 2019 to 13th November 2019 on the topic "Usage of Calculator (fx-991MS)" to solve numerical problems on complex numbers, trigonometry, integration, differentiation, simple and simultaneous equations, and matrix. A special tutorial was also conducted for the IInd year Mechanical students on solving simultaneous equations iteratively on 14th December 2019.



**Tutorial on "Usage of Calculator" by Dr. P. Subbaraj, Dean-Research (Electrical Sciences)
on 4th November 2019 at PSG iTech**

Seven-Day Faculty Development Programme on Structural Analysis – II

A seven-day FDP on “Structural Analysis-II” was conducted in an effective manner during 24.11.2019 to 30.11.2019. The Seven day Faculty Development Programme on “Structural Analysis-II” was inaugurated by Dr. Devdas Menon, Professor, IITM, Chennai on 25.11.2019. During his address, he discussed about the Science and Art of Structural Analysis and in his afternoon session, he discussed about the Fulfilment in Education and Life as a part of life skill. Subsequently the lectures were delivered by resource persons Dr. K. Chinnaraju, Professor, Anna University Chennai, Dr. K. M. Mini, Professor & Chairperson, Amrita Vishwa Vidyapeetham, Dr. M. P. Muthuraj, AP, CIT Coimbatore, Dr. L. S. Jayagopal, Managing Director, Mithran Structures, and Dr. P. Perumal, Professor, Dr. M. I. Abdul Aleem, Prof & Head, Dr. M. Arun, Associate Professor from PSG iTech.

As per the revised syllabus in regulation 2017, all the topics of Structural Analysis – II, was covered, in a lucid manner and the participants enjoyed and cooperated well by taking notes and solving problems sincerely and seriously.

On 28.11.2019, during the afternoon session, the participants visited the auditorium of Isha Yoga Center and Adiyogi statue. Mr. R. Loganathan, Senior Design Engineer from Mithran Structures explained the design and erection of the two hinged arch steel structures, which was located in auditorium of Isha yoga center by obtaining special permission. Also, he discussed the salient points about the Adiyogi statue. All the participants enjoyed the visit.

All the topics were discussed with fundamental concepts to applications and also how to teach the subject was explained. Participants raised many questions and got clarified their doubts. Very experienced Professors with rich knowledge in the subject had come as resource persons, which made the FDP a grand one. The participants attended a test in the subject and then gave a very good feedback.



The Chief Guest for the FDP Programme Dr. Devdas Menon, Professor, IITM, Chennai was honored by Dr. P. V. Mohanram, Principal, PSG iTech on 25th November 2019 at PSG iTech

A Special lecture on “Fulfilment in Education and Life”

A Special lecture on “Fulfilment in Education and Life” was delivered by Dr. Devdas Menon, Professor, IIT Madras, Chennai on 25th November 2019 at PSG iTech. The event was jointly organized by PSG Centre for Academic Research and Excellence and PSG Institute of Technology and Applied Research, Coimbatore, in association with The Institution of Engineers (India) and Wellness Centre. Totally 130 students and staff members participated in the program. Dr.P.V.Mohanram, Principal, PSG iTech, Coimbatore introduced the chief-guest to the audience. The guest of honour, Dr.Devdas Menon started the session with a story which conveyed the meaning of happiness, job performance, learning and purpose in life. He began with the topic by explaining the term ‘fulfilment’, its importance and the four ways to attain it in one’s life. He discussed various aspects of wellness and the human perspectives about wellness and life. To attain the wellness and fulfilment in life through ‘Facing the difficult and challenging situations with positive thoughts along with knowing one’s self’ are the key aspects. He explained the human deficiency life needs through the concept of Maslow hierarchy need.



Dr.Devdas Menon, Professor, IIT Madras, Chennai, interacting with participants on 25th November 2019 at PSG iTech

He also outlined the teacher’s perspective on education and role of education in life. He pointed the difference between the Teacher and Guru and also how guru helps us to reach to the way of fulfilment in life. The session ended with saying “living with perfect balance in life will help one to reach the pathway of fulfilment in life”. The mind blowing session came to an end with the vote of thanks by Dr.R.Rudramoorthy, Director, PSG Centre for Academic Research and Excellence, Coimbatore.

Essay Writing Competition

The International Day for the Eradication of Poverty is observed on October 17th every year to promote awareness of the need to eradicate poverty and destitution in all countries. This year, the International Day for the Eradication of Poverty is designed to carry forward the aims of the Sustainable Development Goal No 1 “No Poverty”. In this regard, an essay competition was organized by Harmony Club for students of all departments on 16th October 2019 on the topic “Acting together to empower children, their families and communities to end poverty”.

18 students participated in the contest and the essays were evaluated by Dr. K.Pramila, Professor & Head, Department of English and Dr. Tamilselvi, Department of English. First three prizes were given to Harshini A of I ECE, Akshara R.T of I ECE, Sri Prashidhi D.R of I ECE and Hari Krishna M of II CSE respectively. All students received the participation certificate.



Students appreciating Sustainable Development Goals on 16th October 2019 at PSG iTech

Guest lecture on “Introduction to Ayurveda”

A Guest lecture on the topic “Introduction to Ayurveda” was delivered by Dr.Arunagiri Ganesan, a physician in Indian Ayurvedic hospital on 5th November 2019 at Civil Seminar hall. Around 150 faculty and staff members attended the guest lecture and found the usefulness of Ayurveda medicine and how it helps to treat various diseases without side effects.



Dr P V Mohanram, Principal, PSG iTech addressing the gathering during the guest lecture on “Introduction to Ayurveda” held on 5th November, 2019 at PSG iTech

One day hands-on training programme on “Microsoft office Word, Excel and Power Point”

Hands-on-training programme on Microsoft office Word, Excel and Power Point was held on 9th November 2019 for the supporting staff members to understand the several features of Microsoft office Word, Excel and Power Point with relevant case studies. The sessions were handled by Mr. C.P.Shabariram, Assistant Professor (Sr. Gr.) / CSE.

The take aways of the training programme included:

MS Word

- Well-formed documentation using various options
 - Case Study: Preparation of bonafide certificate
- Mail Merge
 - Case Study: Preparation of bonafide Certificate with multiple recipients

MS Excel

- Worksheet usage
- Usage of various functions and formulas
- Explore Charts and its options
 - Case Study: Student Mark List

MS PowerPoint

- Well- formed documentation using various options
 - Case Study: Department activities presentation

Around 18 staff members from several Departments such as Accounts Office, Chemistry, CSE, EEE, IQAC, Mathematics, and Mechanical Engineering attended the programme.



The participants of the hands-on training programme on “Microsoft office Word, Excel and Power Point” along with the Principal, Vice-Principal, HoD of CSE and Programme Co-ordinator on 9th November 2019 at PSG iTech

Lecture on “Time Management”

A Lecture on “Time Management” was delivered by Dr. R. Manimegalai, Professor and Head / CSE on 11th November 2019 organized by PSG iTech Staff Club for the faculty and staff members to provide inputs on effective time management. The lecture covered the following topics: Common Problems, Sample Weekly Planner, Benefits of Time Management, What Happens with Poor Time Management?, Balance Your Life, Common obstacles to Effective Time Management, Organizing Folders in Your Desktop, How do we spend a day?, Managing Commitments, Handling Procrastination, Guilt and Worries, Written Goals and Goal Setting and Work-Life Balance. Around 40 faculty and staff members from various departments attended the lecture, which was delivered by Dr. R. Manimegalai, Professor and Head / CSE.



Dr. R. Manimegalai, HoD/CSE, delivering the lecture on Time Management held on 11th November 2019 at PSG iTech

Two Wheeler Service Camp

PSG Staff Club organized a two wheeler service camp in the college premises from 9.30 am to 4.30 pm on 18th November 2019 conducted by Pressana Honda, Chinniyampalayam. 18 faculty and staff members have utilised the opportunity and got benefitted. The following branded vehicles are taken for the activity:

1. Activa all models
2. Dio scooter
3. Honda shine bikes
4. Unicorn Bikes

Services Provided:

1. Break adjustment
2. Engine oil change
3. All minor repairs



Two Wheeler Service Camp conducted by Pressana Honda, Chinniyampalayam held on 18th November 2019 at PSG iTech

Guest Lecture on Nanoscale Science & Materials

A Guest Lecture on the topic “Nanoscale Science and Materials” was held on 10th December, 2019 by the resource person Prof. Pradeep Halder from the college of Nanoscale Science and Engineering at State University of Newyork. Dr.P.V.Mohanram, Principal, Dr.G.Chandramohan, Vice Principal, Dr.P.Subbaraj, Dean of Electrical Sciences, Dr.T.Hamsapriya, Head of Department, ECE and all other faculty members of ECE were present. Mr.D.Venkatesh, Assistant Professor introduced the chief guest to the gathering. In his lecture, he discussed the major application of nanoscience in various fields like medical, automobile and manufacturing. He also stated the past, present and future trends on usage of nanoscience. Students from second, third and final year attended the guest lecture and found it to be very useful.



Dr P V Mohanram, Principal presenting a memento to the chief guest, Prof. Pradeep Halder, college of Nanoscale Science and Engineering, State University of Newyork on 10th December, 2019

NSS Camp

NSS Camp was organized at Arasur village from 02.12.2019 – 08.12.2019 by Dr.P.Chinnaraj (AP(SI.Gr)/Maths) and Dr.R.Ravikumar (AP(SI.Gr)/Humanities). Nearly 83 NSS volunteers took part in the camp. NSS Team started the day 1 (02.12.2019) energetically with yoga. The NSS team also cleaned the Government Secondary School, Arasur. The inaugural function was held at 3.00 pm. The chief guest Dr.M.I.Abdul Aleem - HoD (Civil Engg.) along with Dr.G.Chandramohan, Vice Principal, PSG iTech aliened the program. In the evening, skits were performed by all the volunteers.



NSS Volunteers during the cleaning process at the NSS Camp held on 02.12.2019

On the second day (03.12.2019) of NSS Camp, the chief guest Dr.R.S.Sankarasubramanian (Professor, Maths, PSG iTech) delivered the speech on the topic “Ilaingarkalum Nalvalvum’. NSS volunteers have taken the Page Maker classes to 11th and 12th students on 04.12.2019.

A debate was held on the topic “The reason for clean nation is whether people interest or government schemes”. Dr.S.Aramuthakannan (Associate Professor, Maths) was the chief guest of the debate. The skits were performed by all the teams.

Dr.R.Tamilselvi (Assistant Professor (Sl.Gr), English) gave a speech on the topic “Penkalin Munntramam Sutrupura Pathukappum” on 05.12.2019. NSS volunteers cleaned the place around the temple near Arasur and also cleaned and white washed the Arasur Elementary School on 06.12.2019. A lecture was conducted on ‘Sutrupura Mempattin Avashiyam’ by Dr.G.Santhanamari, Associate Professor/ECE. NSS volunteers planted 600 palm seeds in the Arasur Lake on 07.12.2019. The Volunteers conducted sports events to the School students from 10.00 am 1.00 pm. The Valedictory function was held on 08.12.2019.

Dr.P.V.Mohanram, Principal, PSG iTech was the chief guest on 08.12.2019. He interacted with the volunteers and gave special motivational speech for the benefit of students. He distributed prizes to the school students. NSS Team conducted the Medical camp to the Arasur village people on 08.12.2019. 160 people utilised the medical camp. The camp was conducted by PSG Hospitals, Coimbatore.



Dr.P.V.Mohanram, Principal interacted with the volunteers in the Valedictory function of NSS Camp held on 08.12.2019



Medical camp was conducted by PSG Hospitals during the NSS Camp on 08.12.2019

Inaugural function of ‘TIER 1 SAE Student Convention

The Inaugural function of ‘TIER 1 SAE Student Convention’ - PSG iTech was held on 9th December 2019 at PSG iTech. The chief guest for the event was Dr D Muruganandam – Management Committee Member of SAEINDIA. The chief guest addressed the students about the importance of technical skills. The students were highly motivated to take part in all the technical skills conducted as a part of ‘TIER 1-SAE Student Convention’ to become industry ready.



Dr N Saravanakumar, HoD (Mech) presenting a memento to Dr D Muruganandam – Management Committee Member of SAE INDIA on 9th December 2019 at PSG iTech

One Pot One Shot

The cooking club of PSG iTech - PUSHTi organized a cooking event “ONE POT ONE SHOT (OPOS)” on 12th December 2019. Around 40 students along with 15 faculty members attended the session. Founder of OPOS and Mrs. Kanagavalli Kadhiraju, OPOS Star were the resource persons who made people think cooking is lot more easily. They demonstrated four dishes namely. Carrot Halwa, South Indian Thali, Paneer Butter Masala, and Tapioca fry. Dr. P. V.



Mohanram, Principal, PSG iTech and Dr. G. Chandramohan, Vice Principal, PSG iTech joined the session. A sample of all dishes cooked was given to them and all participants to taste. The overall feedback about the taste and cooking methodology received from everyone was very good.

Dr P V Mohanram, Principal presenting a memento to the chief guest during a cooking event held on 12th December 2019 at PSG iTech

Value Added Course on “CAD for VLSI”

The Department of Computer Science and Engineering organised a two day Value Added Course on “CAD for VLSI” held on 13th and 14th December 2019. Around 65 students of II BE CSE attended the course. The sessions were handled by Mr. Prakash G, Lead Application Engineer, CoreEL Technologies (I) Pvt Ltd, Bangalore and Dr.P.Saravanan, Associate Professor, Department of ECE, PSG College of Technology, Coimbatore.

They covered an overview of the following topics of VLSI:

- Introduction to FPGA Architecture.
- Vivado Design Flow
- Embedded System Design Flow using Vivado
- Gate Level Modelling
- Data Flow Modeling
- Behavioural Modelling
- Useful Modelling Techniques



The team of participants of CAD for VLSI course along with the resource person Dr.P.Saravanan, Associate Professor, Department of ECE, PSG College of Technology, Coimbatore

Two day Value Added Course on “Internet of Things (IoT)”

A two day Value Added Course on “Internet of Things (IoT)” was organized during 13th- 14th December 2019 for the III B.E CSE students to understand the principles associated with design and building IoT projects based on Arduino. Training emphasized and given to applied knowledge of the principles by exposed the students to live working projects. This workshop was designed by industrial experts and imparted necessary technical skills to the participants to understand, design and deploy real time solutions for industrial needs using IoT. The sessions were handled by Dr. Anantha Narayanan V., Asst. Professor, Computer Science, Amrita School of Engineering, Coimbatore. Around 55 students from III B.E CSE attended the value Added Course and benefited.



The participants of the two day Value Added Course on “Internet of Things (IoT)” along with the resource person and programme coordinator held on 14th December 2019 at PSG iTech

Inauguration of ISTE Students Convention 2019-20

19th ISTE Engineering convention 2019-20 was hosted by PSG iTech during 18th-19th Dec 2019. The inauguration of the convention and distribution of awards took place on Wednesday, 18th Dec 2019. Indian Society for Technical Education is a nation's prominent non-profit, professional society which aims for career development of teachers, personality development of students and overall development of Technical education System.

The Principal of PSG iTech, Dr. P V Mohanram welcomed all the Veterans, Principals, faculty members and students of various institutions across Tamilnadu, who took part in the function. Around 400 students and 100 faculty including Principals from various colleges gathered for the two-day convention. Dr. A K Natesan, founder of EXCEL Group of Institutions and Chairman of ISTE-TN section delivered the presidential address. In his speech, he proudly extolled that Tamilnadu Chapter has 37000 life-time members and praised the life-time achievement awardees, for they being an honor for the award.

He invited more institutions and student members to join and get benefitted through ISTE and render the support for development of technical education system, which has transformed a lot over the past decade. Dr. M I Abdul Aleem, Head of Civil Engg. Department and Secretary of ISTE, PSG iTech, briefed about the various events in the convention such as quiz, paper presentation, panel discussion, project exhibition and workshops. The events are based on the theme 'Industry 4.0'.

The Chief Guest, Professor Vidyashankar, Vice Chancellor of Karnataka State Open University, Mysore congratulated Tamilnadu ISTE section for having received the best section award. He expressed his concern that only 10-12 percent of 7 lakh Engineering graduates across the country are industry-ready. He pointed that change in technology is inevitable and students, teachers and job seekers should adapt to the advancements such as Digitization, Artificial intelligence, Data science, Emerging Manufacturing Technologies and Automation. Though such advancements lead to loss of jobs in one way, they create several jobs in a different new panorama which the young graduates should anticipate and adapt.



Dr. R. Vaidhyanadhan, former Principal, GCE – Tirunelveli being awarded the Life-Time Achievement award by ISTE-TN.Section on 18th December 2019 at PSG iTech

He also encouraged the students to take up entrepreneurship and remember how leading businessmen like Alibaba Goup’s Jack Ma, Infosys Narayan Murthy and Wipro’s Azim Premji came up in life from a humble beginning. He envisioned that services and marketing sector will boom in future. He advised the young minds not to keep their patents idle but commercialize them and stated that “future depends on inventors and inventions”. He said that, colleges will soon become autonomous and hence they can impart better education coping up with the rapidly changing industry scenario.

Dr. V Manivannan, Vice President, ISTE-New Delhi, emphasised on “Knowledge, Skills and Efforts” to adapt to the changing world. Dr. R. Murugesan, former President of ISTE-New Delhi congratulated all the achievers.

Dr. Ganesan, Secretary of ISTE-TN announced the best teacher awardees and ISTE-faculty advisors of various colleges. On this occasion, seventeen veterans of technical education and 30 Principals and senior faculty of various colleges were felicitated with the life-time achievement awards and best teacher awards respectively. 145 students were honored for excellent academic performance and six best projects were identified and honored. Sixty two projects were also displayed by students on this occasion.

Mr. R. Samson Ravichandran, Vice Chairman of ISTE, TN spoke about the world moving towards Industry 4.0 and its importance. Dr. M. S Palanisamy, Former Vice Chancellor - Tamil Nadu Open University, as an observer, congratulated the whole team and 82 year old veteran Dr. R. Vaidhyanadhan, Senior most life-time achievement awardee thanked the organisers and expressed his happiness. Dr. G Chandramohan, Vice-Principal of PSG iTech proposed the vote of thanks.



Dr A Kandaswamy, Dean, Industrial Research and Development, CSRC and CNCE, PSG Tech being awarded the Life-time Achievement award by the dignitaries of ISTE-TN Section at the 19th ISTE Convention at PSG iTech

Panel Discussion-ISTE Convention 2019

On 18th and 19th December 2019, PSG iTech hosted the ISTE (Indian Society of Technical Engineers) student Convention 2019. On 18th December, the Panel discussion was organized between 11:00 am and 1:00 pm at E-5 Civil seminar hall. The discussion was held to throw light on the buzz word INDUSTRY 4.0.

A panel of technology integration specialists from a variety of educational and industrial settings shared their challenges and strategies for contributing to a district's technology vision, implementing high-quality, job-embedded professional learning opportunities and how they wished to integrate digital literacy and digital citizenship.

Panel:

Moderator:

1. Dr Muralidhar D, Associate Dean, Higher Education and Training, PSG Tech, Coimbatore.

Presenters:

2. Mr Rajendran G, Vice-President, Sandfits Foundary, Coimbatore.
3. Mr Gowthaman S K MBA (UK) CEO, Coir Consultant, Pollachi.
4. Dr Ganesh Kumar N, Professor, Mechanical Dept, PSG Tech, Coimbatore.
5. Dr Manivannan K, Vice President of ISTE, New Delhi.

Dr Muralidhar kick-started the event with a beautiful analogy to INDUSTRY 4.0 with “The Six Blind Men of Hindusthan”. Through this analogy, he clearly depicted how various people have different perceptions on INDUSTRY 4.0. He gave a brief introduction about the presenters of panel discussion. He went down his memory-lane and shared the memories that he had with the presenters, with the audience.

Mr Rajendran gave a detailed description on how INDUSTRY 4.0 is implemented at Sandfits Foundry, Coimbatore. In his presentation, he showed how digitalization has increased the efficiency of his foundry’s production. He also displayed data on water consumption, sand mixing capacity and temperature monitoring with high precision and accuracy. He gave a brief introduction to COBOTS (Collaborative Robot) – the NEXT GEN of industrial revolution. He stressed the importance of spectro analysis and ITACA (Interactive Training Advanced Computer Applications) for material testing. He highlighted the need of intelligence to be built into the machine, so that it automatically processes the input with the specified accuracy.

Mr Gowthaman was an enthusiastic person who stressed on the qualities for being an entrepreneur. He showed how confidence and punctuality would change the course of a person’s life. He gave a detailed note on his journey from failure to success. He stressed on the importance of product selection, the uniqueness of the product and how it can be made value added. He also encouraged the audience to take up entrepreneurship. He also selected a student from the crowd and promised to train him to become an entrepreneur.

He gave the confidence to the students that obtaining marks alone is not everything and there are plenty of opportunities beyond it. He finally concluded with a welcome note to the students to visit his enterprise.

Dr Ganesh Kumar started the presentation with a brief introduction to the various stages of industrial revolution. He also mentioned about COBOTS and its future use in industry. He picturized the INDUSTRY 4.0 Laboratory, which has been setup at PSG College of Technology. He showed a virtual pump assembly application developed by his students. He also shared with audience how 3D printing is gaining popularity. He also showed how mono-block PSG pump was manufactured using smart manufacturing. He ended the presentation on how INDUSTRY 4.0 is currently in use and the measures to implement it.



Prof D Muralidhar, Training Manager, PSG Tech addressing the gathering during the Panel Discussion held on 18th December 2019 at PSG iTech

Dr Manivannan, Vice-President of ISTE, started his presentation with a motivating mantra of 3C – Confidence, Concentrate and Consistency which function as the foundation for learning, creating, knowledge, innovation and success. He also quoted the ABCD of excellence – Attitude, Broader perspective, Commitment and Dedication. He highlighted the opportunities offered by several international organisations like IICDC, AICTE and MSME for funding the valuable prototypes that can be availed by the student community.

After these statements, the questions that were raised by the students were discussed in turn. Before the panel members replied, each question was first put to the floor. Mr Gowthaman clarified the various questions raised by the student community and encouraged them to live life positively. There were also other discussions about the challenges in implementing Augmented Reality and Digital Twin technologies. Students also posed several interesting questions to him about the impacts of INDUSTRY 4.0 will have on the society in near future.

This discussion led to the conclusion that “anything beyond the limit may prove fatal” and of course “man power cannot be replaced beyond a certain limit” despite several researches that are ongoing in the domain of cognitive engineering worldwide. Thus, the presenters gave a clear definition of INDUSTRY 4.0 according to their field of application. The meeting was concluded by Dr Mohanram P V, Principal, PSG iTech with a beautiful explanation that machines can learn only from the inferential mode through AI and cannot duplicate the REALITY.

Students interactive session – RF and Wireless Communication

The Department of ECE and The Institution of Engineers (India) PSGI Students' Chapter jointly organised a Student interactive session with Dr. Madhu S Gupta, professor RF Communication System Industry Chair, from the San Diego State university, San Diego titled “RF and Wireless Communication” on 20.12.2019.

The Principal Dr. P V Mohanram welcomed the gathering. A brief introduction of the chief guest was given by Ms. Archana D, Assistant Professor, ECE department.

He started his talk with a question, the need to study and understand electromagnetic fields. Prof. Gupta gave numerous examples where the concepts of EMF are used and why was it necessary for us to understand it.

He then talked about famous scientists and their contributions on which the subject of Electromagnetic fields was built on. To name a few, he stated Gauss's law, Maxwell's equations and its beauty in the field of Science to make us understand the essence and necessity of those laws in our life. We also had a graphical representation of the mathematical concepts such as curl and divergence of vector fields, which diversified our knowledge in those concepts and importance of such phenomena in the field of Electromagnetism.

It was a highly informative session, which opened new pathways for the students to understand the beauty of ELECTROMAGNETIC FIELDS. The session ended with the vote of thanks by Dr. M. Mohamed Iqbal, Associate Professor, and Department of EEE.



Dr. Madhu S Gupta addressing the Students

One day Hands-on-Training Workshop on “Open Source Geographical Information System (QGIS)”

The Department of Civil Engineering, PSG iTech conducted a Hands-on Training workshop on “Open Source Geographical Information System (QGIS)”, on 21st December 2019. A total of 42 participants comprising of 8 faculty members and 34 students from Engineering Colleges & Universities around Tamil Nadu participated in the Workshop. The participants were exposed to the basics concepts of GIS and a hands-on training on the open source GIS software “Quantum GIS” was given to the participant.

The workshop was conducted and co-ordinated by Mr.R.Rajkumar and Mr.V.Navin Ganesh, Senior Grade Assistant Professors of the Department of Civil Engineering.



Participants of the Hands – on –Training workshop held on 21st December 2019 at PSG iTech

Industrial Visit by Mechanical Engineering Students

The students of third year Mechanical Engineering had an opportunity to visit Oriental Plants & Equipments Pvt. Ltd ., an unit of M/s. Propel Industries on 01.10.2019 along with faculty Mr. S Nanthakumar and Prof.K.Anantharaman. The students had an opportunity to visit the Manufacturing sector of the plant in which the people in the company were working for the projects related to Sanmar, Ashok Leyland, GE etc.,. Their field of work includes developing solutions for diverse sectors like Excavation, Compressors, Special Valves, and other critical components. The students had an opportunity to interact with the plant executives regarding practical applications and challenges in the industry. The students also visited M/s. Bull Machines on 01.10.2019, which is associated with the heavy construction equipment manufacturing sector which includes backhoe loaders, tractors, tractor attachments, bull dozers.



Students along with Faculty members of PSG iTech during the industrial visit to Ms Bull Machines and Equipments on 01.10.2019

“Industrial Visit by Civil Engineering Students

Dr. P. Perumal, Professor (Dept. of Civil Engineering) and Ms.D.Saranyadevi, Assistant Professor (Dept. of Civil Engineering) along with 53 students from Second year Civil Engineering Dept. visited Kadaieswari Ready Mix Plant located at Chinniyampalayam, Coimbatore on 12th October 2019. Mr.Mahesh, Manager explained the working process and the sources of Raw Material.



Industrial Visit to Kadaieswari Ready Mix Plant by the Civil Engineering students on 12th October 2019

The Third Year BE Civil Engineering Students along with Dr.M.I.Abdul Aleem, Professor & Head of Civil Engineering and Ms. S. Geetha, Teaching Assistant visited the PSG Tech Additional Guest House, Coimbatore on 17th October 2019. The reinforcement details and the site checking methodology for slabs, beams and columns were shown to the students. A practical demo for cutting and bending of the bars were also conducted.

Industrial visit by faculty members

Dr.M.I.Abdul Aleem, Professor & Head of Civil Engineering, Dr. R.Manimegalai, Professor & Head of Computer Science and Engineering, Dr. T.Hamsapriya, Professor & Head of Electronics and Communication Engineering and Dr.M.Alagar, Research Consultant visited the “Bio Gardener” at Pollachi on 21st October 2019 to study the industrial problems which could be converted into potential student projects. During the visit it was confirmed that Sensor based projects shall be carried out by the ECE students to study the type of nutrients, soil fertility, water consumption etc.,. The Civil Engineering students can study the Value added chemical derivatives from the waste coir pith. The Civil Engineering Department along with the Polymer Engineering Laboratory submitted a research proposal “Development of hybrid bio composites and production of value added chemical derivatives from coir waste”.



PSG iTech team along with Er. S.K.Gowthaman during the industrial visit Bio Gardener at Pollachi on 21st October 2019

Swachhta Pakhwada

On behalf of Swachhta Pakhwada programme from 1st December 2019 to 10th December 2019, NCC Cadets of PSG iTech visited the Government Higher Secondary School, Arasur, Coimbatore. The team took various initiatives as a service to the society. The team made sure the school campus was cleaned by practicing activities such as plogging and removal of unwanted grass over the playing ground. Open defecation is a major issue in India. The cadets delivered a



speech on “Open Defecation Free Society” to the school children. The speech elaborated about various diseases caused due to open defecation and they also stressed that community like schools are more vulnerable to Rota Virus and Giardiasis Infection and added a note on immunization and the government program in health of the society.

PSG iTech NCC Cadets during the conduct of Swachhta Pakhwada programme from 1st December 2019 at Government Higher Secondary School, Arasur

AICTE STC on “Advanced Computational Techniques for Fluid Dynamics: (ACTFD-19)

AICTE STC on “Advanced Computational Techniques for Fluid Dynamics: Grid-Free and Immersed-Boundary Methods with Applications (ACTFD-19)”, was conducted by the Department of Aerospace Engineering, Indian Institute of Technology Madras, Chennai, during 25-11-19 to 30-11-2019. The workshop mainly focused on the active research areas like Grid-Free and Immersed-Boundary Methods of Computational Fluid Dynamics. The lectures were delivered by the Faculty members of IIT Madras and guest members from other premier Institutions/ Organizations.



Mr T Premkumar, AP (Mechanical Engg.) attended a workshop on Advanced Computational Techniques for Fluid Dynamics

Interactions with Siruthuli - Irugur Lake Restoration Project

Dr. M. Devasena, Associate Professor, Department of Civil Engineering is working along with Siruthuli, an NGO based in Coimbatore, which works to rejuvenate the water sources in the city of Coimbatore. Dr. M. Devasena, Associate Professor, Department of Civil Engineering interacted with Siruthuli team about Irugur Lake Rejuvenation Project on 13th November 2019 at NLC.



Workshop on Lake Rejuvenation on 07th November 2019 at NLC

4th India Water Impact Summit (IWIS, 2019) attended by faculty

Ministry of Jal Shakti, Government of India and the Centre for Ganga River Basin Management and Studies led by IIT Kanpur organized the 4th India Water Impact Summit from 5th - 7th December 2019 at the Vigyan Bhawan, New Delhi. The summit was attended by Dr M Devasena, Associate Professor, Civil Engg. Dept. The summit focused on integrated management of water resources in rural and urban areas, and experts from various fields discussed various water-related issues.

An important objective of the summit was bringing together global financial investors and



institutions to focus on water impact in smart cities. As water security is a global issue, the National Mission for Clean Ganga (NMCG) has been taking a global call to action to invite nations from around the world to save the most precious resource on the planet. The summit was inaugurated by Union Minister of Jal Shakti, Sri. Gajendra Singh Shekawat. Several ambassadors and representatives from across the globe, especially from the European Union countries participated in the summit.

Dr. M. Devasena, Associate Professor, Department of Civil Engineering attended IWIS, 2019

PSG CARE Programmes attended by faculty members:

The faculty members those who attended PSG CARE programme during the quarter period are as follows:

S. No.	Name of the Faculty	Event Title	Venue	Date
1	Dr A Bharathisankar	Effective Communication Skills	PSG IM PSG CARE	11.10.2019 & 12.10.2019
2	Dr P Subbaraj Dr T Hamsapriya Dr C L Vasu Dr R Manimegalai Dr M Devasena Dr G Rajeshkumar	Imagining and Engineering the Future	PSGIM PSG CARE	13.12.2019
3	Dr M Devasena Dr S Vanitha Dr R Ravikumar	Atmospheric Science and Climate Change	PSGIM PSG CARE	11.01.2020

Guest Lectures Delivered by faculty members:

The faculty members those who delivered lectures in other colleges during the quarter period are as follows:

S. No.	Name of the Faculty	Event Title	Venue	Date
1	Dr.M.Jayasanthi	VLSI in Biomedical Signal Processing	SNS College of Technology, Coimbatore.	04.10.2019
2	Dr.I.Kala	"Advanced tools for Modern Cryptography"	RVS College of Engineering and Technology	14.10.2019
3	Mr.D.Venkatesh	5G Antennas	Kalaingar Karunanithi Institute of Technology, Coimbatore.	29.11.2019

Workshops/FDPs Attended by Faculty Members

The faculty members those who attended workshops/FDPs (Internal and External) during the quarter period are as follows:

S. No.	Name	Event Title	Venue	Date
1.	Dr. R. Manimegalai	FDP on Easy Programming using C Language	PSG iTech	29.10.2019 to 31.10.2019
2.	Dr. P. Ilango			
3.	Dr. D. Sivaganesan			
4.	Mr. Thivaharan			
5.	Ms. G. Niranjani			
6.	Ms. S. Hemkiran			
7.	Dr. A. C. Sumathi			
8.	Dr. V. C. Mahavishnu			
9.	Ms. P R Radhika			
10.	Ms. K. Lakshmi Kalpana Roy			
11.	Mr. B. Ajith Jerom			
12.	Ms. G. Vidya			
13.	Ms. Mishmala Sushith			
14.	Dr. T. Hamsapriya			
15.	Mr Jothibas M			
16.	Mr Paldurai K			
17.	Dr. P. Vetrivelan			
18.	Ms. R. Divya,			
19.	Ms. K. Bavithra,			
20.	Ms. A. Jeyashree			
21.	Mr. G. R. Hemanth			
22.	Dr. S. Bhuvana	FDP on Computing Paradigms for Emerging IoT Applications	PSG iTech	04.11.2019 to 08.11.2019
23.	Ms. Mishmala Sushith			
24.	Dr R Ramesh	2 days Training programme on Learning Science and Engineering through doing	PASCO Lab, PSG iTech	12.11.2019 and 13.11.2019
25.	Dr T. Hamsapriya			
26.	Mr P Balakumar			
27.	Mr R Rajkumar			
28.	Ms. G. Vidya			
29.	Mr. N. Aravindraj			
30.	Ms. P R Radhika			
31.	Ms. G. Niranjani			
32.	Dr C L Vasu			
33.	Ms. K. Bavithra			
34.	Mr. M. Sathiyathan			
35.	Mr. S. Ravikrishna			
36.	Ms. R. Divya			
37.	Mr S Nanthakumar			
38.	Mr T Premkumar			

39.	Mr R Avinashkumar			
40.	Ms M Sowmiya			
41.	Ms D Archana			
42.	Ms D Pricilla			
43.	Ms D Saranyadevi			
44.	Ms. G.Vidya	5 days Winter programme on Data Analytics and Machine learning using R and Python	Hindustan University, Chennai	25.11.2019 to 29.11.2019
45.	Dr. I. Kala	TEQIP III Short term One week sponsored course on Returning Industrial Challenges Using IoT and Deep learning	Coimbatore Institute of Technology, Coimbatore	25.11.2019 to 1.12.2019
46.	Ms Deepa M Ms Susithra.N	Workshop on FPGA Based Embedded System Design	PSG College of Technology	11.12.2019 and 12.12.2019

Internship Programme undergone by faculty:

S. No.	Name of the faculty	Dept	Internship Period	Internship Title	Name of the Guide
1	Dr A C Sumathi	CSE	06.11.2019 to 04.12.2019	5G Test Bed Project Lab	Dr Radhakrishna Ganti, IIT Madras