



INTERNATIONAL INSTITUTE OF
INFORMATION TECHNOLOGY

HYDERABAD



Activities Report 2015

presented at Convocation 2015

Director's Report on Fourteenth Convocation

Saturday, 22 August 2015

The Chief Guest Dr. V K Saraswat, Chairman of the Governing Council Prof. Raj Reddy, distinguished guests, my faculty and staff colleagues of the institute, graduating students and parents, other students, members of the media, and friends, I am very happy to present the report on the activities of IIT Hyderabad for the past year. The institute has continued its journey towards academic excellence in the past year, a few specifics of which I would like to present today.

IIT Hyderabad is an institution catalyzed by the state government but left to run all its affairs autonomously as a Deemed University. The institute operates entirely independently in academic as well as in financial matters. The institute focuses on research-led education, with undergraduate research as a unique feature. We impart education that is comparable in breadth and depth to the best in the world. The research orientation enables our students to think beyond the textbooks when faced with unstructured problems. The best science and the best technology are what serve the larger society in the short and the long term. Our programmes have a strong emphasis on humanistic education and human values, so that our graduates have a mature world-view on matters that are relevant to life, beyond their profession.



I. ACADEMIC PROGRAMMES

The institute has B.Tech programmes in Computer Science & Engineering, Electronics & Communication Engineering and in Building Science & Engineering. We also have trans-disciplinary programmes combining Computer Science and domains like Computational Natural Sciences, Computational Linguistics, and Exact Humanities. We have masters programmes in technology and domain areas. The dual-degree programmes have earned special praise from research and product groups of top companies and top universities for the deep exposure it gives to students. Our research programmes consisting of Ph.D and M.S by Research have propelled us in research to be among the top institutions in the country in our areas of focus.

Our students have performed exceptionally well in comparison to their peers in the country and in the world. IIIT's team represented India for a record 6th time in a row at finals of the ACM International Collegiate Programming Contest held in Morocco three months ago. For the third year in a row, we were ranked #3 in the country by the Dataquest-CMR survey of Technology institutions last year, behind IIT Bombay and IIT Kharagpur.

II. FACULTY

We have attracted several enthusiastic and dedicated individuals from all over the world as faculty members over the years. 11 new faculty members and 10 part-time faculty members joined the institute in the past year. We also have a strong programme of experts from the industry teaching at the institute as affiliate faculty members. We continue to invite and evaluate faculty candidates throughout the year. The opportunity to weave teaching and research together in a synergistic manner is a unique opportunity that is available to the faculty members of IIIT.

Some of the key faculty achievements are:

- R Pradeep Kumar was a member of Expert Committees constituted to study the impact of Hud Hud Cyclone on infrastructure facilities in Visakhapatnam and the 2015 Earthquake in Nepal. He also visited Sydney, Australia as part of Indian delegation for attending ISO Plenary Meeting on Cement & Concrete Structures.
- Shaik Rehana, was awarded Prof. N S Govinda Rao Gold Medal for Best Ph.D thesis award, 2015, in the Department of Civil Engineering, IISc, Bangalore.
- Nand Kishore Acharya, Professor of Eminence, Center for Exact Humanities (CEH), was awarded Pandit Vidyavanish Mishra Smriti Samman by Vidyashri Nyasa of Varanasi. This award is given in recognition of his literary achievements.
- Kishore Kothapalli, Associate Professor, Center for Security, Theory & Algorithmic Research (CSTAR), has been nominated as Executive Committee Member for IEEE TCPP, Indian Subcontinent.
- Kishore Kothapalli, Associate Professor, Center for Security, Theory & Algorithmic Research (CSTAR), has been nominated as council member for Indian Association for Research in Computing Science (IARCS).

III. RESEARCH

The team of faculty, research students, research staff, and undergraduate students had a very productive time last year. They produced over 400 papers in top conferences and journals in the past year. Over 64 (18- Microsoft Research (MSR), 2-Google, 29-Institute, 15-faculty projects) of our students including several undergraduate students travelled to conferences held outside India to present their papers and to be part of academic discussions. Thirteen of our Ph.D students received Vivesvaraya fellowships from DIET and one from TCS last year. In all, about 38 of our Ph.D students have external competitive fellowships from TCS, Google, Microsoft Research, IBM, etc.

We have active collaborations with several national and international institutions. We are playing leading roles in several national projects involving dozens of institutions in the areas of machine translation, information retrieval, speech processing, OCR, handwriting recognition, digital preservation of cultural heritage, perceptual engineering, etc. We collaborate with several dozen top international institutions including the Carnegie Mellon University, University of Pennsylvania, INRIA, UC Berkeley, Hebrew University, Bauhaus University, University of the Aegean, University of Dundee, Dublin City University, University of Colorado, Microsoft Research, Ecolecentrale Paris, and Oak Ridge National Laboratory.

The institute has continued its long research association with national organizations like the DRDO, ISRO, DAE, IIRS, National Institute for smart government as well as the funding agencies like the DST, MCIT, DBT, MoES, DIET, MHRD, SERB, CSIR. Lab for Spatial Informatics at IIIT Hyderabad, in collaboration with Kaiinos.com developed a Real-time operational Spatial Decision Support System (DSS) for Crowd Management during the Godavari Mahapushkaralu 2015 for the Govt. of Andhra Pradesh.

We also work with several companies on research projects including GE Global Research, Dr. Reddy's Laboratories, Bosch, TCS, Intel, Yahoo, Amazon, Infosys, Honeywell, NVIDIA, Rockwell Collins, IBM, Flipkart, Novartis, Microsoft, Hitachi, Saint Gobain, Siemens, CA Technologies, UURMI Systems etc., and institutions like Aravind Eye Hospital and Sri Chithira Thirunal Institute of Medical Sciences. These are opportunities to take our research to the people.

Our researchers have done well in national and international technical conferences and competitions:

- Best Paper Runner Up at ICVGIP 2014. Siddharth Tourani (Robotics) and K Madhava Krishna (Robotics) for their paper, Using In-frame Shear Constraints for Monocular Motion Segmentation of Rigid Bodies.
- First Prize at the Tracking and Imaging Challenge at PCV-2014 Conference. Deepak Rajamohan (MS CSE), Bhavana Ganu (CSD), K S Rajan (Lab for Spatial Informatics) on - Road Condition and Texture Estimation by Fusing GPS, Accelerometer and Camera Data.

- Best paper award Intl Conf on Countermeasures to Urban Heat Island 2014. Vishal Garg and others -Assessment of the Impact of Cool Roofs in Rural Buildings in India.
- Best poster award at Indo-US Bilateral Conferences-cum-Workshop. D Prashanthi, Ph.D student from Center for Computational Natural Sciences and Bioinformatics (CCNSB) for - Copy Number Variation Analysis of Diffuse Large B-Cell Lymphoma (DLBCL) Subtypes.
- Best paper award at ACCS 2014. Amit Jaiswal and Dipanjan Roy for - Focal localization of brain electromagnetic activity using CS-sLORETA.
- Best poster and oral presentation award in the Symposium on Accelerating Biology. Sanchari Sircar, Ph.D student from Center for Computational Natural Sciences and Bioinformatics (CCNSB) for - Gene Co-expression Network Analysis of Oryza sativa under Abiotic Stress.
- Best poster award at the Theoretical Chemistry Symposium (TCS 2014). Siladitya, Ph.D student and Sandhya, Ph.D student both from Center for Computational Natural Sciences and Bioinformatics (CCNSB).
- IIIT Hyderabad team lead by MS student Avinash Siravuru from Robotics Research Center came within top twenty worldwide "Simulating Reality Contest Winners" on the theme, "Modular robot design and analysis for the uneven terrain exploration":
- Special Jury Mention at Devthon Metropolis for the idea - Smart Spectrum was awarded to Sumit Kumar, M.S student in Signal Processing and Communication Research Center (SPCRC).
- Best oral presentation award at International Conference on Genome Informatics. Broto Chakrabarty, PhD student from Center for Computational Natural Sciences and Bioinformatics (CCNSB).

The institute hosts Distinguished Lecture and Institute Lecture Series inviting eminent scientists. Last year, we had Prof. M Valiathan, Prof. Raj Reddy, Prof. C V R Murty (Director, IIT Jodhpur) and Dr. Ramesh Raskar (MIT Media Lab) speak at the institute.

I am very pleased to announce the support of TCS to the institute to the tune of Rs 20 crores to establish the FC Kohli Centre on Intelligent Systems to synergize research in these areas at the institute. Mr. Cyrus Mistry, Chairman, Tata Sons, Sri N Chandrasekharan, CEO, TCS, Mr. F C Kohli, and Sri K T Rama Rao, Minister for IT, Government of Telangana laid the foundation stone on 23 July 2015 of Kohli Research Block of 60,000 sq.ft in the Himalaya Block B. IIIT's innovation and incubation activities have been growing also. The Centre for Innovation and Entrepreneurship of the IIIT Foundation currently hosts over 70 startups. We provide them with infrastructure as well as services such as mentoring, discounted service providers, investors and domain experts. These startups generate more than Rs. 6 crore of revenue per year, and have created skilled employment for nearly 400 people.

Till date, the IIITH Foundation has invested nearly Rs. 2 crore in 12 promising technology companies that hold disruptive potential in the market. These companies' domains vary from core technologies such as search and information extraction, speech synthesis, augmented reality, hardware acceleration, etc. to products such as gaming platforms, home automation systems and mobile enterprise solutions. These startups have generated good market traction and have raised more than Rs. 23 crores from investors, leading them to be covered by global media such as the Wall Street Journal, New York Times, Business Standard, etc. IIIT Foundation will be looking to fund another group of startups working on new technologies and deeper problems later this year.

Notable achievements of the CIE companies include:

- WAZZAT LABS was among top 3 at MIT-GSL accelerator programme in 2014 and graduated from Target accelerator.
- brthe.co won AngleHack Hyd; participated in Global AngelHack Demo Day in San Francisco.
- Zify among top 5 at the Startup Pulse by Inc42; Part of the Global Ridesharing App developers Conference in Ireland.

The Telangana Government is setting up the country's biggest and the best incubation and start-up ecosystem in Hyderabad, building on the strengths and expertise of our expertise. The Phase 1 of T-Hub has started and their Catalyst building on campus is very close to completion. The full-fledged T-Hub will be setup in 2018 in world-class facilities specially created for this purpose.

IV. STUDENT LIFE

The Cultural Council and different clubs have been active to provide opportunities to the students for improving their cultural skills through classes and workshops. The music club held its annual event November Jam where several student bands performed for the campus community. The students organized a number of inter-house, inter-batch events in art forms such as music, both classical and western, dance, skits etc. A new club called the Finance and Investment club was set up and the club organized talks by speakers from ISB.

The literary club organized interesting workshops and sessions. One of the most significant among them was their involvement in the National Novel Writing Month (NaNoWriMo), which is a platform that encourages people to start writing their stories as novels.

The dance club participated in the preliminary round of SpringFest 2015, the cultural fest of IIT KGP and were selected to go for the final round. They also organized a flash mob as a part of felicity on 26th January.

Abhivyakti, the drama club, staged a play which went on to win the first prize for the same in the drama competition of BITS Hyderabad.

Thyagaraja Aradhana Festival was organized for the first time on campus in February 2015.

A music concert by Tejaswinee Kelkar and Parikshit Sakurikar was organized in March 2015.

The annual techno-cultural fest of IIITH was held in February. Apart from student performances, several renowned artists performed in the evenings. There were performances by invited artists such as Parvaaz, The Local Train, Lost Stories. Each day of the fest started with talks given by the well known expert on the History of Hyderabad, Mr. Narendra Luther, Mr. Narendra Ragani and Mrs. Revathi Turaga.

Noted actor and documentary maker Shri M K Raina, noted musicologist and Gandhian Economist Prof. Mark Lindley delivered talks in September and November respectively.

One of our students was among the 400 or so participants of the Jagriti Yatra, a unique journey of discovery and transformation across the length and breadth of India.

In the sports area, IIITH won the 4th State Level Inter Engineering College Sports Fest Trophy in Football organized by Vidya Jyothi Institute of Technology, Hyderabad on their campus on 23rd and 24th January 2015.

IIITH won the Runner-up Trophy in the 1st Telangana State level Inter Engineering College "8" a side Football Tournament organized by M. J college of Engineering and Technology of Sultan-ul-uloom Education Society in their campus at Banjara Hills, Hyderabad from 19th to 21st February 2015. Apart from participating in inter-college sports event organized by other institute, IIITH Physical Education Center for the first time hosted the Telangana State Level Inter Engineering College Football Tournament from 13th to 15th of March 2015.

IIIT-H students also won the Gold Medal in Chess (Men) and Bronze in chess (women).

V. GRADUATING STUDENTS

The graduating batch of B.Tech, Dual Degree, M.Tech, M.S by Research, Ph.D, and MSIT programmes is 421 in number (with 183 UG, 139 M.Tech, 55 M.S by Research, 14 Ph.D and 62 MSIT). In the year 2015, a total number of 121 companies registered for conducting placements and made job offers to these graduating students.

VI. ALUMNI

IIITH has a vibrant alumni with the first lot graduating just 13 years ago. However, they have achieved much in the short period. Alumni of our B.Tech and M.Tech programmes can be found all over the world in top companies and universities. The alumni of our research programme are found in top research groups in India and abroad as well as in the top universities. The alumni are well connected with the institute and have set up an active alumni scholarship programme for needy students. About Rs. 64 lakhs have been contributed for this by the alumni in the past. Over 29 students have been provided financial assistance through this scheme. I expect and welcome the graduates of 2015 to play key roles in promoting and supporting the institute in the future.

Other alumni engagements include:

- Two alumni meets were organized in Bangalore and San Francisco with the faculty in Microsoft and Google offices.
- An Alumni Mentoring Programme was organized by the alumni cell for the UG and PG students where they interacted with the alumni to address their concerns and get academic and career advice.
- Alumni-UG Parent and Alumni UG-Student Meets were organized during the Orientation programme for new students.

VII. OUTREACH

The institute has been involved with the development of over 30 virtual labs under MHRD's National Mission on Education through Information and Communication Technology (NMEICT). Apart from building the infrastructure that hosts all 150 labs of the project, the institute is also responsible for the dissemination of Virtual Labs across the country. To promote the awareness and adoption of the Virtual Labs project, the institute has signed an MoU with TASK (Telangana Academy for Skill and Knowledge). As per the MoU, TASK will help in the outreach activities of Virtual Labs across 100 engineering colleges in Telangana.

Value education forms an important component of IIIT-H's undergraduate curriculum. Our attempts are now being studied and adapted by different organizations in the country. The Human Value cell has conducted several workshops, training programmes, and guest lectures all over the country. HV Cell has played a major role in introducing A Foundation Course on Human Values & Professional Ethics (HVPE) as a subject in degree colleges of Telangana and Andhra Pradesh. Presently the course is running in nearly 3000 colleges under 17 universities. A total of around 5 lakh students are studying this course.

The institute conducts an annual R&D Showcase to present the research done at all levels to the outside world. This year's event was scheduled during 24 and 25 January 2015 and presented about 323 demonstrations / posters which was visited by about 1800 individuals including a large number of students from various institutions, industry and R&D Organizations. Along with paper and poster presentations, there were series of invited talks by eminent scholars from Academia, Industry and R&D organizations. The institute and its faculty played major roles in conducting several top conferences. These include, COMAD 2014, ICVGIP-2014, WISP-2014, IASNLP- 2015, ICON-2014, ACCV-2014, etc. India won the bid to hold the Interspeech 2018 international conference in Hyderabad, India, against tough competition from China. Expected participation is over 1200, with more than 75% international participation.

IIIT Hyderabad has been active in working with a set of new IIITs that are coming up in the NPP model. Specially, in the last year, we have been working very closely with IIIT Sricity to set up their academic programmes and faculty recruitment. Faculty and students from IIIT Hyderabad has been traveling and helping with the regular teaching activities of IIIT Sricity. The institute conducted a programme in summer to familiarize school children to Computational Thinking and Problem Solving. About 100 students from Hyderabad area took part in this 4 week programme and had very kind words to say about it at the end.

A Women Entrepreneurship programme (WEP) was organized over a 2 week period by EEG & CIE for women undergrad students of IIITH and IIIT-S. There were 25 mentors from the academia, industry and start-ups who mentored the students in Product Design & Development for new businesses. Other notable events at the institute include:

- On the occasion of World Habitat Day, EERC started Annual Lecture series on Indian Housing. First lecture was delivered by Prof. C V R Murty, Director, IIT Jodhpur on - Helping India Build its Own Houses on 11 October 2014.
- World Theater Day Talk was conducted on 27 March 2015. Dr. Joly Puthussery, Associate Professor from University of Hyderabad delivered a Talk on Relevance of Theater Arts in Technical Institutions.
- On 5th July 2015 a one day workshop conducted by Prof. Maya Tenengeberg from Finland on Clown Acting was organized by Theater Arts Stream and CEH.
- Make-Up Workshop was conducted by Sri. Malladi Gopala Krishna Organized by Theater Arts Stream of CEH on 29 March 2015. Research Days were conducted with several companies in the past year.
- TRDDC Day: There were 10 talks delivered by the TRDDC, Pune team over a 2 day period.
- Elsevier IIITH Research Day - Elsevier, Netherlands visited us during April 2015. Elsevier Research Day showcased 20+ posters across centers during the event. The top 3 poster presentations received prizes. There were also talks by the leadership team of Elsevier. Honeywell IIITH Research Day - Honeywell Technology Solutions and IIITH jointly organized a Honeywell IIITH Research Day during August 2015. There were 35 posters from the HTS team and 19 posters from the institute. The top 5 research posters were selected as the winning teams. Several Hackathons were conducted in the institute.

- Honeywell Hackathon - This was organized in August 2015 with 140+ participants from IIITH. The top 3 teams were selected for national finals.
- Microsoft Hackathon - This is the 4th edition of the event and there were nearly 160+ student participants. IIITH students have gone to the national finals.
- Indeed Hackathon - This event was organized for the 1st time in Indian colleges and had over 145+ participants.
- Directi Hackathon - This was the 2nd edition of the Hackathon and was conducted only at IIITH with 140+ participants.
- ICICI Hackathon - Three teams in 2015 have moved to the top 10 teams nationally for idea submission. In addition, 1 team from 2014 has moved to the product development stage. The students are getting seed money to prototype their ideas.
- CIE and HYSEA organized a 2 day Hacker's Summit for start-ups to promote entrepreneurship, career opportunities and provide a meeting ground to meet others in the start-up ecosystem.
- IIITH students mentored and participated in the Smart City Hackathon organized by ISB and the Telangana government. Microsoft and IIITH students provided the technology support for the event.
- IIITH faculty mentored for the Cyber Security Hackathon organized by the Telangana Government and Cyberabad police. Students also participated in the event.

VIII. SUMMARY

In summary, the institute has made steady progress last year on all areas of its involvement. We taught more students, we graduated more students, we maintained the research focus, incubated many more companies, and got engaged in more activities that connect with the society.

All institutions have to expand and grow its activities so that it creates larger and greater impact over the years. We have embarked on initiatives to raise resources from the larger society, including companies, individuals, alumni, and the government. IIITH is the first and the most notable institution in the country that is modeled like the best research university outside of the government sector. The model is new to India, but is similar to the best universities in the world such as Caltech, MIT, and CMU. We need generous support from all societal sources to establish such an institutional model and to be counted among the very top institutions in the world. Our efforts to get support from industry and the larger society started to bear fruits in this year in the form of the generous support from TCS for the institute's infrastructure and research. We will continue to work towards building a world visible academic institution with support from the larger society. We seek the enthusiastic cooperation of our alumni, including those who graduate today, as well as others present here to this mission.





**INTERNATIONAL INSTITUTE OF
INFORMATION TECHNOLOGY**
HYDERABAD

Gachibowli, Hyderabad 500 032 Telangana, INDIA
Phone : +91-40-6653 1000 | Fax : +91-40-6653 1413
www.iiit.ac.in