Only those who will risk going too far can possibly find out how far one can go.

- T. S. Elliot
From the Director

In July 2017 IIT Hyderabad entered its 10th year. We have come a long way in the last 9 years. Academically, we are at the forefront of developing new curricula and new programs. We are also at the forefront of research and development. Our faculty student ratio is best among all IITs - 1:13. We have a very strong PG program. The rough ratio among Ph.D. students, Masters students and undergraduate students is 30:25:45.

By Aug 2017, IITH will have more than 2300 students with almost 20% women students, and 180 faculty members. IITH’s sanctioned research funding will be to the tune of Rs.350 crs. from nearly 300 plus sponsored projects. IITH’s Scopus indexed publications will stand at 1700 with nearly 50 filed patents.

IITH has strong industry collaboration - we collaborate with nearly 50 industries.

Our Japan collaboration is in full swing with Japanese faculty visiting us and IITH faculty visiting leading Japanese university on a regular basis. There is a strong student exchange program with Japan. Building the infrastructure with Japanese support will start this year.

IITH has MOUs with at least 50 universities globally, most of them in Japan, USA, Australia, Canada, Europe and Taiwan.

IITH has three technology incubators - iTIC, Center for Healthcare Entrepreneurship and Fabless Chip Design Incubator. Moreover, there are 6 research centers - most notable being Nano-technology, Teaching and Learning Center, and Design Innovations Center.

On the academic front IITH is innovating and scaling while maintaining quality: We have B.Tech. programs in 9 engineering departments, MSc in Physics, Chemistry and Mathematics, M.Phil. in Liberal Arts, M.Des. in Design, and Ph.D. in all 13 departments. There is strong emphasis on interdisciplinary academics. IITH has implemented a very novel academic program, referred to as, Fractal Academics - the key idea is to atomize courses, provide breadth and depth, emphasize courses in liberal arts as well as creative arts, emphasize project work, and create an interactive learning ambiance. In this approach the students will be well equipped to handle challenges of any job or challenges of post graduate education. IITH offers a Minor in Entrepreneurship to all students. IITH also offers a double major - hardworking and enthusiastic student can get two B.Tech degrees. Students at IITH can enrich their knowledge by opting for a minor and/or an honors program. This year IITH will start offering a minor in Design to promote design thinking among its graduates. IITH is the only institution to offer a course DigiFab (3D-printing) to all first year students.

IITH is the first institute to start an executive M.Tech. program in Data Science for working professionals. This year IITH will also start an all course option M.Tech. program.

IITH is creating a unique holistic educational ecosystem that offers interactive learning, a highly, flexible academic structure, cutting edge research, strong industry collaboration, and entrepreneurship. It is providing an environment wherein students and faculty are not afraid to translate their dreams to realities.

Prof UB Desai
CHAIRMAN
Mr BVR Mohan Reddy
Executive Chairman
Cyient Limited

MEMBER
Prof Vinod Krishan
Senior Professor & Dean
Indian Institute of Astrophysics

MEMBER
Dr Prema Ramachandran
Director
Nutrition Foundation of India

MEMBER
Prof M Lakshmi Kantam
Department of Chemical Engineering
Institute of Chemical Technology

MEMBER
Mr R Subrahmanyanam
Additional Secretary
Ministry of Human Resource Development

MEMBER
Ms Ranjeev R Acharya
Principal Secretary to Government Higher Education Department

SENATE NOMINEE
Prof Anjan Kumar Giri
HoD of Physics Department
Indian Institute of Technology Hyderabad

SENATE NOMINEE
Prof KVL Subramaniam
Dean (Planning)
Indian Institute of Technology Hyderabad

EX-OFFICIO
Prof UB Desai
Director
Indian Institute of Technology Hyderabad

SECRETARY
Mr N Jayaram
Registrar
Indian Institute of Technology Hyderabad
Faculty statistics

As on 31 March 2017, IITH is having 174 faculty members on its roll, making a student to faculty ratio of 11.5. Most of the hiring is done at the assistant professor level. 60% of IITH’s faculty strength are assistant professors, 36% are associate professors and only 4% are full professors. 11.5% of the total faculty are women and the department of liberal arts leads the chart with 66% women faculty. 38% of the faculty members obtained their PhD from universities abroad and 53% possess post doctoral research experience from leading universities abroad.
Academics

IIT Hyderabad currently has 10 engineering departments, 3 science departments, department of design and department of liberal arts. 8 B.Tech programs are being offered at IIT Hyderabad in Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Engineering Physics, Materials Science and Metallurgical Engineering, Mechanical and Aerospace Engineering, and Engineering Science. Out of these 8 branches, Engineering Science is a virtual department having associate faculty members from other engineering and science departments. 8 departments offer M.Tech program and the department of Civil Engineering, Electrical Engineering, and Mechanical and Aerospace Engineering offering multiple specializations. M.Sc programs are being offered by the departments of Physics, Chemistry and Mathematics. All the departments at IITH Hyderabad offers PhD program except the department of Engineering Science, which offers only B.Tech program.

B.Tech.
Department-wise Distribution of Total Students

<table>
<thead>
<tr>
<th>Year</th>
<th>CE</th>
<th>CH</th>
<th>CSE</th>
<th>EE</th>
<th>ES</th>
<th>MAE</th>
<th>MSME</th>
<th>PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-09</td>
<td>97</td>
<td>179*</td>
<td>171</td>
<td>97</td>
<td>28</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09-10</td>
<td>111</td>
<td>112</td>
<td>123</td>
<td>139</td>
<td>196</td>
<td>200</td>
<td>208</td>
<td>203</td>
</tr>
</tbody>
</table>

Total number of B.Tech students admitted in each academic year

M.Tech.
Department-wise Distribution of Total Students

<table>
<thead>
<tr>
<th>Year</th>
<th>BM</th>
<th>BT</th>
<th>CE</th>
<th>CH</th>
<th>CSE</th>
<th>EE</th>
<th>MAE</th>
<th>MSME</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-09</td>
<td>20</td>
<td>17</td>
<td>62</td>
<td>106</td>
<td>105</td>
<td>82</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

Total number of M.Tech* students admitted in each academic year

* M.Tech strengths including Dual Degree(Converted) student strengths
Department-wise Distribution of Total Students

- **M.Sc.**:
  - 2011-12: 7
  - 2012-13: 20
  - 2013-14: 36
  - 2014-15: 41
  - 2015-16: 48
  - 2016-17: 49

- **M.Phil.**
  - 2013-14: 7
  - 2014-15: 5

- **MDes.**
  - 2011-12: 10
  - 2012-13: 15
  - 2013-14: 16
  - 2014-15: 15
  - 2015-16: 15
  - 2016-17: 15

- **Ph.D.**
  - 2008-09: 9
  - 2009-10: 22
  - 2010-11: 65
  - 2011-12: 66
  - 2012-13: 83
  - 2013-14: 132
  - 2014-15: 153
  - 2015-16: 134
  - 2016-17: 169

*Ph.D strengths including Dual Degree(Converted) student strengths*
Research

The vibrant research culture in IITH is evident from the large number of publications and the sponsored projects. By the end of 2016-17 IITH had more than 100 sponsored projects funded by national funding agencies and private companies. The trends in sponsored projects in IITH over the last 8 years are shown in the charts below.

### Research Projects

<table>
<thead>
<tr>
<th>YEARS</th>
<th>2008-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
<th>13-14</th>
<th>14-15</th>
<th>15-16</th>
<th>16-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Projects</td>
<td>20</td>
<td>8</td>
<td>12</td>
<td>28</td>
<td>32</td>
<td>36</td>
<td>40</td>
<td>66</td>
<td>98</td>
</tr>
</tbody>
</table>

![](image1)

No of Sponsored Research Projects Approved in Each Financial Year

<table>
<thead>
<tr>
<th>YEARS</th>
<th>2008-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
<th>13-14</th>
<th>14-15</th>
<th>15-16</th>
<th>16-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding from sponsored research Projects (Amount in Rs Lakhs)</td>
<td>50</td>
<td>2166</td>
<td>2751</td>
<td>4455</td>
<td>4780</td>
<td>4591</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![](image2)

Funding from Sponsored Research Projects

### Consultancy Projects

<table>
<thead>
<tr>
<th>YEARS</th>
<th>2009-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
<th>13-14</th>
<th>15-16</th>
<th>177</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Consultancy Projects Approved in Each Financial Year</td>
<td>2</td>
<td>6</td>
<td>18</td>
<td>17</td>
<td>20</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

![](image3)

No of Consultancy Projects Approved in Each Financial Year

<table>
<thead>
<tr>
<th>YEARS</th>
<th>2009-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
<th>13-14</th>
<th>15-16</th>
<th>15-16</th>
<th>16-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding from Consultancy Projects (Amount in Rs Lakhs)</td>
<td>3</td>
<td>2</td>
<td>65</td>
<td>207</td>
<td>170</td>
<td>135</td>
<td>190</td>
<td>177</td>
</tr>
</tbody>
</table>

![](image4)

Funding from Consultancy Projects
Placements

The placements at Indian Institute of Technology Hyderabad for the academic year 2016-2017 have yielded 264 offers for 385 registered students. More than 200 companies have registered for the placement process out of them around 120 have made it to the campus and interacted with the students of B.Tech., M.Tech., M.Des., M.Sc. and Ph.D across 14 departments.

The top paying companies were Rakuten, Yahoo Japan and SMS Data tech. The highest salary offered for this year is Rs.38 LPA and the average salary is Rs.11.44 LPA. There were seventeen international offers.

A good number of students from UG, PG and M.Sc. have opted for higher education in India and abroad. Few Universities opted for higher education:
- Keio University
- Yokohama National University
- University of California
- University of Massachusetts, Amherst
- University of Illinois
- Columbia University
- University of Tokyo
- Purdue University
- National University Of Singapore
- University of Florida

Summer Internships

On an average more than 70% students have shown a keen interest in the internships which indicates their inclination to obtain a practical experience of the subject in the real time industry setting. We have some of the reputed companies and universities for the year’s interns such as:
TEQIP (Phase II) activities

Technical Education Quality Improvement Programme (TEQIP) was envisaged in 2003 by Government of India and The World Bank as a long-term Programme of about 10-12 years duration to be implemented in 3 phases for transformation of the Technical Education System. IIT Hyderabad joined TEQIP (Phase II) programme in 2013 as a Knowledge Incubation Technical Education (KITE) center. The main purpose of IIT Hyderabad TEQIP KITE center is to train faculty from TEQIP supported institutes for effective teaching and to enhance postgraduate education with demand driven R&D development in TEQIP supported institutes.

The financial year 2016-17, also the last year of TEQIP (Phase II) programme, passed very hectic, seeing surge in all round activities. On 26 May 2016, Dr. Suhash Ranjan Dey is appointed as TEQIP Coordinator, IIT Hyderabad. He took over the mantle from Dr. Bharat Bhooshan Panigrahi. Total 24 Workshops of total 190 days are conducted with an expenditure of around INR 1.093 crores, attended by 583 participants of TEQIP supported institutes. The participants are mainly from Telangana, Andhra Pradesh, Karnataka, Maharashtra states. More number of workshops could be held mainly due to the arrival of fresh funds (INR 55.66 lakhs) from MHRD in December 2016. TEQIP (Phase II) programme got over in 31 March 2017 with total 54 number of Workshops & Conclaves being conducted, having attended by over 1336 TEQIP supported institutes’ participants.

All the workshops conducted are different, spread across various disciplines and aspects of Technical Education. One such important workshop is ‘Teacher Effectiveness Workshop for Women’ which is conducted in association with Telangana Academy of Skill & Knowledge (TASK). Also, to support Indian government’s Digital India initiative, for the ease of participants, freely downloadable Apple based iO5 and Google based android workshop apps are developed, facilitating access to full workshop details through smart phones. Almost all workshops garnered encouraging feedbacks from the participants. Now, IIT Hyderabad is looking forward to active participation in TEQIP (Phase III).
## Workshops conducted in 2016-17

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Workshop</th>
<th>Date</th>
<th>Faculty Coordinator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Energy Conversion and Storage (ECS) - 2016</td>
<td>9-14 May 2016</td>
<td>Dr. Surendra Kumar Martha</td>
</tr>
<tr>
<td>2.</td>
<td>Finite Element Method with Emphasis on Composite Structures (FEM) 2016</td>
<td>13-18 June 2016</td>
<td>Dr. Syed Nizamuddin Khaderi</td>
</tr>
<tr>
<td>3.</td>
<td>ISPAT (Structural Steel Design) - 2016</td>
<td>6-11 June 2016</td>
<td>Dr. M. Mahendrakumar</td>
</tr>
<tr>
<td>4.</td>
<td>Application of X-Ray Diffraction on Thin Films and Bulk Materials</td>
<td>4-9 July 2016</td>
<td>Dr. Ranjith Ramadurai</td>
</tr>
<tr>
<td>5.</td>
<td>Powder Metallurgy and Advanced Composites</td>
<td>11-16 July 2016</td>
<td>Dr. Bharat Bhooshan Panigrahi</td>
</tr>
<tr>
<td>6.</td>
<td>Equilibrium and Phase Transformations of Metallic Alloys</td>
<td>17-23 July 2016</td>
<td>Dr. Suhash Ranjan Dey</td>
</tr>
<tr>
<td>7.</td>
<td>Tissue Engineering: Biomaterials and Stem Cells for Manufacturing of Biological Tissue</td>
<td>18-23 July 2016</td>
<td>Dr. Subha Narayan Rath</td>
</tr>
<tr>
<td>9.</td>
<td>Groundwater Flow and Transport Modeling through Fractured Geologic Media</td>
<td>27 June-8 July 2016</td>
<td>Dr. K.B.V.N. Phanindra</td>
</tr>
<tr>
<td>10.</td>
<td>Structural Upgrade and Strengthening of Civil Engineering Infrastructure using FRP Composites - 2016</td>
<td>18-29 July 2016</td>
<td>Dr. S. Suriya Prakash</td>
</tr>
<tr>
<td>11.</td>
<td>Structural Behavior and Design in Extreme Thermal Conditions including Fire Effects</td>
<td>11-22 July 2016</td>
<td>Dr. Anil Agarwal</td>
</tr>
<tr>
<td>12.</td>
<td>Going Beyond the Syllabus; Nurturing Students</td>
<td>6-7 August 2016</td>
<td>Dr. Mahati Chittem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Soumya Jana</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Phanindra Varma Jampana</td>
</tr>
<tr>
<td>14.</td>
<td>MEMS &amp; NEMS (Fundamental Design and Fabrications)</td>
<td>21-26 October 2016</td>
<td>Dr. Prem Pal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Chandra Shekhara Sharma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Ashok Kumar Pandey</td>
</tr>
<tr>
<td>15.</td>
<td>Probabilistic Seismic Hazard Assessment (PSHA)</td>
<td>21-26 October 2016</td>
<td>Dr. Surendra Nadh Somala</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Sushmee Badhulika</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Ashudeb Dutta</td>
</tr>
<tr>
<td>17.</td>
<td>CFD: Theory, Modelling and Applications in Process Industries</td>
<td>23-25 February 2017</td>
<td>Dr. Narasimha Mangadoddy</td>
</tr>
<tr>
<td>18.</td>
<td>Teacher Effectiveness Workshop for Women</td>
<td>3-4 March 2017</td>
<td>Dr. M.P. Ganesh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Mudrika Khandelwal</td>
</tr>
<tr>
<td>19.</td>
<td>Biomedical Imaging and Informatics</td>
<td>5-9 March 2017</td>
<td>Dr. Lopamudra Khandelwal</td>
</tr>
<tr>
<td>20.</td>
<td>Biotechnology and Bioengineering: Beyond the Books in 21st century</td>
<td>8-10 March 2017</td>
<td>Dr. Anamika Bhargava</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Sandeep Kumar Singh</td>
</tr>
<tr>
<td>22.</td>
<td>ICE: Internal Combustion Engines</td>
<td>20-24 March 2017</td>
<td>Dr. Pankaj Kolhe</td>
</tr>
<tr>
<td>23.</td>
<td>Tissue Engineering: Biomaterials and Stem Cells for Manufacturing of Biological Tissues</td>
<td>20-25 March 2017</td>
<td>Dr. Subha Narayan Rath</td>
</tr>
<tr>
<td>24.</td>
<td>ISPAT (Structural Steel Design) - 2017</td>
<td>20-25 March 2017</td>
<td>Dr. M. Mahendrakumar</td>
</tr>
</tbody>
</table>
IITH-Japan Collaboration

IITH has a special and unique collaboration with Japan. The collaboration spans across, joint research, human exchange and infrastructure development. Until now (2012-2016) 50 scholarships have been awarded for IITH graduates for pursuing higher studies in Japan. Another 120 scholarships will be available for IITH graduates (2017-2020). So far 46 IITH graduates applied for Masters program and 162 students applied for PhD programs in Japanese universities. Out of this, 6 students have been awarded scholarship for Master’s program and 44 students have been awarded scholarship for PhD programs. The number of students admitted into various Japanese universities is as follows:

- Tohoku University - 2
- University of Tokyo - 12
- Keio University - 6
- Waseda University - 6
- Nagoya University - 2
- Kyoto University - 6
- Ritsumeikan University - 2
- Osaka University - 11
- Kyushu University - 3

Until the end of FY 2016, 71 Japanese faculty members visited IITH and 99 IITH faculty members visited Japanese Universities for interaction and research collaboration. 40 lectures have been given by the Japanese faculty members who visited IITH and 10 workshops and 3 international conferences were jointly held. The research collaboration between IITH and Japanese Universities resulted in 40 co-authored publications in peer reviewed journals.

As far as project are concerned, 1 project is approved by SICORP and another 1 is approved by SATREPS. A special initiative was taken by JICA in FY16-17 to further strengthen the research collaboration by launching the collaboration kick start program and 2 projects have been selected for funding under this initiative.

Since 2013, JICA together with the Japanese Universities conduct academic fair at IITH to educate the students about the opportunities available in Japanese Universities. The Japanese Ambassador Hiramatsu was the chief guest for the academic fair organized in 2016. The last financial year also witnessed two more MoUs signed with Hokkaido University and Shizuoka University.
MoU signing with NTPC

On 23 January 2016, a MoU was signed between IIT Hyderabad and NTPC Ltd. on Monitoring of Environmental Mercury Levels at Five Power Plants/Stations. The objective of the MoU is to perform a proactive study to establish a baseline for mercury before the beginning of plant operation. The study will last for 1.5 years and a lot new data is expected to be generated.

EU Meeting

A high level European Union delegation comprising 11 members from the member states of Denmark, France Germany, Italy, Spain, Switzerland, UK and Austria visited IITH on 8 February 2017. The delegation was received by the IITH team and the meeting started with the brief introduction of members from both sides. This was followed by the presentation on IITH by director Prof. UB Desai and presentation the delegation. The presentations and the discussions were primarily focused on the possibility of participating in various EU funded projects and the scholarship opportunities for Indian scholars.
Student Alumni Meet

STUDENT ALUMNI MEET a.k.a. SAM, which is the annual flagship event of IIT Hyderabad Alumni Association, was conducted on 7th January, first Saturday of January as a trend with the same old motive of bringing students and alumni together. It was time again for nostalgia, as around 50 graduated students from different batches of IIT Hyderabad, gathered to relive old memories. The meet started with the interaction of Director Prof. U.B. Desai with alumni and students of IITH. Speaking on the occasion, the director underlined and praised the achievements of Alumni of IIT Hyderabad in all walks/spheres of life. He felt that it was matter of great pride for the institute that its Alumni are holding positions of responsibility in various Government organizations, PSUs, Private sector, Academic Institutions. Many of them are successful entrepreneurs providing jobs to others as well. He praised their contribution towards the growth of their Alma Mater and emphasized the need for further strengthening the linkage between the Alumni and IIT Hyderabad and current students.

The newly elected Alumni Association Governing Body introduced itself and summarized its vision of getting all the alumni registered on IITHAA website, having geographic city chapters that organize events all over the country (just like IITH USA chapter), providing internship and job opportunities to the current students, and organizing more interactive sessions.

Many alumni shared their experience about their work life, college life, etc. to the students of the institute. The day’s program had a lot of exciting events lined up to raise the nostalgia one notch up. There was a photo exhibition by Photography Club of IIT Hyderabad which was followed by many sports events. The meet ended with promise to meet again and everyone bid emotional farewell to each other and their beloved alma matter.
Open Day @ IITH

To inspire the next generation and to seed the importance of technology education, under institute’s National Service Scheme (NSS) body, IIT Hyderabad organizes Open Day. Open Day is an excellent opportunity for the rural school students to visit institute campus. IITH, as one of the premier technical institutes, invites school students and gives them the opportunity to meet and interact the students, staff and professors of IITH with the objective to motivate then for higher studies.

This year, NSS IIT Hyderabad organized Open Day on 6 February 2017. The event was held at a large scale with over 350 students from 6 nearby schools in rural areas and non-profit organizations participated in the event with full enthusiasm. The day started with a formal inauguration ceremony presided by Dr. Prem Pal, Associate Dean Students, IIT Hyderabad. Techno-Awareness Workshop was arranged for school students and guests to have a first-hand glimpse of R&D and teaching activities in the fields of Engineering, Science and Design. Each academic department at IITH showcase their state-of-the-art facilities and gives live demonstrations about various sponsored/consultancy projects being executed by them to solve real-life problems. The visitors were also given a brief about the institute’s history, student clubs & activities like NSS, NSO, cultural clubs and amenities like Dining Halls, Sports Grounds, and Library etc. to experience the vibrant student life at the campus. School students are also encouraged to actively participate in Quizzes / Competitions that happen on Open Day.
International Women’s Day Celebrations

IIT Hyderabad celebrated the International Women’s Day, on 8 March 2017 with a series of programmes to mark the occasion. It started with a talk at 2.30 pm by eminent economist Dr. Padmini Swaminathan, Professor, and Chairperson, School of Livelihoods and Development, Tata Institute of Social Sciences (TISS) Hyderabad, on ‘The Formal Creation of Informality: How Government of India contributed to Making Women Workers Invisible and Informal’. In this talk, organized by the Department of Liberal Arts, Prof. Swaminathan spoke about the increasing trend of contractual labour in state-sponsored programmes, which particularly affects large numbers of women employed in health and education schemes. Large number of students, staff and faculty attended the talk, which was followed by an animated Q & A session. Dr. Shubha Ranganathan, faculty, Department of Liberal Arts, co-ordinated this talk.

The female staff at IITH enthralled the audience with their talent in singing, both from popular movies, as well as on women’s empowerment. Their song on the girl child was particularly well appreciated.

Students followed with a debate on the pros and cons of the new surrogacy laws. Notions of individual agency and collective good, and the health problems surrogates encounter, were discussed from different perspectives. This session was moderated by Dr. Anindita Majumdar, faculty, Department of Liberal Arts. The audience also participated in the discussion.

The women’s cell members, Dr. Lopamudra Giri and Dr. Haripriya Narasimhan thanked the audience for their participation. The event ended with a High Tea for all the attendees.
5th edition of i.School Workshop at IIT Hyderabad

The i.school workshop – focused on nurturing innovation and entrepreneurship – was conducted jointly by the University of Tokyo and IIT-Hyderabad on 11-14 March 2017 in the IIT-H campus. This is the fifth in the series of successful workshops that had been held at IIT-H. The theme of the workshop this year is: ‘Human-centered Innovation on e-Health in India’. About 16 students and 7 faculty / staff members from the University of Tokyo joined us for this workshop.

i.school is a cross-disciplinary educational program established in the prestigious University of Tokyo. Headed by Prof. Hideyuki Hori, i.school seeks to develop and provide human-centered innovation educational programs in collaboration with educational, business and governmental entities such as Royal College of Art, Stanford Institute of Design (d.school), IDEO and Ziba. Through teamwork on carefully selected and inspiring themes, students enrolled in the programs acquire deep understanding of consumers and develop skills in ideation and prototyping that are practically realizable. For more details on i.school, please visit http://ischool.t.u-tokyo.ac.jp/.

What one can expect to get from this workshop?
• Understand and get exposure to structured approaches to innovation
• Work and ideate in an international collaborative team environment
• Innovate on relevant ideas for e-health in India, a growing need and business opportunity
• Get feedback from peers, Japanese students and organizers on your own innovative ideas
• Interact and build new friendships with top-class students from the University of Tokyo (see this link on why they are top-class)!
Swachh Bharat

Swachh Bharat activities were formally launched this year on 2 October 2016, the birth anniversary of the father of our nation Mahatma Gandhi who tirelessly advocated the importance of cleanliness. This was followed by cleaning of the hostel area in the ODF campus by a large number of student volunteers. In the following semester, another activity was carried out on 11 March 2017 at the dining area of the permanent campus and near the cafeteria opposite to E block. A large amount of garbage in the form of plastics and other non-biodegradable waste products were collected. The activity in addition to making the campus clean and green also generated camaraderie among the students and a sense of belongingness in the IITH community. The 2017 graduating batch of students actively participated to fulfill the requirements of the Clean India Course CI 101.

Shirucafe: Free coffee and beverages for IITH community

On 22nd April 2016, Shirucafe started its first overseas operation in IIT Hyderabad campus. It offers totally complementary café for students and staff of IIT Hyderabad. At IITH Shirucafe provides, Café Latte, Chai Latte, Green tea, Orange juice and Mango juice.

Independence Day Celebrations

70th independence day was celebrated on 15th Aug at IITH at grand scale. The function started with flag hoisting and director’s address. This was followed by cultural programs by the student community.
Department of Design, IIT Hyderabad - Design Innovation Centre @ FOIN 2017, The Indian Institute of Technology (IIT) Hyderabad participated in the 3rd Festival of Innovation (FOIN) 2017 at Rashtrapati Bhavan on March 8. The Design Innovation Centre (DIC) of IIT Hyderabad set up under the National Initiative for Design Innovation by the ministry of human resource development (MHRD) took part in the festival and showcased various projects by the design department of the institute. FOIN aims to recognise, foster and reward young innovators and create a vibrant ecosystem which will enable them to thrive. It stresses on the need to learn, share experiences in design and development which will help in delivering inclusive innovations for the common good. The institute presented their work across various areas like design for education, preservation of culture through animation, digital preservation of monuments.

The project on preservation of culture through animation aims to recreate history and culture of Telangana through virtual reality animation, take the viewers through a unique interactive experience of 360 degree animation and to preserve culture of Telangana through the medium of animation film. The project on digital preservation of monuments aims at documenting, preserving and conserving historical monuments.

Speaking about the projects, Prof Deepak John Mathew, associate professor, IIT Hyderabad, said, “The focus of DIC is to incorporate the cutting edge technology in design innovation. We are looking at a paradigm shift in design education by starting it at the school level so that we can foster the talents of design from the young age itself. And the digital preservation project will take the heritage preservation n to a new experiential level.”
MHRD, Govt. of India has launched Global Initiative of Academic Networks (GIAN) program in November 2015. Since then, IIT Hyderabad has conducted 17 GIAN courses out of 18 courses approved by the Apex Body so far. Out of these 17 courses, 15 courses were conducted in FY 2016-17. These courses cover a wide range of state-of-the-art subjects including big data analysis, steel concrete composites, electron microscopy, radar system design and signal processing and hydrogeological modeling etc. In line with the objectives of the GIAN program, IIT Hyderabad hosted internationally renowned faculty from top institutes such as Perdue University, University of Texas A&M, University of Houston, University of Massachusetts Amherst, Michigan State University, University of Lorraine, University of Waterloo, Deakin University and National University of Singapore.

In all the courses, participation was very encouraging from across the country including premier institutes like IITs, IISERs and Central Universities. In some of the courses, there were as many as 150 participants. Apart from the regular teaching, most of the GIAN courses included tutorial, project based learning, and practical sessions. All the 17 courses were video recorded and 14 courses were live streamed through the open link on IIT Hyderabad and GIAN website. High quality course materials were also prepared for some courses, which was shared with the participants.

The following GIAN courses were conducted during the FY16-17

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Course Name</th>
<th>Course Coordinator from IITH</th>
<th>Foreign Expert Faculty</th>
<th>University / Institute of Foreign Expert Faculty, Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Modeling and Design of Steel Concrete Composite structural Systems</td>
<td>Dr. Anil Agarwal Department of Civil Engineering</td>
<td>Prof. Amit H. Verma</td>
<td>Purdue University, United States of America</td>
</tr>
<tr>
<td>2.</td>
<td>Enabling Large Scale Data Analytics: From Theoretical Foundations to Practice</td>
<td>Dr. Maunendra Sankar Desarkar Department of Computer Science and Engineering</td>
<td>Dr. Barna Saha</td>
<td>University of Massachusetts Amherst, United States of America</td>
</tr>
<tr>
<td>3.</td>
<td>Groundwater Flow and Transport Modeling Through Fractured Geologic Media</td>
<td>K.B.V.N. Phanindra Department of Civil Engineering</td>
<td>Dr. Walter Illman</td>
<td>University of Waterloo, Canada</td>
</tr>
<tr>
<td>Course</td>
<td>Instructor</td>
<td>Department</td>
<td>Institution</td>
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</tr>
<tr>
<td>4. Applied Financial Modelling</td>
<td>Dr. Badri Narayan Rath</td>
<td>Department of Liberal Arts</td>
<td>Deakin University, Australia</td>
<td></td>
</tr>
<tr>
<td>5. Behavior and Design of Structural Systems in Extreme Thermal Loading Conditions including Fire Affects</td>
<td>Dr. Anil Agarwal</td>
<td>Department of Civil Engineering</td>
<td>Michigan State University, United States of America</td>
<td></td>
</tr>
<tr>
<td>6. Course on Finite Element Method</td>
<td>Dr. Amirtham Rajagopal</td>
<td>Department of Civil Engineering</td>
<td>Texas A&amp;M University, Texas, USA</td>
<td></td>
</tr>
<tr>
<td>7. Electron Microscopy: Basics and Applications</td>
<td>Dr. Suhash Ranjan Dey</td>
<td>Department of Materials Science and Metallurgical Engineering</td>
<td>Professor at the University of Lorraine, France</td>
<td></td>
</tr>
<tr>
<td>8. Structural upgrade and strengthening of civil engineering infrastructure using fiber reinforced polymer composites</td>
<td>Dr. S Suriya Prakash</td>
<td>Department of Civil Engineering</td>
<td>University of Houston, USA</td>
<td></td>
</tr>
<tr>
<td>9. Environmental and Human Health Risk Assessment of Chemicals</td>
<td>Dr. Asif Qureshi</td>
<td>Department of Civil Engineering</td>
<td>Stockholm University, Sweden</td>
<td></td>
</tr>
<tr>
<td>10. Spectrum Sharing in Next Generation Wireless Networks</td>
<td>Dr. Zafar Ali Khan</td>
<td>Department of Electrical Engineering</td>
<td>University of Washington, Seattle, United States of America</td>
<td></td>
</tr>
<tr>
<td>11. Dislocation Theory for Mechanical Behavior of Metals</td>
<td>Dr. Pinaki Prasad Bhattacharjee</td>
<td>Department of Materials Science and Metallurgical Engineering</td>
<td>Kyoto University, Japan</td>
<td></td>
</tr>
<tr>
<td>12. Biomaterials Engineering and Digital Manufacturing</td>
<td>Dr. Chandra Shekhar Sharma</td>
<td>Department of Chemical Engineering</td>
<td>National University of Singapore, Singapore</td>
<td></td>
</tr>
<tr>
<td>13. Advanced Prestressed Concrete Design for Modern Buildings and Bridges</td>
<td>Dr. S Suriya Prakash</td>
<td>Department of Civil Engineering</td>
<td>Iowa State University, United States of America</td>
<td></td>
</tr>
<tr>
<td>14. Social Network Analysis</td>
<td>Dr. MP Ganesh</td>
<td>Department of Liberal Arts</td>
<td>IE Business School, Spain</td>
<td></td>
</tr>
<tr>
<td>15. Social Network Theory</td>
<td>Dr. MP Ganesh</td>
<td>Department of Liberal Arts</td>
<td>IE Business School, Spain</td>
<td></td>
</tr>
</tbody>
</table>

To continue this, under GIAN phase-2, IIT Hyderabad has submitted 32 new course proposals on state-of-the-art-topics which will be conducted by December 2018, subjected to the approval of the apex body.
The Biomedical Engineering Department (BME) at IIT Hyderabad is the place where boundaries between engineering and science disciplines fade in order to focus on research and education targeted for ongoing and future technology. The primary mission of the department is to foster interdisciplinary work of highest quality by bringing together a broad spectrum of faculty expertise under a single umbrella to focus on research in Biomedical engineering. By converging the engineering expertise in analytical and experimental methods to biological and medical sciences, BME aim at unveiling the unseen in biology and innovations in technology that can be translated to clinical health care.

BME has made substantial investments in strengthening the core research facilities and course curriculum. Numerous external research projects including IMPRINT were sanctioned during year 2016 - 2017.

The newly introduced BME minor program of 12 credits is designed for undergraduates to gain interdisciplinary knowledge in areas of Bioengineering. Faculty in the department of BME undertake research in broad spectrum of areas related to Biomedical Engineering/ Bioengineering such as Biophotonics, Lab on a Chip Biosensors, Biophysics, Biomechanics, Neuroscience, Tissue Engineering, 3D Bioprinting and Nanomedicine. The department will continue to leverage its core strengths in emerging as one of the leading centers of excellence in Bioengineering in the country.
Renu John  
Ph.D – IIT Delhi  
Associate Professor & HoD  
Research Areas: Biomedical optical imaging, quantitative phase microscopy, biosensors

Mohan Raghavan  
Ph.D – IISc., Bangalore  
Assistant Professor  
Research Areas: Computational Neuroscience, Motor system, Spinal cord, Bionics, Assistive devices, Rehabilitation

Harikrishnan Narayanan Unni  
Ph.D – NTU, Singapore  
Assistant Professor  
Research Areas: Lab on Chip Microfluidics and Nanofluidics, Biophysics, Biomechanics

Falguni Pati  
Ph.D – IIT Kharagpur  
Assistant Professor  
Research Areas: Biomaterials, Tissue Engineering, 3D Bioprinting, In Vitro Tissue/Organ Models

Subha Narayan Rath  
Ph.D – NUS, Singapore  
Assistant Professor  
Research Areas: Biomimicking, 3D Bioprinting, Angiogenesis, Osteogenesis, Nature-Inspired Biomaterials, Decellularized Tissues, Organ-on-Chip, Cell Therapy

Aravind Kumar Rengan  
Ph.D – IIT Bombay  
Assistant Professor  
Research Areas: Nanomedicine, Bio-Nanotechnology, Photothermal Therapy, Nanotoxicology, Cancer Theranostics

Jyotsnendu Giri  
Ph.D – IIT Bombay  
Assistant Professor  
Research Areas: Nanomedicine, Regenerative Medicine, Drug Delivery, Therapeutics and Diagnostics
Patents Filed
Aravind Kumar Rengan - as inventor in collaboration with IITB and ACTREC (PCT Application no. PCT/IN2016/000296) Enzymatically degradable Lipos Au Nanoparticles for Cancer Theraonotics, Claiming priority from IPA no.4910/MUM/2015. Filed on 27 December 2016).

Publications
(in peer reviewed journals)
Girdhari Rijal, Byoung Soo Kim, Falguni Pati, Dong-Heon Ha, Sung Won Kim, and Dong-Woo Cho, Robust tissue growth and angiogenesis in large-size scaffold by reducing H$_2$O$_2$– mediated oxidative stress, Biofabrication, 9(1), O15013 (2016).

Funded Research Projects 2016-17
Falguni Pati, 3D Bioprinting and Multimodal Characterization of An In-Vitro Biomimetic Livermodel, DST-SERB, 1 June 2016, Rs. 36.02 Lakhs.
Aravind Kumar Rengan, Biodegradable Nanoparticles for Imaging and Photothermal Treatment of Breast Cancer, DBT-IYBA, October 2016, Rs. 46.00 Lakhs.
Falguni Pati, 3D Printed Lower Limb Orthotics, MoHFW & Dipon Ed Biointelligence LLP, 30 November 2016, Rs. 153.97 Lakhs.

Falguni Pati, Ramlingswami Fellowship - Three Dimensional Bioprinting of Biomimetic Multi-Liver Tissue Constructs, DBT, 9 February 2017, Rs. 32.5 Lakhs.
Aravind Kumar Rengan, Reduced graphene oxide/bimetallic nanoparticles for photothermal treatment of cancer DBT- NER Twinning Grant, February 2017, 33.00 Lakhs.

Talks Given in National / International Conferences
Renu John, Biomedical Optical Imaging, Applications and Future, Meditech 2K17, University College of Engineering Osmania University, Techinal Symposium, Hyderabad, (Plenary Talk), 10-11 March 2017.

Other Events

Awards / Recognitions
Falguni Pati, DBT Ramalingaswami Fellowship (2016-21).
The faculty members in the department published 13 research and review articles in leading international journals like Nucleic acid research, Nature scientific reports etc. 3 PhD Biotechnology and 8 MTech in Medical Biotechnology degrees were awarded in the department. The faculty members in the department received more than 1.8 crore in research funding from various national funding agencies. Dr. Sandeep K Singh received the prestigious Ramanujam fellowship from Dept. of Science and Technology.
Basant Kumar Patel  
Ph.D - Banaras Hindu University  
Associate Professor & HoD  
Research Areas: Protein Misfolding Diseases

Rajakumara Eerappa  
Ph.D - CCMB, Hyderabad  
Assistant Professor  
Research Areas: X-ray Crystallography and Structural Biology; Epigenetic and DNA Repair Process in Mammals and Plants

Anindya Roy  
Ph.D - IISc, Bangalore  
Associate Professor  
Research Areas: Cancer Biology; DNA Repair

Anamika Bhargava  
Ph.D - Innsbruck Medical University, Austria  
Assistant Professor  
Research Areas: Voltage-Gated Calcium Channels; Electrophysiology; Channelopathies; Structure-Function Relationship; and Imaging of Ion Channels, Zebrafish

N K Raghavendra  
Ph.D - IISc, Bangalore  
Assistant Professor  
Research Areas: HIV-1; Integration; LEDGF/p75, UBC13, MMS2, UEV1A; Inhibitors

Sandeep K Singh  
Ph.D - Virginia Commonwealth University, USA  
Assistant Professor  
Research Areas: Biology of Neuron-Glia Interaction; Synaptogenesis and Plasticity

Thenmalarchelv Rathinavelan  
Ph.D - University of Madras  
Assistant Professor  
Research Areas: Molecular Biophysics – Biomacromolecular Structure and Dynamics – Structural Bioinformatics

Ashish Misra  
Ph.D - IISc, Bangalore  
Assistant Professor  
Research Areas: RNA Biology; Genomics and Transcriptomics; Alternative splicing
Book & Book Chapters
Yogesh Bhargava and Anamika Bhargava, ZebraTrack: An Automated Method to Study Zebrafish Behaviour, LAP LAMBERT Academic Publishing

Publications
(in peer reviewed journals)
N. Sharma, V. Sivalingam, and Basant K. Patel, Recombinant Human Semenogelin-1 (Sg1) and Sg1 (1-159) form Detergent Stable Amyloid like Aggregates in vitro, Protein & Peptide letters, 23(1), 87-96 (2016).
R. Anindya, Non-hemooxygenases in tumor hypoxia: they’re all bound with the same fate, DNA Repair, 49, 21-25 (2017).

Funded Research Projects 2016-17
Rajakumara Eerappa, Role of HMG Box Protein in Mitochondrial DNA Organization in Trypanosomabrucei: Structure and Molecular Insights into DNA Binding and Topological Modulation of DNA Structure by HMG Box Protein TbKAP6, SERB, 13 June 2016, Rs. 48.90 Lakhs.
Rajakumara Eerappa, Mechanistic Studies on High Mobility Group-Nucleosome (HMGN1) Binding Protein Complexes Involved in DNA Repair, DBT, 27 January 2017, Rs. 62.60 Lakhs.
Sanddeep K Singh, Mechanisms of Neuron-Glia Interaction by Astrocyte Secreted-VKL-40 (Ramanujam Fellow), March 2017, Rs. 35.00 Lakhs.

Talks Given in National / International Conferences
Anindya Roy, RecA Protein Stimulates Direct Repair of Methyl-adducts in ssDNA, Gordon Research Conference on Genome Stability’, The Hong Kong University of Science and Technology, Hong Kong China, 24-29 July 2016.
involved in regulating bidirectional water permeation across E. coli outer membrane lectin, molecular insights in genetics and biotechnology: emerging trends and future prospects, on the occasion of Golden Jubilee Celebrations of Department of Genetics, Osmania University, Telangana, India, 27-28 February 2017.

invited presentations
structural dynamics of porphobilinogen deaminase during the tetrapyrrole biosynthesis, Gopalakrishanan Bulusu, TCS, Hyderabad, 13 April 2016.
Polo like kinase 1: a master regulator of centriole separation and reduplication, Dr. Anil K Shukla, NIH, USA, 29 July 2016.


Investigating structure-function dynamics of protein homeostasis regulators: applications to health and disease, Dr. Parul Mishra, Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, USA, 30 September 2016.

workshops / symposiums organised

other events
TEQIP workshop on biotechnology and bioengineering: Beyond the books in 21st century, 8-10 March 2017.

awards / recognitions
Thenmalarchelvi Rathinavelan, Shivangi Sachdeva, Narendra Kolimi, BIRAC SRISTI GYTI 2017.
Anamika Bhargava, Outstanding Women in Science-2017 award by Venus international foundation.
Anamika Bhargava, Honorary Research Associate, 2016-2019, National Heart and Lung Institute, Imperial College London, UK.
The Department of Chemical Engineering, IITH houses 17 faculty members and 177 students of which 55 are PhD students indicating our focus on research. The department’s research focus falls into the following broad areas: Energy storage and conversion, Fluid Mechanics, Mineral Processing, Catalysis, Molecular & Cellular Bioengineering, Drug Delivery, Polymers, Nanosciences & Nanotechnology and Process / Stochastic Control. The faculty actively seek research funding in all areas of research. We have state-of-the-art infrastructure and research facilities that cover both theoretical and experimental aspects of all core research areas. The B.Tech program encompasses a wide variety of courses which prepares a student for both industry as well as research. Despite being a young department, 75% of the class students are actively participating in internship program. In addition, 50% of the students seek jobs, 30% of them seek a graduate program and the rest of them go on for other opportunities.
Chandra Shekhar Sharma  
Ph.D – IIT Kanpur  
Assistant Professor  
Hierarchical Polymer and Carbon Structures, Electrospun Nanoﬁ bers, Bio-inspired Functional Surfaces

Anand Mohan  
Ph.D – Texas A&M, USA  
Associate Professor  
Research Areas: Cardiovascular Mechanics, Complex Fluid Rheology

Sunil K. Maity  
Ph.D – IIT Kharagpur  
Associate Professor  
Research Areas: Heterogeneous Catalysis, Chemical Reaction engineering, Bioreﬁ nery, Steam reforming, Oxidative steam reforming, Hydrodeoxygenation of vegetable oil, Oligomerization of oleﬁ ns, Thermodynamic analysis, Process design using Aspen Plus, Techno-economic analysis

Debaprasad Shee  
Ph.D – IIT Kanpur  
Assistant Professor  
Research Areas: Metal and metal oxide catalysts, Biomass conversion, Multifunctional catalytic material

Saptarshi Majumdar  
Ph.D – IIT Kharagpur  
Associate Professor  
Research Areas: Molecular Simulation, Mesoscale, Thermodynamics, Drug Delivery System, Process Modeling & Development

Phanindra Varma Jampana  
Ph.D – University of Alberta, Canada  
Assistant Professor  
Research Areas: Compressed Sensing, System Identiﬁ cation

Kishalay Mitra  
Ph.D – IIT Bombay  
Associate Professor  
Research Areas: Multi-objective optimization, Optimization under uncertainty, Surrogate optimization, Data based modeling, Evolutionary Computation, Optimal Control, Supply chain optimization, planning and scheduling

Parag D. Pawar  
Ph.D – Johns Hopkins, USA  
Assistant Professor  
Research Areas: Biophysics, Polymicrobial Bioﬁ lms, Interacellular Interactions, Bacterial Infections

Narasimha Mangadoddy  
Ph.D – University of Queensland - Australia  
Associate Professor  
Research Areas: Mineral Processing, CFD, Multiphase Flows Fluidization, Particulate Technology

Lopamudra Giri  
Ph.D – University of Iowa, USA  
Assistant Professor  
Research Areas: Systems biology, Live cell imaging and data mining
Devarai Santhosh Kumar
Ph.D – IIT Madras
Assistant Professor
Research Areas: Biochemical and Bioprocess development of therapeutic enzymes, Tissue Engineering

Satyavrata Samavedi
Ph.D – Virginia Polytechnic Institute and State University, USA
Assistant Professor
Research Areas: Polymeric biomaterials/ scaffolds, Tissue engineering, Stem cell differentiation, Drug delivery, In vitro disease models, Immunomodulation

Praveen Meduri
Ph.D – University of Louisville, USA
Assistant Professor
Research Areas: Nanomaterials, Energy storage, Batteries (Lithium-ion, Lithium-sulfur, metal-air), Supercapacitors, Electrochemistry of materials

Arijit Sarkar
Ph.D – IIT Bombay
Assistant Professor
Research Areas: Structure-property relations, Modeling and computational materials design, biophysics, polymer physics, hydrodynamics

Balaji Iyer Vaidyanathan Shantha
Ph.D - IIT Bombay
Assistant Professor
Research Areas: Structure-property relations, Modeling and computational materials design, biophysics, polymer physics, hydrodynamics
Books & Book Chapters


Publications

(in peer reviewed journals)


M. Susree and M. Anand, Reaction mechanisms and kinetic constants used in mechanistic models of coagulation and fibrinolysis, Mathematical Modelling of Natural Phenomena, 11, 71-90 (2016).


A. K. Haridas, C. S. Sharma, and T. N. Rao, Caterpillar-like sub-micron LiNi$_{1/3}$Mn$_{1/3}$O$_4$ structures with site disorder and excess Mn$^{3+}$ as high performance cathode material for lithium ion batteries, Electrochimica Acta, 212, 500-509 (2016).


K. Doriya and D. Santhosh Kumar, Novel L-Asparaginase Enzyme Specific Free of L-Glutaminase and Urease: Study Isolation and Screening from Fungi, 3 Biotech, 6, 239 (2016).


D. P. Pantula, M. S. Soumitri, and K. Mitra, KERNEL: An enabler to build smart surrogates for online optimization and knowledge discovery, Materials
ANNUAL REPORT 2016-17


Publications

(in peer reviewed conferences)


35


**Funded Research Projects 2016-17**

Balaji Iyer Vaidyanathan Shantha, Modeling and Simulation of Bio-inspired Particle-Polymer Hybrid Material Networks, DST, 2016, Rs. 43.00 Lakhs.


Chandra Shekhar Sharma, Direct Recycling of Polystyrene Waste Objects using Citrus Peel for Oil Spills Remediation, DST-TSDP, May 2016, Rs. 37.33 Lakhs.

Narasimha Mangadoddy, Estimation of Hydrodynamics of Large Scale (2 m Dia) Column Flotation using Semi-Empirical and CFD Models, TATA Steel, May 2, 2016, Rs. 25.00 Lakhs.

Chandra Shekhar Sharma, Resorcinol-Formaldehyde Derived, Graphitized Carbon Xerogel as High Capacity Anode for Lithium Ion Battery, SERB Young Scientist Scheme, June 2016, Rs. 30.86 Lakhs.

Kishalay Mitra, Development of Computational Software Integrating Multilevel Image Data Analysis: Towards Efficient Clinical Practices and Advanced Biomolecular Research In Ophthalmology, DBT, August 1, 2016, Rs. 54.00 Lakhs.

Satyavrata Samavedi, Bi-Functional Co-Electrospun Scaffolds for Combating Inflammation in the Context of Tissue Regeneration, DST SERB, September 2016, Rs. 54.98 Lakhs.

Narasimha Mangadoddy, Simulating the Flow Field in Both Lab Scale and Plant Scale Stirred Tanks Using Ansys’s Fluent, Dr Reddy’s Labs, September 2016, Rs. 4.85 Lakhs.

Anand Mohan, Computational Fluid Dynamics, Dr Reddy’s Labs, October 2016, Rs. 5.00 Lakhs.

Narasimha Mangadoddy, Developing a Process and Pilot Scale Unit for the Recovery of Chrome and Other Value Added Products from Chrome Ore Process Residue (CORP), UAY-MHRD, October, 2016, Rs. 400.00 Lakhs.

Kishalay Mitra, Optimization of Mechanical Properties of Hot Rolled Steel Using Evolutionary as Well as Classical Approaches, TATA STEEL, December 17, 2016, Rs. 14.00 Lakhs.


Devarai Santhosh Kumar, Semi-Pilot Scale Production of Lipase by Solid State Fermentation (SSF) For Transesterification of Biodiesel Analysis, DST SERB, 2017, Rs. 50.00 Lakhs.


Narasimha Mangadoddy, Development of a Multi-Component Classification Model for Industrial Hydrocyclones, SERB-DST, February 3, 2017, Rs. 44.00 Lakhs.

Chandra Shekhar Sharma, Electrospun Nanofibers for Controlled drug Release, DST Nanomission, Approved, Rs. 45.00 Lakhs.

Chandra Shekhar Sharma, Bio-inspired Engineering of Nano-Hierarchical Tissue Architecture, DST Nanomission, Approved, Rs. 60.72 Lakhs.

Chandra Shekhar Sharma, Hierarchical Nanostructured Carbon Materials for High Rate
and High Performance Electrodes for automotive Batteries and Supercapacitors, IMPRINT-MHRD, Approved, Rs. 260.67 Lakhs.

Chandra Shekhar Sharma, Development of 3-D Printed Nanofibers Based Bioreactor, IMPRINT, Approved, 132.37.

Satyavrata Samavedi, The Role of Intracellular Calcium Signaling in Matrix-Mediated Differentiation of Mesenchymal Stem Cells, DBT, Approved.

Talks Given in National / International Conferences


Chandra S. Sharma, Role of Vigilance and Our Responsibility in Eradicating the Corruption, Vigilance Awareness Week, IIT Ropar, 3 November 2016.

Chandra S. Sharma, Nanotechnology: Solving the Problems in Wide Spectrum, Dept. of Electronics, Kurukshetra University, 4 November 2016.


Chandra S. Sharma, Electrospun Cellulose Acetate Nanofibers for Feminine Hygiene Applications, ChEmference, 7th National Level Annual Symposium of Chemical Engg. Research Scholars, IIT Gandhinagar, 3-4 December 2016.


Kishalay Mitra, Optimization and Optimal Control, TEQIP-II Winter School on Optimization and Optimal Control, College of Engineering Pune, 15-21 December 2016.

S. Samavedi and M. S. Hahn, A 3D Hydrogel-Based Biomaterial System to Study the Progression of Inflammation in Osteoarthritis, Soft Matter Young Investigator meeting, Goa, December 2016.


Phanindra Jampana, Coherence of Randomly Pre-Conditioned Matrices, IEEE Indian Control Conference, IIT Guwahati, 4-6 January 2017.


**Invited Presentations**

Role of surface engineering on liquid/surface interactions, Dr. Tanmoy Maitra, Postdoctoral Research Scholar, Stanford University, 3 August 2016.

Conventional Zeolites and Hierarchical Materials for Methanol to Olefins and Biotransformations, Dr. Venkata Ramana Reddy, Marthala, Postdoctoral Research Associate, Department of Chemical and Bioengineering, ECRC, University of Erlangen-Nuremberg (FAU), Germany, 24 August 2016.

**Workshops / Symposia Organised**


Balaji V. S. Iyer, Session Chair for Polymer and Polymer Composites Session of CompFlu2016, held at IIIT Hyderabad. It was organized jointly by IIT Hyderabad, TCIS, IIIT Hyderabad and UOH.

**Other Events**

TEQIP Workshop on MEMS & NEMS (Fundamentals, Design and Fabrication), Chandra S. Sharma, 21-26 October 2016.


10 days GIAN Course on Biomaterials Engineering and Digital Manufacturing. (Expert Foreign Faculty: Prof. Seeram Ramakrishna, NUS), Chandra S. Sharma, 12-21 December 2016.


TEQIP workshop on Biomedical Imaging and Informatics, Lopamudra Giri, 5-9 March 2017.

**Awards / Recognitions**

Chandra S. Sharma, IEI Young Engineer Award 2016 (Chemical Engg. Division).

Chandra S. Sharma, SERB-IUSSTF Research Fellowship 2016.

Chandra S. Sharma, Member, Indian National Young Academy of Sciences (INYAS)-2017-21.
The Department of Chemistry housed 12 faculty members, 60+ research scholars and 45+ two-year M.Sc. students. The department has been conducting cutting-edge research in contemporary topics in Physical, Organic and Inorganic Chemistry. Various state-of-the-art research facilities such as 400 MHz NMR, ESR, HRMS, Single Crystal- and Powder- XRD, CD, Fluorescence/lifetime and Raman spectrometers, Atomic force microscopy (with conductive, electrostatic force, magnetic force, surface potential, nanolithography modes), Gas Chromatography-Mass Spectrometer, HPLC, etc. are available in the department.
Melepurath Deepa  
Ph.D - Delhi University  
Associate Professor & HoD  
Research Areas: Applied Electrochemistry

D. S. Sharada  
Ph.D - University of Hyderabad  
Associate Professor  
Research Areas: Synthetic Methodologies, Heterocyclic Chemistry and Medicinal Chemistry

Faiz Ahmed Khan  
Ph.D - University of Hyderabad  
Professor  

Bhabani Shankar Mallik  
Ph.D - IIT Kanpur  
Associate Professor  
Research Areas: Computational Chemistry, Molecular Dynamics

Ch. Subrahmanyam  
Ph.D - IIT Madras  
Professor  
Research Areas: Catalysis, Nanomaterials and Energy Systems

Surendra Kumar Martha  
Ph.D - IISc, Bangalore  
Assistant Professor  
Research Areas: Materials Electrochemistry with special emphasis on Lead-acid, Li-ion, Sodium ion batteries and Supercapacitors

Gedu Satyanarayana  
Ph.D - IISc, Bangalore  
Associate Professor  
Research Areas: Transition-metal catalysis, Development of new methodology and Total synthesis and drug diversity oriented synthesis

Somnath Maji  
Ph.D - IIT Bombay  
Assistant Professor  

Tarun K. Panda  
Ph.D - Free University - Berlin, Germany  
Associate Professor  
Research Areas: Main group chemistry, Coordination chemistry, Lanthanide chemistry, Homogeneous catalysis, X-ray Crystallography and structure analysis

Jai Prakash  
Ph.D - IIT Delhi  
Assistant Professor  
Research Areas: Inorganic Chemistry, Strongly Correlated Materials for Thermoelectric & Superconducting Applications, Small Molecule Crystallography, Metal Chalcogenides & Intermetallics

G. Prabuankar Ganesan  
Ph.D - IIT Bombay  
Associate Professor  
Research Areas: Inorganic Synthesis, Organometallic Chemistry & Catalysis

Surajit Maity  
Ph.D - IIT Bombay  
Assistant Professor  
Research Areas: Physical Chemistry, Spectroscopy and Dynamics of molecules, ions and radicals
Patents Filed

Publications
(in peer reviewed journals)


L. Mahendar and G. Satyanarayana, Copper catalyzed coupling of protecting group free and sterically hindered 2-bromobenzyl tertiary alcohols with phenols and anilines: facile synthesis of xanthenes and dihydroacridines, RSC-Adv. 6, 20588-20597 (2016).


S. Anga, I. Banerjee, H. P. Nayek and T. K. Panda, Alkali Metal Complexes Having Sterically Bulky Bis-Iminopyrrollyl Ligands - Control of Dimeric to Monomeric Complex, RSC Advances, 6, 80916-80923 (2016).


Moulali Vaddamanu, Ramesh Karupnaswmy, Katam Srinivas, and Ganesan Prabusankar, Facile Access to Diselenide Containing Macrocyclic Ring from Diselone, Chemistry Select, 1, 4668-4671 (2016).


Sohag Biswas, Teesta Dasgupta, and Bhabani S. Mallik, Proton transfer from water to ketyl radical anion: Assessment of critical size of hydrated cluster and free energy barrier in solution from first principles simulations, Chemical Physics, 477, 46-51 (2016).


S. Krishna Kumar, Sourav Ghosh, Partha Ghosal, and Surendra K. Martha, Synergistic effect of 3D electrode architecture and fluorine doping of Li0.125Ni0.18Mn0.35Co0.01O2 for high energy density lithium-ion batteries, J. Power Sources, 356, 115-123 (2017).


Funded Research Projects 2016-17

D. S. Sharada, Novel Cascade Annulations Leading to Biologically Relevant and Diverse Heterocyclic Frameworks via Cross-Dehydrogenative Couplings, Redox Reactions, and C-H Activations, DST (SERB), September 22, 2016, Rs. 35.5 Lakhs.

Tarun K. Panda, Development of 100% Atom Economical Catalytic Transformations by Electropositive Metal Catalysts - Collaboration Kick-starter Program (CKP), JICA FRIENDSHIP, November 15, 2016, Rs. 52.00 Lakhs.

Jai Prakash, Early Career Research Award, DST-SERB, 2017-2020, Rs. 47.00 Lakhs.

Surendra K. Martha, In Situ Synthesis of High Capacity Silicate Cathodes for Lithium-Ion Batteries: An Integrated Approach, Naval Research Board (DRDO), March 2017, Rs. 29.84 Lakhs.

M. Deepa, India-UK Center for Education and Clean Energy (IUCERCE), DST, March 2017, Rs. 75.00 Lakhs.

Talks Given in National / International Conferences


G. Satyanarayana, Tara Government Degree College, Rashanthnagar, Sangareddy, Medak, Telangana 502001.

G. Satyanarayana, The Ideal College of Arts and Sciences, Kakinada, Andhra Pradesh, India.

G. Satyanarayana, Kakatiya University is a public university, Warangal, Telangana, India.

Tarun K. Panda, Cross dehydro-coupling Reactions Leading to Element - Element Bonds Mediated by Alkali Metal Catalysts, Rare Earth Symposium, Osaka University, Osaka, Japan, June 4, 2016.

Surendra K. Martha, Lithium Manganese rich based NMC oxide cathodes for advanced lithium ion batteries, Indo-US science and technology forum, Recent advances in multiscale, multiphysics, analysis of energy conversion in lithium ion batteries, VMCC auditorium, IIT Bombay, June 17-19, 2016.

Tarun K. Panda, Cross dehydro-coupling Reactions Leading to Element - Element Bonds Mediated by Alkali Metal Catalysts, Osaka City University, Osaka, Japan, June 23, 2016.

Invited Presentations

Aggregation-Controlled Luminescence in Mesogenic Gold Complexes in the Solid and Liquid-Crystalline Phases, Prof. Osamu Tsutsumi, Polymer Materials Chemistry, Department of Applied Chemistry, Ritsumeikan University, JAPAN, August 11, 2016.

Process R&D in Chemical Development of New Chemical Entities and Generic Active Pharmaceutical Ingredients and Talent for Tomorrow: Transforming Scientific Excellence to Employability, Dr. Vilas Dahanukar, Chief Scientist-Process R&D at the integrated Product development Organization, Dr. Reddy’s Laboratories Ltd., January 28, 2017.

Workshops / Symposia organised

Dr. Surajit Maity organized an In-House Symposium 2017 at the Department of Chemistry, IIT Hyderabad (IHS2017), January 28, 2017.

Other Events

Our vision is to be the front runners in addressing the current and future needs of society in ‘all things Civil’. That is, in developing and constructing advanced and robust structures, laid on better foundations, in satisfying the water needs of the country, and help develop a cleaner and healthier environment free from chemical and biological pollutants. The department will focus on both applied and basic research, provide solutions for immediate use, and generate new science that will help drive the future evolution of Civil Engineering (CE). Industry interaction and academic exchanges will become an integral characteristic of our department.

The Department of Civil Engineering currently has 17 faculty members. The department offers a Bachelor of Technology (B.Tech) program in Civil Engineering, and two year and three year Master of Technology (M.Tech) programs in three specializations: Structural Engineering, Geotechnical Engineering, and Environmental and Water Resource Engineering. The three year program is ‘thesis by research’ and allows students to gain in-depth research exposure. The department also offers a Doctor of Philosophy (Ph.D) program in five specializations: Structural Engineering; Transportation Engineering; Geotechnical Engineering; Water Resources Engineering; and Environmental Engineering. The department is developing state-of-the-art laboratory facilities in each specialization. Key advanced equipment have already been procured and labs will be used both for research and undergraduate teaching. Current facilities include laboratories in Construction Materials, Structural Engineering (Concrete and Structural steel), Steel composite structures (Steel-Concrete and Steel-FRP), Structural steel retrofitting techniques, Advanced Cement-based Materials, High Performance Concrete, Structural Materials, Large Scale Structures, Computational Structural Mechanics, Pavement and Traffic Engineering, Advanced Geotechnical Testing, Geosynthetics, Advanced Soil Dynamics, Ground Characterization, Computational Geotechnical, Water Quality Analysis, Water and Waste Water, Solid waste, Hazardous waste, Trace Contaminants, Microbiology, Air Quality Monitoring, Hydraulic Engineering, Hydrology, Geographic Information Systems (GIS). In addition, the faculty of Civil Engineering are actively involved in multidisciplinary research and training in the area of sustainable development under ‘Center of Excellence in Sustainable Development’ funded by MHRD. With our current and evolving faculty strength, motivated community, and exceptional laboratory facilities, we have all the necessary ingredients in realizing our vision and are confident about it.
B Umashankar  
Ph.D – Purdue University, USA 
Associate Professor  
Research Areas: Foundation Engineering, Reinforced Soil, Soil-Structure Interaction, Recyclable Materials in Geotechnics

Sireesh Saride  
Ph.D – IISc Bangalore 
Associate Professor  

Kolluru V.L. Subramaniam  
Ph.D – Northwestern University, USA 
Professor  
Research Areas: Concrete Material and Structures, Structural Health Monitoring; Material Characterization

Kolluru V.L. Subramaniam  
Ph.D – Northwestern University, USA 
Professor  
Research Areas: Concrete Material and Structures, Structural Health Monitoring; Material Characterization

Mahendrakumar Madhavan  
Ph.D – University of Alabama - Birmingham, USA  
Associate Professor  
Research Areas: Affordable Housing, Light Gage Steel, Geometric Imperfection Studies, Parallel Flange Beams, High strength Steel, Composite Structures, CFRP Retrofitting, Wind Engineering, CFRP Retrofitting

Amirtham Rajagopal  
Ph.D – IIT Madras 
Associate Professor  
Research Areas: Mechanics of Laminated Composites, Computational Mechanics, Fracture and Damage Mechanics

Shashidhar  
Ph.D – IIT Madras  
Associate Professor  
Research Areas: Bioremediation, Contaminant Transport Modeling, Environmental Hydraulics, Hydrology, Remote Sensing and GIS applications, Waste water treatment, Solid and Hazardous waste management

Surendra Nadh Somala  
Ph.D – California Institute of Technology, USA 
Assistant Professor  
Research Areas: Engineering Seismology, Earthquake Engineering, Fracture Mechanics, Structural Dynamics, Bridge Engineering, Induced Seismicity, Structural Health Monitoring

B. Munwar Basha  
Ph.D – IISc Bangalore 
Assistant Professor  
Research Areas: Computational Geomechanics, Reliability Based Design, Reinforced Soil Walls, Municipal Solid Waste Landfills, Soil Dynamics and Earthquake Resistant Design of Retaining Structures and Rock Mechanics

Debraj Bhattacharyya  
Ph.D – University of New Brunswick, Canada 
Assistant Professor  
Research Areas: Water treatment, wastewater treatment, waste management, biofuel

Basudev Biswal  
Ph.D – University of Padova, Italy 
Assistant Professor  
Research Areas: River flow prediction in ungauged basins

K.B.V.N. Phanindra  
Ph.D – New Mexico State University, USA 
Assistant Professor  
Research Areas: Hydrogeologic Characterization, Groundwater Modeling, RsAndGis In Groundwater, Unsaturated Hydrology
Riddhi Singh  
Ph.D - The Pennsylvania State University, USA  
Assistant Professor  
Research Areas: Rainfall runoff modelling; Uncertainty analysis; Prediction in ungauged basins; Climate and land use change impact on water resources; Multi-objective optimization

Digvijay S. Pawar  
Ph.D - IIT Bombay  
Assistant Professor  

Anil Agarwal  
Ph.D - Purdue University, USA  
Assistant Professor  
Research Areas: Structural Fire Safety; Steel Structures; Steel-Concrete Composite Structures; FRP Structures; Structural Stability

Satish Kumar Regonda  
Ph.D - University of Colorado at Boulder  
Assistant Professor  
Research Areas: Hydroclimatology, Ensemble streamflow forecasting, Urban hydrology, Statistics, Data sciences

Asif Qureshi  
Ph.D - Swiss Federal Institute of Technology, Switzerland  
Assistant Professor  
Research Areas: Environmental Science

VISITING FACULTY

Prof. M.R. Madhav

Prof. D. Chandrasekharan
Patents Filed

Book & Book Chapters


Amritam Rajagopal. Finite element simulation of thermoelastic effective properties of periodic masonry with porous bricks, Springer Singapore

Publications
(in peer reviewed journals)


Arun Narayaran and Kolluru V. L. Subramaniam, Sensing of damage and substrate stress in Concrete using electro-mechanical impedance measurements of bonded PZT patches, Smart Materials and Structures, 25(9), 095011 (2016).


B. Biswal, Dynamic hydrologic modeling using the zero-parameter Budyko model with instantaneous dryness index, Geophysical Research Letters, 43 (18), 9696-9703.


Deshmukh and R. Singh, Physio-climatic controls on vulnerability of watersheds to climate and land use change across the United States, Water Resources Research, 52, 8775-8793 (2016)


B. Balakrishnan, S. Raja, D. Dwarakanathan, and Amirtham Rajagopal, Vibroacoustic performance of fiber metal laminates with delamination, Mechanics of Advanced Materials and structures, 23(12), 1369-1378.


Arif Ali Baig Moghal, Bhaskar Chittoori, B. Munwar Basha and Ahmed M. Al-Mahbashi, Effect of Polypropylene Fiber Reinforcement on


Publications
(in peer reviewed conferences)


Raghu Piska and Rajagopal Amirtham, Nonlocal analysis of laminated plates using third order shear deformation theory considering surface stress effects, Proceedings of Sixth International Congress on Computational Mechanics and Simulation, 1260-1263 (2016).


S. Selvaraj, M. Madahvan, S.U. Dongre, and J. Venkatesan, Improving the Flexural Stiffness and Lateral Torsional Buckling Behavior of the Structural Steel Channel Section by CFRP Strengthening, Proceedings of 8th International Conference on Steel and Aluminum Structures, 144, (2016).


A. Agarwal and S. Taddhanpally, Stability Behavior of Concrete-Filled Steel Tube Columns in Real Fire Conditions, Structures in Fire Conference, June 2016.

A. Agarwal and S. Taddhanpally, Stability Behavior of Concrete-Filled Steel Tube Columns in Real Fire Conditions, Structures in Fire Conference, June 2016.

T.G. Mondal and S.S. Prakash, Finite Element Analysis of Reinforced Concrete Bridge Columns under Torsional Loading, 6th International Congress on Computational Mechanics and Simulation, Mumbai, India, 26-29 June 2016.


Chiranjeevi Reddy and K.V.L. Subramaniam, Experimental Evaluation of Flexural Response and Post-Cracking Behavior in Macro-Synthetic Fiber
Reinforced Concrete, 9th RILEM International Symposium on Fiber Reinforced Concrete, Vancouver, Canada, 19-21 September 2016.


D.S. Pawar and G.R. Patil, Factors affecting drivers gap acceptance behaviour at uncontrolled intersections in India, Proceedings of 14th World Conference on Transportation Research (WCTR), Tongji University, Shanghai, China 2016

D.S. Pawar, and G.R. Patil, Dilemma of pedestrians during gap acceptance at uncontrolled mid-block crossings, Proceedings of 14th World Conference on Transportation Research (WCTR), Tongji University, Shanghai, China 2016


Funded Research Projects 2016-17

B Umashankar, Geogrids and Geocells Reinforced Pavements’, NHAI, 2016, Rs. 135.00 Lakhs.
Surendra Nadh Somala, Investigating Earthquake Source Physics Inclusion into Engineering Analysis of Built Environment, DST-SERB, August 2016, Rs. 28.78 Lakhs.

Suriya Prakash, Fabrication and Testing of Resilient and Sustainable Fiber Reinforced Hollow Core Slabs for Affordable Housing Utchattar Avishkar Yojana Scheme, MoHUD, September 2016, Rs. 48.00 Lakhs.

Amirtham Rajagopal, Nonlocal approaches to modeling damage in composites, DST, November 2016, Rs. 32.5 Lakhs.

K.V.L. Subramaniam, Sustainable Engineered Cellular Geopolymer Masonry for Improved Building Envelope Performance, DST-IPHEE, December 2016, Rs. 65.69 Lakhs.

Shashidhar, Developing a Process and Pilot Scale Unit for the Recovery of Chrome and Other Value Added Products from Chrome Ore Process Residue (CORP), Uchchatar Avishkar Yajana, MOEF, 20 December 2016, Rs. 400.00 Lakhs.

Debraj Bhattacharyya, Developing a Novel Sequencing Batch Reactor for In-situ Containerized Wastewater Treatment, SERB (Uchchatar Avishkar Yajana), January 2017, Rs. 32.00 Lakhs.

Asif Qureshi, Estimating Mercury Levels and Exposure for Pregnant Women and New Born Babies in Selected Coastal and Interior South Indian Cities, MoEFCC, January 2017, Rs. 25.00 Lakhs.

Anil Agarwal, Light Weight High-Performance Composite Structures for Infrastructure Needs, MHRD, DST, and MeeraFibretek Pvt. Ltd, 1 January 2017, Rs. 72.00 Lakhs.


Sireesh Saride, Utilization of Fly Ash as Grout / Stabilization Material to Improve Marginal Soils with Reference to Amaravati City, APPCB, 17 March 2017, Rs. 8.8 Lakhs.

Talks Given in National / International Conferences


R. Singh and R. Kumar, Estimating water availability over India using a bottom-up probabilistic Budyko approach, Spring Meeting of the European Geosciences Union, Vienna, Austria, 17-22 April 2016.


R. Singh, Water resources in a changing environment: quantifying the impact of climate and land use change on water availability, 8th Indo-German Frontiers of Engineering (INDOGFOE) Symposium, Potsdam, Germany, 19-22 May 2016.

S. N. Somala, Infrastructural response to Extreme Speed Ruptures, 1st International Natural Hazards and Infrastructure (ICONHIC2016), Crete Island, Greece, June 2016.


S. N. Somala, Directivity effects of multiples pulses on peak ground motion, 6th International Conference on Recent Advances in Geotechnical Earthquake Engineering (6ICRAGEE), Greater Noida, India, August 2016.


B. Munwar Basha and A.S.S. Raghuram, Case Studies on Failure of Reinforced Soil Retaining Walls, one day workshop Conducted by Department of Civil Engineering, JNTU College of Engineering, Kakinada, Andhra Pradesh, India, 3 September 2016.

S. Sireesh, Role of Interfacial Contact Pressure Distribution on Design of Geocell Reinforced Base Layers, One Day National Conference, Young Indian Geotechnical Society, Kakinada, India, 3 September 2016.
Shashidhar and Ritu Gothwal, Occurrence of high levels of fluoroquinolones and its resistant culture in aquatic environment of river due to effluent discharges from bulk drug manufacturers, Society of Environmental Toxicological and Chemistry Asia/Pacific 2016 Conference, Singapore 16-19 September 2016.

Amirtham Rajagopal, A nonlocal phase field approach for modeling damage in quasibrittle materials, Society of Engineering Sciences, 53rd Annual Technical Meeting, University of Maryland, College park, Baltimore, USA, 2-4 October 2016.

K. B. V. N. Phanindra, Invited Speaker and Technical Session Co-Chair, First Indian National Groundwater Conference (INGWC-2016), JNTU College of Engineering, Hyderabad, 5-6 October 2016.

R. Singh, S. Veena, and A. Deshmukh, Quantifying the vulnerability of watersheds to climate change using the bottom-up modelling framework: A case study in the Krishna river basin, International Conference on Climate Change, Water, Agriculture, and Food Security (ICCCWAFS), ICRISAT Campus, Hyderabad, India, 2-3 November 2016.


Invited Presentations

Understanding structure and functioning of crystalline aquifers in hard rock regions and groundwater management through a decision support tool, Prof. Shakeel Ahmed, Chief Scientist: CSIR-National Geophysical Research Institute, 25 April 2016.

Land use change from cotton to perennial bioenergy grasses in the Texas High Plains: Implications on Water and Nitrogen Balances, Prof. Srinivasulu Ale, Associate Professor at Texas A&M University, 14 June 2016.

World Trade Center Disaster: Role of fire issues in the collapse, Prof. Venkatesh Kodur, Michigan State University, 13 July 2016.

Workshops / Symposia Organised

M. Basha, GeoApps 2017: Recent Developments held at IIT Hyderabad, 18 February 2017.

M. Basha, Geodisasters: Ground & Slope Instability held at JNTU Hyderabad, 1 October 2016.


Other Events

Anil Agarwal, GIAN course on Modeling and Design of Steel-Concrete Composite Structural Systems Instructors: Prof. Amit H. Varma, Purdue University, 16-27 May 2016.

M. Madhavan, ISPAT – 2016, Six days short course on training and workshop on Structural Steel Design sponsored by TEQIP-II, 6-11 June, 2016.

S. N. Somala, 6-day TEQIP course on Probabilistic Seismic Hazard Assessment (PSHA).


Anil Agarwal, GIAN course on Structural Behavior and Design in Extreme Thermal Conditions including Fire Effects, Prof. Venkatesh Kodur, Michigan State University, 11-22 July 2016.

Amirtham Rajagopal, GIAN Course on Finite element Method, 14-24 July 2016.

Suriya Prakash, GIAN/TEQIP Workshop on Structural Upgrade and Strengthening of Civil Infrastructure using FRP Composites, 18-29 July 2016.

Asif Qureshi, GIAN course on Environmental and Human Health Risk Assessment of Chemicals, Aug-September 2016.

Suriya Prakash, GIAN Course on Advanced Prestressed Concrete for Modern Buildings and Bridges, 12-21 December 2016.


M. Basha, Co-ordinated One-day workshop on GeoApps - 2017: Recent Developments in Geotechnical Engineering.


S. Sireesh Co-ordinated Prof. Ikuo Towhata, University of Tokyo visit to IITH under Friendship Program. Prof. Towhata taught one credit course at IITH on ‘CE 8999: Advanced Geotechnical Earthquake Engineering, 1-2 March 2017.

Awards / Recognitions

K.V.L. Subramaniam, ICI-T.N. Subba Rao Endowment Lecture Award by Indian Concrete Institute, 2016.

Shashidhar, Task Force Member of Telangana State Pollution Control Board, Expert member of Greater Warangal Municipal Corporation Under Ground Drainage project.

Riddhi Singh, The Water Advanced Research and Innovation (WARI) Fellowship Program supported by the Department of Science and Technology, Govt. of India, the University of Nebraska-Lincoln (UNL), the Daugherty Water for Food Institute (DWFI) and the Indo-US Science and Technology Forum (IUSSTF).

The department of CSE has been successfully running EMDS course for working professionals and also mentoring IIT Bhilai. In FY 16-17, the department received infrastructural grants from FIST and Samsung, and a Microsoft grant for organizing summer interns. Also, faculty members received grants from DRDO, SERB/DST/MHRD, DST-JST (Indo-Japan) and industry e.g., AMD, Redpine Signals, etc. CSE faculty filed patents; published papers in top-tier venues, e.g., AINTEC, ACM JETC, IEEE TBD, GLOBECOM, TKDE etc.; gave invited talks in prestigious venues, e.g., VLDB, conferences/workshops organized by CDAC, DRDO and University of Tokyo, etc. A faculty member received 2nd rank in International Pseudo-Boolean competition and a CSE research paper was covered by InsideHPC, an international technical news website. Faculty is working with city police to enhance citizen safety using video analytics. CSE students received fellowship from Intel and Google along with several awards, e.g., first prize in IDRBT Doctoral Colloquium, best paper/poster awards. Also, CSE students received prestigious competitive fellowships such as the S N Bose Fellowship, Viterbi Fellowship, Mitacs Fellowship and Purdue Goboiler fellowship, which allows them to carry out internships in universities in the US and Canada. CSE students also did internship at University of Tokyo and other Japanese universities under Sakura Science Plan. The JEE opening/closing ranks in 2016 were 418/879, up from 534/964 in 2015. CSE hosted several well-known experts for seminars, e.g., David Maltz (Microsoft), Manohar Paluri (Facebook AI Research), Rodney Meter, Shigeya Suzuki (Japan), Raymond Knopp (Eurocom), Ramesh Peri (Intel) etc. Also, faculty conducted a TLC workshop and hosted a GIAN course.
Bheemarjuna Reddy Tamme  
Ph.D – IIT Madras  
Associate Professor & HoD  
Research Areas: Converged Networks, 5G, SDN/NFV, IoT & Network Security

Saurabh Joshi  
Ph.D – IIT Kanpur  
Assistant Professor  
Research Areas: Formal methods of specification and verification, Program Analysis, Constraint Solving, Model checking

Sobhan Babu  
Ph.D – IIT Bombay  
Associate Professor  
Research Areas: Big Data Analytics, Graph Theory and Algorithms

Ramakrishna Upadrasta  
Ph.D – University of Paris and INRIA, Paris  
Assistant Professor  
Research Areas: Programming languages, Compiler Optimizations, parallelizing compilers, static analysis

C Krishna Mohan  
Ph.D – IIT Madras  
Associate Professor  
Research Areas: Video Content Analysis, Pattern Recognition, Neural Networks

Sparsh Mittal  
Ph.D – Iowa State University, USA  
Assistant Professor  
Research Areas: Computer architecture, Graphics processors, VLSI, high-performance computing, approximate computing, processor architectures for AI, non-volatile memory, low-power computing

M. V. Panduranga Rao  
Ph.D – IISc Bangalore  
Associate Professor  
Research Areas: Formal Methods and Applications, Algorithms, Complexity, Quantum Computing

Maunendra Sankar Desarkar  
Ph.D – IIT Kharagpur  
Assistant Professor  
Research Areas: Recommendation Systems, Information Retrieval, Machine Learning

Sathya Peri  
Ph.D – University of Texas at Dallas  
Associate Professor  
Research Areas: Software Transactional Memory, Concurrent Data Structures, Peer-to-Peer Computing, Social Peer-to-Peer networks and Grid Computing Distributed System

Manish Singh  
Ph.D – University of Michigan, USA  
Assistant Professor  
Research Areas: Data Mining, Text Mining, Social Network Analysis, Recommendation Systems

Antony Franklin A  
Ph.D – IIT Madras  
Assistant Professor  
Research Areas: Mobile Networks, 5G, SDN/NFV, IoT, Mobile Edge Computing

Manohar Kaul  
Ph.D – Aarhus University, Denmark  
Assistant Professor  
Research Areas: Scalable Machine Learning, Big Data Analytics and Spatial Databases
Vineeth N Balasubramanian  
Ph.D - Arizona State University, USA  
Assistant Professor  
Research Areas: Machine Learning, Deep Learning, Computer Vision

Subrahmanyam Kalyanasundaram  
Ph.D - Georgia Tech, USA  
Assistant Professor  
Research Areas: Algorithms, Graph Theory, Combinatorics

Kotaro Kataoka  
Ph.D - Keio University, Japan  
Visiting Assistant Professor  
Research Areas: Internet Architecture, Software-Defined Networking (SDN), Network Functions Virtualization (NFV), Network Operation, Post-Disaster Networking

Srijith P K  
Ph.D - IISc Bangalore  
Assistant Professor  
Research Areas: Bayesian Data Analysis, Probabilistic Machine Learning

N. R. Aravind  
Ph.D - Institute of Mathematical Sciences, Chennai  
Assistant Professor  
Research Areas: Algorithms, Graph Theory, Combinatorics
**Patents Filed**

Raghu S Iyengar, Vineeth N Balasubramanian, Shuffling of Input Data for Mini-Batch Gradient Descent Based Methods, Indian Patent Application No. 201641013266 (Filed in Apr 2016).


**Publications**

**(in peer reviewed journals)**

Rujia Wang, Sparsh Mittal, Youtao Zhang, and Jun Yang, Decongest: Accelerating Super-Dense PCM under Write Disturbance by Hot Page Remapping, IEEE Computer Architecture Letters (CAL), 2017. 10.1109/LCA.2017.2675883.


Chen Xu, Markus Holzemer, ManoharKaul, Juan Soto, and Volker Markl, On Fault Tolerance for Distributed Iterative Dataflow Processing:Transactions on Knowledge and Data Engineering (TKDE), 2017.


**Publications**

**(in peer reviewed conferences)**


N. R. Aravind, R. B. Sandeep, and Naveen Sivadasan, Parameterized lower bounds and dichotomy results for the NP-completeness of H-free edge modification problems, LATIN 2016, 82-95.

Chen Xu, Markus Holzemer, ManoharKaul, and Volker Markl, Efficient Fault-tolerance for Iterative Graph Processing on Distributed Dataflow Systems, IEEE International Conference on Data Engineering (ICDE), 2016.


Tapan Sahni, Chinmay Mahesh Chandak, Venkata Naveen Reddy Chedeti, and Manish Singh, Efficient Twitter Sentiment Classification using Subjective Distant Supervision, IEEE International Conference on Communication Systems and Networks (COMSNETS), 2017.


Nandini Singhal, Sathya Peri, and Subrahmanyam Kalyanasundaram, Practical Multi-threaded Graph Coloring Algorithms for Shared Memory Architecture, 1st International Workshop on Algorithms for Distributed Data Analytics 2017 (held in conjunction with ICDCN).


Funded Research Projects 2016-17

Vineeth N Balasubramanian, Deep Learning for Visual Recognition in Aerial Images, DRDO, January 2017, Rs. 10.00 Lakhs.

Kotaro Kataoka, Sensor Network, Redpine Signals Inc., February 2017, Rs. 3.1 Lakhs.

An Efficient Software Framework for developing Reliable Multi-threaded Applications for Multi-Core Architectures Sponsored by IMPRINT, GoI for around Rs. 30 lakhs

Talks Given in National / International Conferences
Ramakrishna Upadrasta, Loop Nest Optimizations


Introduction to Deep Learning, Honeywell Innovation Week, Hyderabad, May 2016.

Kotaro Kataoka, ICT Preparedness and Application to Natural Disaster, and Role of WIDE, Panel Discussion, WIDE Project Meeting, Kanagawa, Japan, May 2016.

Bheemarjuna Reddy Tamma, Valerrian Pasca S, Sumanta Patra, and Antony Franklin, LTE-Wi-Fi Aggregation (LWA) using OAI, 2nd OAI Workshop, Eurecom, France, 18 May 2016.


Visual Intelligence and Learning, Indo-Norwegian Workshop on ICT, IIIT-Hyderabad, June 2016.


Internet development in Asia and the World (Future of Internet/REN), Panel Discussion, A13 & SOI Asia Meeting, Institute of Technology Bandung, Bandung, Indonesia, September 2016.


Deep Learning for Big Data, Continuing Education Programme at ANURAG, DRDO, Hyderabad, September 2016.

Tutorial on Deep Learning, 22nd International Conference on Advanced Computing and Communications (ADCOM 2016), Bangalore, September 2016.

Manohar Kaul, New Lower and Upper Distance Bounds for Shortest Distance Queries on Terrains, Proceedings of Very Large Databases (PVLDB), New Delhi, India, September 2016.

Towards Deep Socio-Behavioral Intelligence, Intel India Research Colloquium, Bangalore, October 2016.


Bheemarjuna Reddy Tamma and Rohit Gupta, Open Air Interface (OAI) for Experimentation in 5G, IEEE ANTS 2016 Tutorials, IISc Bangalore, India, 6 November 2016.

M. Pavan Kumar Reddy, Srikant Manas Kala, and Bheemarjuna Reddy Tamma, Enhancing Channel Assignment Performance in Wireless Mesh Networks Through Interference Mitigation Functions, IEEE ANTS, IISc Bangalore, India, 8 November 2016.


A. Antony Franklin, LWIR: LTE-WLAN Integration at RLC Layer with Virtual WLAN Scheduler for Efficient Aggregation, IEEE Global Communications Conference (GLOBECOM), Washington DC, USA, 7 December 2016.


Vineeth N Balasubramanian, Video Generation using Deep Recurrent Architectures, University of Tokyo, January 2017.
Invited Presentations

Distributed Computation of Sparse Cuts, Dr. Anisur Rahaman, 11 April 2016.

High Performance Parallel Programming on Modern Processors, Dr. Vivek Kumar, 13 April 2016.

Machine Learning through Bayesian Inference, Dr. Hari Koduvely, 4 May 2016.

Planning Under Uncertainty, Dr. Chandrashekar, 4 May 2016.


Verifying Security Properties in Modern SoCs Using Instruction-Level Abstractions, Mr. Pramod Subramanyan, 7 September 2016.

Connecting the Cloud: Azure’s Software Defined Network, Dr. David A. Maltzon, 14 September 2016.

Supervised Class Ratio Estimation, Dr. Saketha Nath, 26 September 2016.

Problems and Results on Uniform Hypergraphs, Dr. Saswata Shannigrahi, 1 November 2016.

RDMA at Scale, Albert Greenberg, CVP for Microsoft Azure Networking, 17 November 2016.


Intel® Software tools: Faster Code ... Faster, Dr. Ramesh Peri, Intel, 6 December 2016.

Performance Prediction of Parallel Applications Based on Small-Scale Executions, Dr. Rajendra Boppana, 8 December 2016.

Security and Privacy in the Internet Age, Dr. Aniket Kate, Purdue University, 4 January 2017.

A Self-Stabilizing Minimal K-Grouping Algorithm, Prof. Ajoy K Datta, University of Nevada Las Vegas, 3 January 2017.

Hierarchical key agreement schemes for wireless ad-hoc networks: special focus on lightweight protocols, Dr. Pinaki Sarkar, NISER, Bhubaneshwar, 5 January 2017.

Computer Vision @ Facebook, Mr. ManoharPaluri, Facebook AI Research, Menlo Park, USA, 9 January 2017.

Community Analysis in Complex Networks, Dr. Tanmoy Chakraborty, University of Maryland, 13 January 2017.

Applications of Regular quantifiers in Logics, Dr. A. V. Sreejith, 30 January 2017.

A Changing Landscape: Securing The Internet Of Things (IoT), Prof. Sanjay K. Jha, University of New South Wales, Australia, 6 February 2017.

The emergence of open-source 4G/5G ecosystems, Prof. Raymond Knopp, Eurecom, 28 February 2017.

Providing Accountability in Heterogeneous Systems-on-Chip, Mr. Rajshekar, a senior research fellow at IIT Delhi, 21 March 2017.

A special lecture on Blockchain, Prof. Shigeya Suzuki, Keio University, Japan, 21 March 2017.

A Special Lecture on Quantum Networking, Prof. Rodney Van Meter, Keio University, Japan, 22 March 2017.

Workshops / Symposia Organized


Other Events

Sparsh Mittal, Advanced Memory System Architecture: A TLC workshop.

Maunendra Sankar Desarkar, organized GLAN course on Enabling Large Scale Data Analytics: From Theoretical Foundations to Practice, Guest Faculty: Dr. Barna Saha from University of Massachusetts Amherst, 13-17 June 2016.
Awards / Recognitions

Saurabh Joshi, Open-WBO, a Pseudo-Boolean solver using GTE technique developed by the faculty member, won second and third prize in Pseudo-Boolean Competition 2016.

Santanu Das, Dangeti Tharun Kumar Utpal Bora, Ramakrishna Upadrasta, A Comparative Study of Vectorization in Compilers has been selected as the best Student Poster in 23rd annual IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2016), 1st prize.

Abhishek Patwardhan, Ramakrishna Upadrasta Texturizing PPCG: Supporting texture memory in a Polyhedral compiler has been selected as the best Student Poster in 23rd annual IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2016), 4th prize.

Kotaro Kataoka, (Best Student Paper Award) SFO: SubFlow Optimizer for MPTCP in SDN, Kalpana Joshi and Kotaro Kataoka, 26th IEEE International Telecommunication Networks and Applications Conference (ITNAC), 2016.

Sparsh Mittal, Research paper was covered by InsideHPC.com, a technical news website. The title of the news item was New Paper Surveys Cache Partitioning Techniques.

Arghya Pal, Intel India PhD Fellowship, (competitive program awarded based on proposals submitted by faculty jointly with students), 2016-20.
The youngest department at IIT Hyderabad has taken many initiatives during FY 2016-17 to foster the spirit of creative design and innovation through its masters and research programs. In continuation of the same, the department has formulated Minor program in Design for Bachelor students of the institute which will be offered from Academic year 2017-18.

The department initiated several projects under the Design Innovation Center (DIC) which is funded by Ministry of Human Resource and Development. As part of this, student-faculty teams have engaged in digital preservation of heritage, digital documentation, photography. Some explorations in the area of Virtual Reality and Augmented Reality have begun for the same. Also animation is being used as a medium to re-tell stories and legends associated with the tombs of the Qutub Shahi.

The departmental approach has been to encourage and engage with its immediate community of users. Both faculty and student teams have been actively involved in providing design support to the institute community through various design initiatives like: convocation gown and materials, furniture, interior design, architectural design, websites, institute newsletter, promo materials for various events, logos for on campus centres, etc..
Deepak John Mathew  
Ph.D - MS University of Baroda  
Professor & HoD  
Research Areas: Photography, Elements of design, Aesthetics, History of Design

Prasad S. Onkar  
Ph.D - IISc Bangalore  
Assistant Professor  

Neelakantan P K  
Ph.D ongoing at IIT Bombay  
Assistant Professor  
Research Areas: Architectural Design

Delwyn Jude Remedios  
Assistant Professor  
Research Areas: Animation, Graphic Novels, Illustrations, e Learning
Publications
(in peer reviewed journals)
Prasad S. Onkar and Dibakar Sen, Direct 3D Sketching with Haptic and Motion Constraints, International Journal of Computer Aided Engineering and Technology, 8(1/2), 33-55 (2016)

Publications
(in peer reviewed conferences)

Doji Samson and Deepak John Mathew, Harnessing Human Creativity through Design Innovation as a Formal Basis towards arriving at the Space and Scope of Practice, International Conference on Creativity and Cognition in Art and Design (ICCCAD), 2017.


Invited Presentations
Comics by Javed Imithiaz, Comic artist, October 5, 2016
Contemporary Photography by Sneha Trivedi, Independent Photographer, October 26, 2016.
Understanding UX Design by Ruchi Saxena, Senior UX Designer CA Technologies, November 9, 2016.
User Experience by Ranjeet Tayi, product user experience designer, informatica.

Workshops / Symposia organised
Cultural Identity in Design by Anka Falk, Faculty, University of Applied Sciences and Arts Northwestern Switzerland, HyperWerk Institute, February 13-17, 2017.

Talks Given in National / International Conferences


Awards / Recognitions
Electrical Engineering is one of the earliest departments of IIT Hyderabad. Our research expertise lies in the fields of microelectronic and VLSI, communication and signal processing, power electronics and power systems, systems and control. We are actively involved in important collaborative research activities with Indian Space Research Organization (ISRO), Defence Research and Development Organization (DRDO), Council of Scientific and Industrial Research (CSIR) labs. The faculty members team are highly dedicated and ambitious in providing excellent teaching and pursuing high-end research.

Our department offers Bachelor of Technology (B.Tech), Master of Technology (M.Tech) and Doctor of Philosophy (PhD) programs.
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Institution</th>
<th>Position</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohammed Zafar Ali Khan</td>
<td>Ph.D.</td>
<td>IISc Bangalore</td>
<td>Professor &amp; HoD</td>
<td>Cognitive Radio, cyber physical systems, MIMO and signal processing for communications</td>
</tr>
<tr>
<td>Siva Kumar K</td>
<td>Ph.D.</td>
<td>IISc Bangalore</td>
<td>Associate Professor</td>
<td>Multilevel Inverters, Pole-Phase modulated IM, Micro grids</td>
</tr>
<tr>
<td>UB Desai</td>
<td>Ph.D.</td>
<td>Johns Hopkins, USA</td>
<td>Professor</td>
<td>Wireless Communication and Signal Processing</td>
</tr>
<tr>
<td>Ketan P Detroja</td>
<td>Ph.D.</td>
<td>IIT Bombay</td>
<td>Associate Professor</td>
<td>Control Theory, Distributed Estimation, Fault Diagnosis</td>
</tr>
<tr>
<td>P. Rajalakshmi</td>
<td>Ph.D.</td>
<td>IIT Madras</td>
<td>Associate Professor</td>
<td>Wireless Communications, Networking, IoT, CPS</td>
</tr>
<tr>
<td>Sri Rama Murty Kodukula</td>
<td>Ph.D.</td>
<td>IIT Madras</td>
<td>Associate Professor</td>
<td>Speech Signal Processing, Machine Learning</td>
</tr>
<tr>
<td>Vaskar Sarkar</td>
<td>Ph.D.</td>
<td>IIT Bombay</td>
<td>Associate Professor</td>
<td>Restructured Power Systems, Wide Area Monitoring and Control, Renewables and Microgrid, Demand Side Management</td>
</tr>
<tr>
<td>Shiv Govind Singh</td>
<td>Ph.D.</td>
<td>IIT Bombay</td>
<td>Associate Professor</td>
<td>3D IC, Sensors (Gas, Bio, Heavy Metals), MEMS, Lab on Chip, Nanodevices</td>
</tr>
<tr>
<td>G. V. V. Sharma</td>
<td>Ph.D.</td>
<td>IIT Bombay</td>
<td>Assistant Professor</td>
<td>Visible Light Communication, Wireless Communication, Automation</td>
</tr>
<tr>
<td>Sumohana S. Channappayya</td>
<td>Ph.D.</td>
<td>The University of Texas at Austin, USA</td>
<td>Associate Professor</td>
<td>Multimedia Quality Assessment, Biomedical Image Processing</td>
</tr>
<tr>
<td>Siva Rama Krishna Vanjari</td>
<td>Ph.D.</td>
<td>IISc, Bangalore</td>
<td>Assistant Professor</td>
<td>Nanobiosensors, VLSI technology, 3D IC, CMOS Sensors</td>
</tr>
<tr>
<td>Kiran Kuchi</td>
<td>Ph.D.</td>
<td>University of Texas at Arlington, USA</td>
<td>Associate Professor</td>
<td>Wireless Communications, Signal Processing</td>
</tr>
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<td>University of Texas at Arlington, USA</td>
<td>Associate Professor</td>
<td>Wireless Communications, Signal Processing</td>
</tr>
</tbody>
</table>
**Ravikumar Bhimasingu**  
Ph.D - IISc Bangalore  
Assistant Professor  
Research Areas: Power System Protection, Security improvements, renewable integration to grid and Micro grids

**Lakshmi Prasad Natarajan**  
Ph.D - IISc Bangalore  
Assistant Professor  
Research Areas: Modulation, coding techniques and theory

**Sushme Badhulika**  
Ph.D - University of California, USA  
Assistant Professor  
Research Areas: Nanomaterials, devices and circuits, Flexible and wearable electronics, Paper electronics, Electrochemical sensors

**Kaushik Nayak**  
Ph.D - IIT Bombay  
Assistant Professor  
Research Areas: Nanoelectronic Device Physics, Carrier Transport, Physical and Wave Electronics

**Abhinav Kumar**  
Ph.D - IIT Delhi  
Assistant Professor  
Research Areas: Wireless communications and networking, green cellular networks, user network selection, device to device communications, and radio resource management in heterogeneous wireless access networks

**Amit Acharyya**  
Ph.D - University of Southampton, UK  
Assistant Professor  
Research Areas: Signal Processing Algorithm and VLSI Architectures, VLSI systems for next generation healthcare systems, Low Power Design Techniques

**Swati Gupta**  
Ph.D - University of Strathclyde, UK  
Assistant Professor  
Research Areas: Organic Electronics, Flexible Electronics, Organic solar cells.

**Yemula Pradeep Kumar**  
Ph.D - IIT Bombay  
Assistant Professor  
Research Areas: Smart Grids, Demand Response, Interoperability, IT Architectures for Power Systems, Renewable Energy

**DISTINGUISHED VISITING FACULTY**

**Mathukumalli Vidyasagar**  
The University of Texas at Dallas  
Teaching Subjects: EE5420 - Introduction to Compressed Sensing, EE5430 - Compressed Sensing, EE5410 - Nonlinear Control Theory
Books & Book Chapters


P. Sahatiya, S. Badhulika, “Graphene hybrid architectures for chemical sensors” in book The new paradigm of graphene-based materials in medicine and environment, Springer-Verlag, Germany, 2016, DOI: 10.1007/978-3-319-45639-3

Patents Filed

Asisa Kumar Panigrahi, Satish Bonam, Siva Rama Krishna Vanjari, and Shiv Govind Singh, Optimized ultra-thin alloys leads sub 140 degree Celsius and Low Pressure 2.5 bar Cu-Cu bonding for 3D ICs, Indian Patent Application No 201641035405, Filed on 17 October 2016.


Publications

(in peer reviewed journals)


New error correcting codes for informed receivers, L. Natarajan, Y. Hong and E. Viterbo, IEEE International Symposium on Information Theory (ISIT), Barcelona, 2839 (2016)


Significance of analytic phase of speech signals in speaker verification, Karthika Vijayan, P. R. Reddy and K. Sri Ram Murty, Speech Communication, 18, (2016)

Power allocation for uniform illumination with stochastic LED arrays, G. V. S. S. Praneeth Varma, Rayapati Sushma, Vandana Sharma, Abhinav Kumar, and G. V. V. Sharma, Opt. Express 25(8), 8659 (2017)


An ultrasensitive label free nanobiosensor platform for the detection of cardiac biomarkers,
Matta, Durga Prakash, Suryasnata Tripathy, Siva Rama Krishna Vanjari, Chandra Shekhar Sharma, and Shiv Govind Singh, Biomedical Microdevices 18(6), 111 (2016)


Wearable Woven Electrochemical Biosensor Patch for Non-invasive Diagnostics, Modalii, Anil, Siva Rama Krishna Vanjari, and Dhananjaya Dendukuri, Electroanalysis, 28(6), 1276 (2016)


Effect of cross aspect ratio on characteristic length scale and onset of flow separation in diverging and converging microchannel, V. Duryodhan, S.G. Singh, A. Agrawal, Journal of Fluids Engineering, 139(6), 061203 (2017)


Highly-sensitive label-free differential pulse voltammetric immunosensor for diagnosis of infectious diseases based on electrospun copper doped ZnO nanofiber biosensing platform, K. Brince Paul, S. G. Singh, Procedia Technology, 2017.

A simple and novel way of maintaining constant temperature in microdevices, V. Duryodhan, A. Singh, S. G. Singh, and A. Agrawal, Scientific Reports, 6, 18230 (2016)


Low Power Personalized ECG Based System Design Methodology for Remote Cardiac Health Monitoring, V. Naresh, Pravanjan Patra, Pankaj


Self healing nature of bilayer graphene, Sanghamitra Debroy, V. Pavan Kumar Miriyala, K. Vijaya Sekhar, Swati Ghosh Acharyya, A. Acharyya, Superlattices and Microstructures, 96, 26 (2016)


Flexible substrate based 2D ZnO (n)/ graphene (p) rectifying junction as enhanced broadband photodetector using strain modulation, P. Sahatiya, S. Jones, T. Gomathi, S. Badhulika, Materials Letters, 4, 025053 (2017)


Solvent-free fabrication of Multi-walled carbon nanotube based flexible pressure sensor for ultra-sensitive touch pad and electronic skin applications, P. Sahatiya, S. Badhulika, RSC Advances, 2016; 10.1039/C6RA21763J

Low cost, flexible and biodegradable touch sensor fabricated by solvent-free processing of graphite on cellulose paper, S. Kanaparthi, S. Badhulika, Sensors & Actuators B: Chemical, 242, 857 (2016)


Power allocation for uniform illumination with stochastic LED arrays, G. V. S. S. Praneeth Varma, R. Sushma, V. Sharma, A. Kumar, and G. V. V. Sharma, Optics Express, 25, 8659 (2017)


Multilevel Inverter Scheme for Performance Improvement of Pole-Phase-Modulated Multiphase Induction Motor Drive, B. S. Umesh and K.

UPSC SVPWM controlled multi-level inverter topology for multiple pole-pair induction motor drive for minimising torque ripple, Kiran Kumar N, Sivakumar K, IET power electronics, 9, 1306 (2016)


Publications (in peer reviewed conferences)


Performance Analysis of Static Versus Rotary DC/AC Power Converters for Hybrid Renewable Energy Based Microgrid Applications, Y. V. Pavan Kumar, Ravikumar Bhimisngu, IEEE Region 10 Conference (TENCON), Singapore, 1456 (2016)

Improving Power Quality in Microgrids Using Virtual Motor-Generator Set Based Control Scheme, Y. V. Pavan Kumar, Ravikumar Bhimisngu, The 42nd Annual Conference of IEEE Industrial Electronics Society (IECON 2016), Florence, Italy, 7173 (2016)


K-Nearest Neighbor Based Methodology for Accurate Diagnosis of Diabetes Mellitus, Madhuri Panwar, A. Acharyya, Rishad A. Shafik and Dwaipayan Biswas, Sixth IEEE International Symposium on Embedded computing and system Design (ISED), Indian Institute of Technology (IIT) Patna, India, 15-17 December 2016

Thermo-Magnetic Shape Control of Nano-Ferromagnetic particle doped Shape Memory Alloy for Orthopedic devices and Rehabilitation Techniques, Arvind Gautam, Mounika Kare, Divya Andem, Pallavi Karhade, A. Bhargavi Rani, A. Acharyya and Swati Ghosh Acharyya, Sixth IEEE International Symposium on Embedded computing and system Design (ISED), Indian Institute of Technology (IIT) Patna, India, 15-17 December 2016


Classification Methodology of CVD with Localized Features Analysis Using Phase Space Reconstruction Targeting Personalized Remote Health Monitoring, Naresh Vemishetty, A. Acharyya, Saptarshi Das, Koushik Maharatna, and Paolo Emilio Puddu, Computing in Cardiology Conference (CINC), Vancouver, Canada, 11-14 September 2016,


Subjective and objective study of the relation between 3D and 2D views based on depth and bitrate, B. Appina, K. Manasa, S. S. Channappayya, IS & T Electronic Imaging 2017, Burlingame, CA, USA, January 2017


Modeling the Effect of Quantization and Packet Loss on State Estimation In Cyber-Physical Systems, Venkat Reddy and Mohammed Zafar Ali Khan, IEEE COMSNETS 2017, 4-8 January 2017


A Fast Algorithm for Solving Cave-filling Problems, K. Naidu and Mohammed Zafar Ali Khan, IEEE VTC Fall 2016, Montreal, 18-21 September


Performance Comparison of Dual Connectivity with CoMP in Heterogeneous Cellular Networks,


Reduced state MAP algorithm with modified branch metric, Nanda Kishore Chavali, Dharm Teja Bade, Anusha Kilarai, and Kiran Kuchi, International Conference on Signal Processing and Communications (SPCOM), 1 (2016)

A common framework for ML detection of spatially multiplexed and space time coded MIMO signals and reducing its computational complexity, Nanda Kishore Chavali, Sheela Mounika, Kiran Kuchi, International Conference on Signal Processing and Communications (SPCOM), 1 (2016)


A single source fed three level voltage boost NPC inverter with reduced LC count, M. Sahoo and K. Siva Kumar, IECON, Florence, Italy, 3190 (2016)

A three phase five level inverter with fault tolerant and energy balancing capability for photovoltaic applications, A. Madhukar Rao, M. Sahoo and K. Siva Kumar, IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Trivandrum, India (2016)

Nonlocal Means Kernel Regression Based Despeckling of Bmode Ultrasound Images, R. Bharath, R. Rajalakshmi, 18th International Conference on E-health Networking, Application & Services (HealthCom), Munich, Germany, 14-17 September 2016

Smartphone Based Automatic Abnormality Detection of Kidney in Ultrasound Images, Pallavi Vaish, R. Bharath, P. Rajalakshmi, 18th International Conference on E-health Networking, Application & Services (HealthCom), Munich, Germany, 14-17 September 2016


Funded Research Projects 2016-17

Lakshmi Prasad Natarajan, Index Coding for Wireless Communications, DST, July 2016, Rs. 35.00 Lakhs.


G. V. V. Sharma, Development of Encoder and Decoder Modules for Low-Density Parity Check Code with Variable Rates and Block Lengths, BHEL, 16 September 2016, Rs. 13.77 Lakhs.

Amit Acharyya, Design of High Speed N X N Packet Switch & Implementation for FPGA, RCI, DRDO, November 2016, Rs. 10.00 Lakhs.

Amit Acharyya, Development of algorithm for de-interleaving of pulses vectors using BSS method, DRL, DRDO, December 2016, Rs. 10.00 Lakhs.

Abhinav Kumar, Energy Efficient Lighting with Visible Light based Communication and Power Line Communications, DST, December 2016, Rs. 60.00 Lakhs.

Shiv Govind Singh, Development of conductive nanowire based Biosensor for detection of Genetic Changes, BRNS, 2017, Rs. 34.00 Lakhs.


Swati Gupta, Development of Flexible Charge Transport Layers for Organic Solar Cells, DST, March 2017, Rs. 50.00 Lakhs.

Talks Given in National / International Conferences


Jose, Sarswati, S. G. Singh, S. R. Vanjari, Silk Piezoelectric Thin Films sensors, Orlando Florida, USA2016


Satish Bonam, Asisa Kumar Panigrahi, Shikhar Jain, Siva Rama Krishna Vanjari, and Shiv Govind Singh, Conference 2016-17

Asisa Kumar Panigrahi, Satish Bonam, Tamal Ghosh, Siva Rama Krishna Vanjari, and Shiv Govind Singh, Low Temperature CMOS compatible Cu-Cu thermo-compression bonding with constantan alloy passivation for 3D IC Integration, 3D Systems Integration Conference (3DIC), 2016


Kumail Khurram, Asisa Kumar Panigrahi, Satish Bonam, and Shiv Govind Singh, Novel Inter Layer Dielectric and Thermal TSV material for enhanced heat mitigation in 3D IC, 3D Systems Integration Conference (3DIC), International (IEEE Xplore), 2016


P. Rajalakshmi, Invited Talk, APNOMS 2016, Japan, October 2016

Workshops / Symposia

Digital Design through Arduino
Octave for Math Computing

Other Events

TEQIP Workshop on Nano-Sensors: Design, Principles and Applications, December 3-7, 2016; Dr. Amit Acharyya, Dr. Sushmee Badhulika and Dr. Ashudeb Dutta

Awards / Recognitions

Lakshmi Prasad Natarajan, Recognized as Exemplary Reviewer by the Editorial board of IEEE Wireless Communications Letters

Shiv Govind Singh, Runner up : Cadence Design Contest 2016

Amit Acharyya, Recipient of Visvesvaraya Young Faculty Fellowship Award 2016 by the Department of Electronics and Information Technology (DEITY), Ministry of Communications and IT, Gov

Amit Acharyya, Recipient of Early Career Research Grant from the Science and Engineering Research Board (SERB), Department of Science and Technology, Gov in 2016

Amit Acharyya, Visiting research Fellow in the University of Southampton, UK from 2016-2017

Mohammed Zafar Ali Khan, Best paper in Networks 2016

Abhinav Kumar, Best Paper honorable Mention in COMSNETS 2016

P. Rajalakshmi, Ultra Compact IoT Enabled Power Monitor Device” won the Bronze Medal in Seoul Internation Invention Fair 2016

P. Rajalakshmi, Best Paper Award in IECBES-IEEE EMBS Conference of Biomedical, Engineering and Sciences

P. Rajalakshmi, Digital Trail Blazer Award” for Telangana by India Today in June 2016

P. Rajalakshmi, Recipient of ‘Digital Trail Blazer Award 2016’ by India Today in December 2016 at National Level

P. Rajalakshmi, IoT Enabled Power Monitor was part of the showcase at India International Innovation Fair at Bangalore 9-11 September 2016, which bagged

P. Rajalakshmi, Gold medal - Best National Invention from International Federation of Inventors’ Association (IFIA).

P. Rajalakshmi, Gold medal - Recognition of Creativity & Innovation - IIIIFair 2016

P. Rajalakshmi, Gold medal - Contribution To Innovation from Republica Portuguesa
The Department of Liberal Arts comprising of 12 faculty members offers courses in various disciplines including Anthropology, Cultural Studies, Economics, English, Linguistics, Psychology, and Sociology. The Liberal Arts faculty has published book chapters, journal papers and a book in the year 2016-2017. Also, faculty have been invited for talks at various conferences and seminars, both national and international. The department organized workshops and seminars in social science and humanities disciplines including the celebration of World Mental Health Day in November 2016 aimed at spreading mental health awareness. The department has successfully graduated M.Phil. and Ph.D. students in different disciplines this year.
Badri Narayan Rath  
**Ph.D - ISEC, Bangalore**  
Associate Professor & HoD  

Shubha Ranganathan  
**Ph.D - IIT Bombay**  
Assistant Professor  
Research Areas: Cultural psychology, women and mental health, qualitative methods, and critical psychology

Indira Jalli  
**Ph.D - Hyderabad Central University**  
Associate Professor  
Research Areas: Nation and Culture

Haripriya Narasimhan  
**Ph.D - Syracuse University - NY, USA**  
Assistant Professor  
Research Areas: India, South Asia, Gender, Medical Anthropology, Media anthropology

K.P. Prabheesh  
**Ph.D - IIT Madras**  
Assistant Professor  
Research Areas: Macroeconomics, International trade, and finance, and applied econometrics

Nandini Ramesh Sankar  
**Ph.D - Cornell University, USA**  
Assistant Professor  
Research Areas: Modernism, Postmodernism, Visual Arts, Philosophy

Amrita Deb  
**Ph.D - BHU, Varanasi**  
Assistant Professor  
Research Areas: Positive psychology, clinical psychology and personality psychology

Prakash Chandra Mondal  
**Ph.D - IIT Delhi**  
Assistant Professor  
Research Areas: Theoretical Linguistics- Philosophy of Language -Cognitive Science

Srirupa Chatterjee  
**Ph.D - IIT Kanpur**  
Assistant Professor  
Research Areas: Contemporary and Multiethnic American Fiction, Gender and Body Studies

M.P. Ganesh  
**Ph.D - IIT Bombay**  
Assistant Professor  
Research Areas: Eco Friendly Behaviours, Cross-Cultural Collaboration, Virtual and Distributed Teams, Teacher Leadership, Mentoring Behaviour

Mahati Chittem  
**Ph.D - University of Sheffield, UK**  
Assistant Professor  
Research Areas: Psycho-oncology, illness beliefs, interpretative phenomenological analysis

Anindita Majumdar  
**Ph.D - IIT Delhi**  
Assistant Professor  
Research Areas: Kinship, Reproduction, Infertility, Gender, Sexuality, Medical Anthropology, Masculinities
**Books and Book Chapters**


**Publications**

**in peer reviewed journals**


**Funded Research Projects 2016-17**

Amrita Deb, Badri Narayan Rath (co-PI) Resilience and Mental Health among Young Urban Adults Who Have Overcome Childhood Adversities, ICMR, 1 March 2017, Rs. 11.2 Lakhs

Talks Given in National / International Conferences


M. P. Ganesh, M. Angeles, and P. Vázquez-Rodríguez, Individualism-Collectivism as Moderators Between Self-Efficacy and Intention to Mentor Among University Teachers in India and Spain, 23rd International Congress of International Association of Cross-Cultural Psychology held at Nagoya, Japan, 24 July - 4 August 2016.


Badri Narayan Rath, Lectures on Index of Industrial Production (IIP) and ASI Data, for Officers of the Directorate of Economics & Statistics, Department of Planning, Government of Maharashtra, Organized by ASCI Hyderabad, 29 July 2016.


K.P. Prabheesh, Time Series Econometrics, Centre for Economic and Social Studies (CESS), Hyderabad, 7-8 February 2017.


Talks/Presentations organized

Geographies of care and intimacy: Early insights from oral histories of informal sector migrants in Delhi and Hyderabad, Prof. Priti Ramamurthy, Professor and Chair of the Department of Gender, Women and Sexuality Studies at the University of Washington, Seattle, 17 August 2016.
Always Already Political? Furbishing an Archaeology of Rights in India, Dr. Amit Upadhyay, Faculty in the area of Public Policy, TISS, Hyderabad, 24 August 2016.

Handle with Care: Contributions of behavioural cardiology, Prof. Meena Hariharan, Founder Head of Centre for Health Psychology, University of Hyderabad, 14 September 2016.

Modeling coarticulation in dense coronal systems: Evidence from Malayalam, Dr. Indranil Dutta, English and Foreign Languages University (EFLU), Hyderabad, 28 September 2016.

Technoscience and Values, Prof. Prajit K. Basu, Professor Department of Philosophy, University of Hyderabad, 19 October 2016.

Full-blooded Desi Romance: Contemporary English-language Romance Novels in India, Dr. Kristen Rudisill, Bowling Green State University, US, 26 October 2016.

Memory, Storytelling and Agency: Through the Literary Glass, Dr. Avishek Parui, Department of Humanities and Social Sciences, IIT Guwahati, 2 November 2016.


De-kinning in the IVF Clinic: The Commodification of Eggs and Eggs Donors, Dr. Anindita Majumdar, Assistant Professor. Department of Liberal Arts, IIT Hyderabad, 11 January 2017.


The Role of Calling in Vocational Decision-making: A Recent Innovation in Career Psychology, Dr. John Stewart, Professor Emeritus, University of New Brunswick and Visiting Professor, Acadia Divinity College, 25 January 2017.

Understanding Desire, Family and Marriage: A Qualitative study of gay men in Odisha, India, Jayaprakash Mishra, PhD student, Department of Liberal Arts, IIT Hyderabad, 22 February 2017.

Feminist Research: Redefining Methodology in the Social Sciences, Prof. Aparna Rayaprol, Professor and Head, Department of Sociology, University of Hyderabad, 1 March 2017.

The formal creation of informality: How Government of India contributed to making women workers invisible and informal, Prof. Padmini Swaminathan, Professor in Tata Institute of Social Sciences, Hyderabad, 8 March 2017.

Informal workers and issues of health and health care, Dr. Mithun Som, researcher in Anveshi Research Centre for Women’s Studies, Hyderabad, 5 April 2017.


Other Events
Badri Narayan Rath organized the GIAN course on Applied Financial Modelling, IIT Hyderabad, 8-12 July 2016.

M.P. Ganesh organized the GIAN Faculty Development Programme titled Teacher Effectiveness in collaboration with Telangana Academy for Skill and Knowledge (TASK). This programme venue was at TASK premises, Begumpet, Hyderabad, 21-22 October 2016.

Shubha Ranganathan organized World Mental Health Day, 8-9 November 2016.

M.P. Ganesh organized the GIAN course on Social Network Theory, Prof. Israr Qureshi from IE Business School Spain offered the course, 17-23 December 2016.

M.P. Ganesh organized the GIAN course on Social Network Analysis, Prof. Israr Qureshi from IE Business School Spain offered the course, 18-23 December 2016.

M.P. Ganesh organized the TEQIP Teacher Effectiveness Workshop for Women Teachers, 3-4 March 2016.

Awards / Recognitions
The FY 2017-17 remained quite successful for the department of MSME on several fronts. More than 30 journal papers were published and several sponsored projects from government and private industries were awarded to the department. The department emerged successful in receiving a DST-FIST grant of 2.75 crores for procuring a state of the art scanning electron microscope. The department successfully organized a national and an international workshop during this period. In addition, several GIAN and TEQIP courses were organized by the department. The MSME research students continued to bring laurels to the department. One of the MSME PhD students received the prestigious Alexander Van Humboldt fellowship for carrying out postdoctoral research in Germany while another student received the prestigious Ludo Frevel crystallography scholarship for the year 2016. MSME faculty also received recognition in the form of guest editorial position in a leading international journal.
Pinaki Prasad Bhattacharjee
Ph.D – IIT Kanpur
Associate Professor & HoD
Research Areas: High Entropy Alloys, Thermo-mechanical Processing, Crystallographic Texture, Mechanical Behavior

Saswata Bhattacharya
Ph.D – IISc Bangalore
Assistant Professor
Research Areas: Microstructural evolution, Phase transformations, Phase-field modeling

Suhash Ranjan Dey
Ph.D – University Paul-Verlaine - Metz, France
Associate Professor
Research Areas: Titanium alloys – CIGS/ CZTS solar cells – Electrodeposition

Subhradeep Chatterjee
Ph.D – IISc, Bangalore
Assistant Professor
Research Areas: Phase Transformations, Electron Microscopy, Welding and Solidification Processing, Microstructural Modelling

Suhash Ranjan Dey
Ph.D – University Paul-Verlaine - Metz, France
Associate Professor
Research Areas: Titanium alloys – CIGS/CZTS solar cells – Electrodeposition

Subhradeep Chatterjee
Ph.D – IISc, Bangalore
Assistant Professor
Research Areas: Phase Transformations, Electron Microscopy, Welding and Solidification Processing, Microstructural Modelling

Bharat B. Panigrahi
Ph.D – IIT Kharagpur
Associate Professor
Research Areas: Powder Metallurgy, Sintering, nanocrystalline materials, light alloys, High Entropy alloys, Ceramics, Composites

Mudrika Khandelwal
Ph.D – University of Cambridge, UK
Assistant Professor
Research Areas: Bacterial cellulose and other natural materials- understanding structure, mechanism and applications, high performance green composites, liquid crystals and self-assembly of rod-like entities, fibre spinning, strategies for developing anti-fouling and anti-microbial materials, materials for tissue scaffolding

Rajesh Korla
Ph.D – IISc Bangalore
Assistant Professor
Research Areas: Deformation at room temperature, creep and superplasticity, micro mechanical deformation, molecular dynamic simulations, nano indentation

Atul Suresh Deshpande
Ph.D – Max-Planck Institute of Colloids and Interfaces - Potsdam, Germany
Assistant Professor
Research Areas: Material Synthesis, battery materials, solid state chemistry

Sai Rama Krishna Malladi
Ph.D – Technische Universiteit Delft, The Netherlands
Assistant Professor
Research Areas: In-situ Transmission Electron Microscopy, Electrochemistry & Corrosion
Patents Filed


Improved process for Wood derived Carbon - Metal oxide composites prepared by nanocasting of wood for electrode materials in lithium ion batteries, Janardhanan Revathi, Atul Suresh Deshpande, Tαtα Narasinga Rao, Indian Pat. Appl. (2016) 201611034531.

Publications (in peer reviewed journals)


G. D. Sathiaraj, P. P. Bhattacharjee, Che-Wei Tsai, and Jien-Wei Yeh, Effect of heavy cryo-rolling on the evolution of microstructure and texture during annealing of equiatomic CoCrFeMnNi high entropy alloy, Intermetallics, 69, 1-9 (2016).


Kumaraswamy Miriyala and Ranjith Ramadurai, Microstructural influence on piezoresistance and leakage current behavior of Na0.5Bi0.5TiO3 Thin Films, MRS Advances, 1-6, May 2016, 10.1557/adv.2016.350.


L. Hong, L. Liang, S. Bhattacharyya, W. Xing, and L-Q Chen, Anisotropic Li intercalation in LixFePO4 nanoparticle: a spectral smoothed boundary phase-field model, Physical Chemistry Chemical Physics, 18, 9537, 2016.


Suhash Ranjan Dey, Role of Aluminium addition in high strength interstitial free (IFHS) steel, TATA Steel, October 2016, Rs. 33.12 Lakhs.


Saswata Bhattacharya, Development of Modeling Techniques (Atomistic Monte Carlo and Phase-field simulations) to understand metallurgical phenomena in advanced high strength steels, TATA Steel, November 2016, Rs. 30.00 Lakhs.

Saswata Bhattacharya, Computational Microstructural Design of P/M Disk Superalloys using Phase Field Modeling towards Accelerated Alloy Design, DRDO-DMRL, March 2017, Rs. 34.00 Lakhs.

Saswata Bhattacharya, Accelerated Alloy Design and Processing Optimization Using Computational Thermodynamics and kinetics - Based Tools, Mishra Dhatu Nigam Limited (MIDHANI), March 2017, Rs. 63.00 Lakhs.

Subhradeep Chatterjee, Design, Manufacturing and Microstructural Analysis of Novel Hard Coatings on Titanium Produced by Welding.
Deposition Techniques, DST, 4 November 2016, Rs. 44.04 Lakhs.

Rajesh Korla, Evaluation of Creep Behavior of Alcocrenfimo O.5 High Strength High Entropy Alloy, ECR-SERB, Approved, Rs. 47.00 Lakhs.

Talks Given in National / International Conferences


M. Anandkumar, Atul Suresh Deshpande, Saswata Bhattacharya, and Ranjith Ramadurai, Entropy Stabilized Rare-Earth Based Oxide: Synthesis and Thermal Stability, MRS fall meeting, November 2016.


Bharat B. Panigrahi, MAX Phase Based High Temperature Materials, 4th International Conference on Advances in Materials & Materials Processing, 5-7 November, 2016.


Rahul B. Mane and Bharat B. Panigrahi, Comparative Study on Sintering Kinetics of As-Milled and Annealed CoCrFeNi High Entropy Alloy Powders, International conference on high entropy materials, Taiwan, 6-9 November 2016.


Invited Presentations

Combinatorial Substrate Epitaxy of oxide Thin Films, Dr. Wilfrid Prellier, Director of Research, CNRS laboratory of CRISMAT, Caen, France, 20 July 2016.

Can We Design New Engineering Materials?, Prof. Kamanio Chattopadhyay, IISc, Bangalore, 7 November 2016.

Workshops / Symposiums Organised

P.P. Bhattacharjee organized a special session on High Entropy Alloys During the NMD-ATM 2016, IIT Kanpur, India, 11-14 November 2016.

P.P. Bhattacharjee (Convener) and Dr. Subhradeep Chatterjee organized the workshop: Microstructure 2016, IIT Hyderabad, India, 8-9 December 2016.

P.P. Bhattacharjee (as one of the conveners) organized the International Workshop on High Entropy Materials (IWHEM 2017), IWHEM 2017, University of Hyderabad, India, 11-12 February 2017.

Other Events

Ranjith Ramadurai and Bharat B Panigrahi organized TEQIP workshop on Application of X-ray diffraction on Thin films and Bulk, IIT Hyderabad, India, 4-9 July 2016.


Suhash Ranjan Dey organized IO days course of Electron Microscopy: Basics and Applications (under MHRD, GIAN), IIT Hyderabad, India, 18-29 July 2016.

P.P. Bhattacharjee organized a one week course on Dislocation Theory for Mechanical Behavior of Metals by Professor N. Tsuji of Kyoto University, Japan under the GIAN framework, 12-16 December 2016.

Awards / Recognitions

P.P. Bhattacharjee, Invited as a guest editor a special issue of the journal Materials Chemistry and Physics (Elsvier) dedicated to High Entropy Alloys.

P.P. Bhattacharjee, G. Dan Sathiaraj PhD scholar, 2012-16 received the very competitive and prestigious Alexander Von Humboldt Postdoctoral Fellowship for two years (2017-19).

P.P. Bhattacharjee, I.S. Wani, PhD Scholar, 2014 received the Best Paper Award in ISRS 2016 and IWHEM 2017 conferences.

Ranjith Ramadurai, Bandi Mallesham, The Ludo Frevel crystallography scholarship for the year 2016. Mallesham was the only Indian student among the ten international students who received the award for the year 2016.

Saswata Bhattacharya, Tushar Jogi – Best student paper award in 7th International Conference on Creep, Fatigue and Creep-Fatigue Interaction, IGCAR, Kalpakkam, INDIA.

The Department of Mathematics began functioning in the year 2008. The Department is slowly but surely marching towards becoming a world class center for theoretical, applicable and interdisciplinary research.

Besides offering courses at the undergraduate and postgraduate levels for the Engineering students, the Department proposes to commence a new undergraduate program leading to B.Tech (Mathematics and Computing) in Aug 2017. The aim of this programme is to nurture students interested in studying Mathematics, but want to pursue their career in allied fields. The postgraduate program, M.Sc, offered by the Department consists of two streams, viz ‘Mathematics’ and ‘Mathematics and Computing’. A good number of former students have enrolled in the doctoral study in various disciplines of Mathematics both in India and abroad.

In addition to this, the Department offers a doctoral programme. The Department is committed to excellence in Mathematics by establishing research programs for meeting scientific and technological challenges faced by the ever changing, science centered world of the 21st century. The faculty members, being young and dynamic, work in different groups viz. Analysis, Number Theory, Applied and Computing etc, and actively collaborate with their counterparts from the other engineering departments.

Our aim is to produce highly sought after and knowledgeable post-graduates for pursuing careers with academia, industry and government.
D. Sukumar  
Ph.D – IIT Madras  
Assistant Professor & HoD  
Research Areas: Functional Analysis

Tanmoy Paul  
Ph.D – ISI Calcutta  
Assistant Professor  
Research Areas: Functional Analysis

C. S. Sastry  
Ph.D – IIT Kanpur  
Associate Professor  
Research Areas: Wavelets, Sparse representation theory and inverse problems

Venku Naidu  
Ph.D – IIT Madras  
Assistant Professor  
Research Areas: Harmonic Analysis

J. Balasubramaniam  
Ph.D – Sri Satyasai Institute of Higher Learning  
Associate Professor  
Research Areas: Connectives in Multivalued Logic, Approximate Reasoning, Some Issues in High Dimensional Data Analysis

Narasimha Kumar  
Ph.D – TIFR Bombay  
Assistant Professor  
Research Areas: Algebraic Number Theory

P. A. L. Narayana  
Ph.D – IIT Kharagpur  
Associate Professor  
Research Areas: Fluid Mechanics

Pradipto Banerjee  
Ph.D – University of South Carolina  
Assistant Professor  
Research Areas: Number Theory

G. Ramesh  
Ph.D – IIT Madras  
Associate Professor  
Research Areas: Functional Analysis/Operator Theory

Bhakti Bhusan Mannan  
Ph.D – TIFR CAM  
Assistant Professor  
Research Areas: Partial Differential Equation
Publications
(in peer reviewed journals)


D. Sukumar and S. Veeramani, Level sets of the condition spectrum, Annals of Functional Analysis 2017, 10.1215/20088752-0000016X.


Monica Clapp and Bhakti Bhusan Manna, Double single-layered sign-changing solution to a singularly perturbed elliptic equation concentrating at a single sphere, Communications in partial differential equations, 42(3), 474-490 (2017).

Talks Given in National / International Conferences


D. Sukumar, 4 Lectures on Fourier Series and Analysis: Short Term Program on Complex Analysis, Fourier Analysis and Special Functions, IIT Roorkee, 6-10 March 2017.

Bhakti Bhusan Manna, Concentration Results of Solutions of Some Semilinear Elliptic Problem, Department of Mathematics, IIT Kharagpur, 16 March 2017.

**Invited presentations**

Completely positive hypergroup actions, Professor Ajit Iqbal Singh, Indian National Science Academy, Delhi, 5 September 2016.

The simple harmonic oscillator, Professor Leach, University of Natal, Durban, 7 February 2017.

Far field boundary conditions and their approximations, Professor Vasudeva Murthy, TIFR CAM, 15 March 2017.
The Department of Mechanical & Aerospace Engineering had a very productive year in terms of academics and research. The department graduated 43 BTech, 37 MTech and 2 PhD students. A revised curriculum of 129 credits was introduced at BTech level. This curriculum not only gives a strong foundation in Mechanical Engineering, it also gives flexibility to the students to take a wide range of courses above and beyond the core requirement of Mechanical Engineering. The focus is to produce well rounded engineering graduates who are now equipped to take on the technical opportunities offered by the society.

Faculty and their research groups have been engaged in cutting edge research. Faculty have attracted several new research grants in the last financial year. The department attracted Rs. 250 lakhs to procure high end research equipment under the FIST program of DST to setup. Additionally, the department spent approximate Rs.350 lakhs in augmenting current research facilities through institute funds. Faculty strength continues to grow. Dr Mahesh MS is the newest faculty to join the department. His research interest is in Fluid Structure Interaction, Aero-elasticity and Aero-acoustics.
Raja Banerjee
Ph.D – University of Missouri Rolla - USA
Associate Professor & HOD

K. Venkatasubbaiah
Ph.D – IIT Kanpur
Associate Professor
Research Areas: Computational Heat Transfer and Hypersonic Flows

V. Eswaran
Ph.D - State University of NY at Stony Professor
Research Areas: Computational fluid dynamics and heat transfer, Finite volume methods, Turbulence modelling

M. Ramji
Ph.D – IIT Madras
Associate Professor
Research Areas: Composite structures, Fracture Mechanics, Damage Mechanics, Adhesive Bonded Joint

N Venkata Reddy
Ph.D - IIT Kanpur
Professor
Research Areas: Digital Fabrication and Predictive Modelling of Manufacturing Processes

S Suryakumar
Ph.D – IIT Bombay
Associate Professor
Research Areas: Additive Manufacturing, CNC Machining, Manufacturing

Abhay Sharma
Ph.D – IIT Roorke
Associate Professor
Research Areas: Manufacturing Processes, Welding Engineering - arc behavior, wire arc additive manufacturing, and friction stir welding and processing of metallic and non-metallic materials, vibration assisted welding, Sustainable Manufacturing

B. Venkatesham
Ph.D - IISc, Bangalore
Associate Professor
Research Areas: Acoustics & Vibration

Ashok Kumar Pandey
Ph.D - IISc, Bangalore
Associate Professor
Research Areas: Linear and Nonlinear Vibrations, Vehicle Dynamics, MEMS

Gangadharan Raju
Ph.D – IISc, Bangalore
Assistant Professor
Research Areas: Non-destructive testing and Evaluation, Structural Health monitoring, Analysis and design of Composite Structures

Chandrika Prakash Vyasarayani
Ph.D – University of Waterloo, Canada
Associate Professor
Research Areas: Stability, MEMS, Structural dynamics, Delay differential equations

Harish N Dixit
Ph.D – Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
Assistant Professor
Research Areas: Moving contact lines, drops, thin films, vortex dynamics
Karri Badarinath  
Ph.D - National University of Singapore  
Assistant Professor  
Research Areas: Bubble-dynamics, cavitation, High-speed imaging

Saravanan Balusamy  
Ph.D - University of INSA of Rouen, France  
Assistant Professor  
Research Areas: Combustion, Optical Diagnostics, Fluid Mechanics

Mahesh M. S.  
Ph.D - UIUC, USA  
Assistant Professor  
Research Areas: Computational Mechanics, Aeracoustics, Aeroelasticity

Syed Nizamuddin Khaderi  
Ph.D - University of Groningen, Netherlands  
Assistant Professor  
Research Areas: Computational solid mechanics, fluid structure interaction

Pankaj Sharadchandra Kolhe  
Ph.D - The University of Alabama, USA  
Assistant Professor  
Research Areas: Spray and Combustion Diagnostics, IC engines, Alternative Fuels

Viswanath R Chinthapenta  
Ph.D - Brown University, USA  
Assistant Professor  
Research Areas: Solid Mechanics

Prashant Saxena  
Ph.D - University of Glasgow, Scotland, UK  
Assistant Professor  
Research Areas: Electromagnetic interactions in solids; Instability analysis; Nonlinear Continuum Mechanics

V. K. Saraswat  
DAE Homi Bhabha Chair  
Former Secretary, Dept. of Defence R&D (GoI), Scientific Advisor to Raksha Mantri, Director General of DRDO & ADA

CHAIR PROFESSOR
Publications
(in peer reviewed journals)


M. J. Jose, S. Surya Kumar, and Abhay Sharma, Vibration assisted welding processes and their influence on quality of welds, Science and Technology of Welding and Joining 21(4), 243-258 (2016).


S. Surya, R. Gangadharan, and C.P. Vyasarayani, Parametric instabilities of variable angle tow composite laminate under axial compression, Composite Structures, 166, 229-238 (2017).


Surya Samukham, Gangadharan Raju, and C. P. Vyasarayani, Parametric instabilities of variable angle tow composite laminate under axial compression, Composite Structures, 166, 229-38 (2017).


**Publications (full paper)**

**(in peer reviewed conferences)**

Matta Seshadri, and M. Ramji, Numerical and experimental analysis of double sided stepped lap repaired CFRP Laminates under tensile loading, First Structural Integrity Conference and Exhibition (SICE-2016), Hotel Le Meridian, Bengaluru, 4-6 July 2016.

Muhammad Shuaib, Naresh Reddy Kolanu, M. Ramji, and Gangadharan Raju, Experimental buckling and post-buckling analysis of CFRP composite panel using digital image correlation technique, First Structural Integrity Conference and Exhibition (SICE - 2016), Hotel Le Meridian, Bengaluru, 4-6 July 2016.

Madhava Yarlagadda, M. Ramji, and Gangadharan Raju, Experimental study on buckling behavior of CFRP stiffened panels involving digital image correlation, First Structural Integrity Conference and Exhibition (SICE-2016), Hotel Le Meridian, Bengaluru, 4-6 July 2016.

Prataprao H. Patil, Syed N. Khaderi, and M. Ramji, Strain intensity factor and interaction of parallel rigid line inclusion in elastic matrix using FEA, First Structural Integrity Conference and Exhibition (SICE-2016), Hotel Le Meridian, Bengaluru, 4-6 July 2016.

Yashdeep Nimje and Gangadharan Raju, Partial delamination detection and quantification in composite laminates using Laser Doppler Vibrometer, First Structural Integrity Conference and Exhibition (SICE-2016), Hotel Le Meridian, Bengaluru, 4-6 July 2016.

Sukanta Das and Gangadharan Raju, Damage growth study in unidirectional CFRP composites using infrared thermography, First Structural Integrity Conference and Exhibition (SICE-2016), Hotel Le Meridian, Bengaluru, 4-6 July 2016.


Jayprakash Sharma Panchagnula, Surya Kumar Simhambhatla, Abhay Sharma, Thermal management in manufacture of thin-walled components produced by arc-based additive manufacturing, 10th International Conference on Trends in Welding Research in Tokyo, Japan, 11-14 October 2016.

Syed Quadir Moinuddin and Abhay Sharma, On Melting Efficiency in Anti-Phase Synchronized Twin-wire Gas Metal Arc Welding, 10th International Conference on Trends in Welding Research in Tokyo, Japan, 11-14 October 2016.


Talks Given in National / International Conferences

Ashok Kumar Pandey, Teaching Beyond the Class, IIT Hyderabad, 1 April 2016.

Ashok Kumar Pandey, Teaching Beyond the Class: Flip Teaching, V.N.R. Vignana Jyothi Institute of Engineering and Technology, Bachupally, Hyderabad, 19 May 2016.


Ashok Kumar Pandey, Mems and Nems in Ground Vehicles, Vardhaman College of Engineering, Shamshabad, Hyderabad, 16 June 2016.


Kale Mohini and Viswanath R. Chinthapenta, Progressive Damage Analysis of Cfrp Composites Using High Fidelity Generalized Method of Cells, Structural Integrity Conference & Exhibition (SICE), Bangalore, 4-6 July 2016.


Ashok Kumar Pandey, Modeling of Temperature Effect on Tire Forces and Moments Under Different Operating Conditions, Multibody dynamics simulation organized by PROSIM, Bangalore at IISc Bangalore, 20-21 September 2016.

Jayaprakash Sharma Panchagnula, Surya Kumar Simhambhatla, and Abhay Sharma, Thermal Management in Manufacture of Thin-Walled Components Produced by Arc-Based Additive Manufacturing, 10th International Conference on Trends in Welding Research in Tokyo, Japan, 11-14 October 2016.


N. V. Reddy, Research at IIT Hyderabad and Collaboration with Japan, Shizuoka University International Symposium 2016-Enhanced Interdisciplinary Domain Research through Partnership with Asian Countries, Hamamatsu, 8-9 December 2016 (Key Note).


Ashok Kumar Pandey, Linear and Nonlinear Dynamics of Mems Devices, Gokaraju Rangaraju Institute of Engineering and Technology (GRIET), Bachupally, 23 March 2017.


Funded Research Projects 2016-17

M Ramji, Fatigue Life Assessment of Upgraded MiG-29 Landing Gears, 11 BRD, Indian Air Force, April 2016, Rs. 33.00 Lakhs.

B Venkatesham, Development of Low Frequency Noise Control Sheet Absorber: A Biomimetic Solution, DST-TSDP, April 2016, Rs. 80.8 Lakhs.

Sarvanan Balusamy, Experimental Studies on Swirl-Stabilized Turbulent Premixed and Stratified Dimethyl Ether/Air Flames using Laser Diagnostic Techniques, SERB, 1 June 2016, 42.98.


Karrii Badarinath, Experimental Studies in Bubble Dynamics - Rising Bubble Dynamics and Characterization of Sprays From Bubble Induced Impinging Jets, DST, 14 June 2016, Rs. 35.26 Lakhs.

Mahesh M.S., Numerical Simulation of Penetration Characteristics of Preformed Fragments, Armament Research Board, June 2016, Rs. 17.71 Lakhs.

N Venkata Reddy, Development of Electric Pulse Aided Bending and Roll Forming Processes, UAY Project, MHRD, DHI and TATA STEEL, October 2016, Rs. 100.00 Lakhs.

N Venkata Reddy, Development and Validation of Predictive Models for Forming of Large Components using Double Sided Incremental Forming and Studies on Difficult to Form Materials using Hybrid Approaches, SERB DST, September 2016, Rs. 75.00 Lakhs.


Viswanath R Chinthapenta, Void growth modeling in BCC steels using CPFEM, ECR, 29 March 2017, Rs. 28.25 Lakhs.

Syed Nizamuddin Khaderi, Numerical Analysis of Blast Loading due to Explosions in Sand, ECR

Syed Nizamuddin Khaderi, High Strain Rate and High Temperature Material Characterization Lab Establishment, Industrial.

Workshops / Symposiums Organised

Dr. Prashant Saxena organized First Solid Mechanics Symposium at IITH, Talks were given by 10 faculty members of IIT Hyderabad on a range of research topics related to smart materials, composites, concrete and phase field modelling, 24 September 2016.

The 10th edition of the Complex Fluids symposium, CompFlu, was organized at Hyderabad in December 2016 under the aegis of Indian Society of Rheology. The meeting was jointly organized by four major research institutions in Hyderabad: IIT Hyderabad, TIFR Centre for Interdisciplinary Sciences, University of Hyderabad and International Institute of Information Technology and was held at IIIT Hyderabad. Dr Harish N Dixit was one of the organizer of the symposium.

Other Events

Syed Nizamuddin Khaderiwas conducted TEQIP course on finite element analysis, 13-18 June 2016.

Ashok Kumar Pandey, Chandra Sekhar Sharma, Prem Pal, Siva Vanjari and Shiv Govind Singh were organized TEQIP workshop on MEMS and NEMS (Design and Fabrication)at IIT Hyderabad, 21-26 October 2016.

Gangadharan Raju was conducted TEQIP course on infinite element analysis with application to composite structures, 13-18 March 2017.
Pankaj Sharadchandra Kolhe was conducted TEQIP workshop on Internal Combustion Engines: Theory, Modeling and Diagnostics, 20-24 March 2017.

**Awards / Recognitions**

Angshuman Kapil, Associate Engineers Award-2016 for best M.Tech thesis (Supervisor: Dr. Abhay Sharma) by Indian Institute of Welding, December 2016.

Angshuman Kapil, Associate Engineers Award-2016 for best M.Tech thesis by Indian Institute of Welding, December 2016.

Ms Kale Mohini, MTech (2014-16) - 3rd Best Poster Award for paper on Progressive damage analysis of CFRP composites using high fidelity generalized method of cells, Structural Integrity Conference & Exhibition (SICE), Bangalore, 4-6 July 2016.
The department of physics had success at academic as well as research fronts during the FY 16-17. Department has been successfully mentoring IIT Bhilai. In academics, 1st batch of B. Tech in Engineering Physics graduated with strength of 6 students. Apart from that, department also graduated 17 M.Sc and 1 PhD students. A dedicated optics teaching laboratory has been developed for third year engineering physics students.

In research, during last financial year, department received infrastructural grant from FIST – DST, worth 200 lakhs. In addition, faculties have been successful in bringing sponsored projects from external agencies such as DST, DSIR, DAE and CSIR. During the last year, faculty of the department have published nearly 47 international journals and also conducted some workshop/conferences. One of the physics faculty also received prestigious Ramanujan fellowship.
Anjan Kumar Giri  
Ph.D - Utkal University  
Professor & HoD  
Research Areas: Flavour Physics & CP violation, Neutrino Physics

Suryanarayana Jammalamadaka  
Ph.D - IIT Madras  
Associate Professor  
Research Areas: Magnetic materials, spintronics, mesoscopic physics, thin films / device physics, magnetic nanoparticles, Graphene, magnetostrictive sensors, photovoltaics, non volatile memory

Prem Pal  
Ph.D - IIT Delhi  
Associate Professor  
Research Areas: MEMS, Silicon Micromachining, Thin film for MEMS, Wet anisotropic etching

Vandana Sharma  
Ph.D - PRL, Ahmedabad  
Assistant Professor  
Research Areas: Ultrafast atomic and molecular dynamics, Particle X-ray Generation, Nanoparticle beam Generation, Table top light source Generation

Bhuvanesh Ramakrishna  
Ph.D - The Queens University of Belfast, UK  
Assistant Professor  
Research Areas: Laser plasma

Anurag Tripathi  
Ph.D - Harish Chandra Research Institute,  
Assistant Professor  
Research Areas: High Energy Physics, Perturbative Quantum Chromodynamics, Infrared Structure of Gauge Field Theories

Saket Asthana  
Ph.D - IIT Bombay  
Associate Professor  
Research Areas: Functional Oxide Materials, Piezoluminescence, Magneto-luminescence

Jyoti Ranjan Mohanty  
Ph.D - Humboldt University, Germany  
Assistant Professor  
Research Areas: Nanomagnetism, Perpendicular magnetic anisotropy material, Exchange Bias, micromagnetics, Ultrafast magnetism, Magnetic nanostructure, High resolution magnetic imaging, Magnetic sensor

Venkatakrishnan Kanchana  
Ph.D - Anna University  
Associate Professor  

Raghavendra Srikant Hundi  
Ph.D - Harish Chandra Research Institute  
Assistant Professor  
Research Areas: Physics beyond standard model, Neutrino masses

Manish K. Niranjan  
Ph.D - University of Texas at Austin, USA  
Associate Professor  
Research Areas: Theoretical condensed matter Physics, Electronic Structure, Surface and interface Physics, Quantum Transport

Raavi Sai Santosh Kumar  
Ph.D - University of Hyderabad  
Assistant Professor  
Research Areas: Optical spectroscopy of Energy harvesting materials

Shantanu Desai  
Ph.D - Boston University, USA  
Associate Professor  
Research Areas: Particle Astrophysics, Cosmology, Astrostatistics

Narendra Sahu  
Ph.D - IIT Bombay  
Associate Professor  
Research Areas: Dark matter phenomenology, Neutrino mass, Baryon asymmetry of the Universe
Shubho Ranjan Roy
Ph.D – Brown University, USA
Assistant Professor
Research Areas: String Theory, Classical and Quantum Gravity, Quantum Field Theory

Arabinda Haldar
Ph.D – IIT Bombay
Assistant Professor
Research Areas: Magnon spintronics, Nanomagnetic devices, Imaging spin waves at the nanoscale using Brillouin light scattering spectro-microscopy, Ferromagnetic resonance, Thin film nanofabrication (Lithography), Functional magnetic materials.

Priyotosh Bandyopadhyay
Ph.D – Harish-chandra Research Institute, Allahabad
Assistant Professor
Research Areas: Physics at the LHC, Higgs physics, Supersymmetry, Neutrinos and dark matter
Publications
(in peer reviewed journals)


Ashok and Prem Pal Silicon micromachining in 25 wt% TMAH without and with surfactant concentrations ranging from ppb to ppm, Microsystems Technologies, 23, 2017, pp. 47-54.


G. Vaitheeswaran, V. Kanchana, Xinxin Zhang, Y. Ma, A. Svane and N. E. Christensen Calculated high-pressure structural properties, lattice dynamics and quasi particle band structures of perovskite fluorides KZnF3, CsCaF3 and BaLiF3, J. Phys. Condens. Matter, 28, (2016) 315403.


S. Desai, Frequentist model comparison tests of sinusoidal variations in measurements of Newton’s gravitational constant, EPL, 115, 2016, 20006.


Priyotosh Bandyopadhyay, Claudio Corianò, Antonio Costantini General analysis of the charged Higgs sector of the Y=0 triplet-singlet extension of the MSSM at the LHC, Phys.Rev. D94 (2016) no.5, 055030.

Priyotosh Bandyopadhyay, Claudio Coriano, Antonio Costantini, Luigi Delle Rose, Bounds on the Conformal Scale of a Minimally Coupled Dilaton and Multi-Leptonic Signatures at the LHC, JHEP 1609 (2016) 084.


Publications
(in peer reviewed conferences)

Funded Research Projects 2016-17

Vandana Sharma, Isomerization followed by fragmentation in He and Ne nanodroplets, ICTP-DST, 68000 Euros, 23rd Feb 2017.

Vandana Sharma, Designing and fabrication of an aerodynamic lens for nanoparticles of variable size, DSIR Rs. 5120160/–, 1st Feb 2017.

Vandana Sharma, Designing and fabrication of Laser Phasemeter, DAE- BRNS, Rs 35,00,000/–, 1st March 2017.

Sai Santosh Raavi, Photoluminescence studies on rare-earth modified lead-free ferroelectric ceramics, CSIR, Rs. 20,60,000/–, 1/6/2016.

Talks Given in National / International Conferences


Prem Pal, Fabrication of Silicon Based MEMS/ NEMS, Short Term Training Programme on “Nano, Micro and Bulk Material Processing and Nanotechnology” (STTP), Gokaraju Rangaraju Institute of Engineering and Technology (GREIT) Hyderabad, Telangana, 20-26 March 2017.


Kumara Raja Kandula, Sai Santosh Kumar Raavi, Saket Asthana, Enhancement in electrical and optical properties by substitution of lanthanides in lead free Na0.5Bi0.5TiO3 ceramic, International Conference on Technologically Advanced Materials and Asian Meeting on Ferroelectricity (ICTAM-AMF10), 7th-11th Nov. 2016, at University of Delhi, Delhi, India.

Saket Asthana, Strategies to improve physical properties in Eco-friendly materials, International Conference on New Scintillations on Materials Horizon (ICNSMH-2016), 21st -23rd Oct 2016 at MJP Rohilkhand University, Bareilly, India.

Saket Asthana, Strategies to improve physical properties in Eco-friendly materials through cation engineering, National Seminar (UGC- Autonomy Grant) on Applications of Nanomaterials in Energy and Environment17-18 August 2016 at A.S.D.Govt. Degree College For Women (A) Kakinada, AP, India.


V. Kanchana, “First principles study on Zr2TiAl and Mn-based Magnetic compounds under compression”, International Conference on Magnetic Materials and Applications (ICMAGMA), Hyderabad, during 1st -3rd February, 2017.

V. Kanchana, “ZnGeSb2 : A promising thermoelectric material with tunable ultra high
innovation drives the world

conductivity”, the national conference of electron spectroscopy (NCES) at Toshali Sands, Puri, Odisha during 22nd -22th December 2016.


S. Narayana Jammalamadaka, Talk delivered on “Conductance switching and tunneling characteristics of remotely controlled magnetostriction-based nanocontacts” at ICMAGMA 2017, on 1st Feb 2017.


Anurag Tripathi, Next to leading order calculations in QCD, Collider Physics: Events, Analysis and QCD, Guwahati 27-31 March 2017.


Workshops / Symposia Organised

Prem Pal, Six days TEQIP Workshop on MEMS and NEMS (Design & Fabrication), Oct. 21-26, 2016, Indian Institute of Technology Hyderabad.

S. Narayana Jammalamadaka, Organizing member, International conference on magnetic materials and applications (2017) jointly organized by Defence Metallurgical Research Laboratory (DMRL), Hyderabad and Magnetics Society of India (MSI) during February 1-3, 2017 at Hyderabad, India.

Sai Santosh Raavi, Co-Convenor for National Conference on Recent Advances in Optical Sciences-II (RAOS-2016), University of Hyderabad, Hyderabad, May 6-7, 2016.

Quantitative Measurement of Graphene Physical Properties by SPM, Dr. Yogesh Jeyaram, Bruker
Nanosurface Division, Bangalore, 01-06-2016.


Dark energy and its effects on black holes and other cosmic structures, Dr. Sourav Bhattacharya, IUCAA, 11-July-2016.

NPN Punchthrough Diode Selector for Crosspoint Memory Applications, Dr. V. S. Senthil Srinivasan, University of Stuttgart, Germany, 15-07-2016.


Cosmological Inflation and Primordial Magnetic Fields, Dr. Rajeev Kumar Jain, University of Southern Denmark, 24-08-2016.

Ultrafast studies in two dimensional (2D) materials, Dr. BalaMurali Krishna Mariserla, Okinawa Institute of Science and Technology, Japan, 21-12-2016.


Stochastic Thermodynamics, Fluctuation Theorems and optimal protocols, Dr Sourabh Lahiri, International Centre for Theoretical Sciences, TIFR, Bangalore, 15-03-2017.

Dynamical scaling in triple-well model Landau free energy, Dr N. Shankaraiah, TIFR Centre for Interdisciplinary Sciences, TIFR-Hyderabad, 22-03-2017.

Amorphous Materials with Magnetic Degrees of Freedom, Dr. Bhaskar Sen Gupta, Max Planck Institute for Polymer Research, Mainz, Germany, 24-03-2017.

Artificial atoms interacting with photons and phonons, Dr. Baladitya Suri, Chalmers University of Technology, Gothenburg, Sweden, 23-11-2016.

Other Events

Prem Pal, Six days TEQIP Workshop on MEMS and NEMS (Design & Fabrication), Oct. 21-26, 2016, Indian Institute of Technology Hyderabad.

Awards / Recognitions

Raavi Sai Santosh Kumar - Travel grant from IITH-JICA friendship program to visit Japan during December 5-17, 2016.

Ramanujan Fellowship by Dr. Arabinda Haldar.
The 8th edition of Elan, the cultural festival of IITH and 5th edition of nVision, the technical festival of IITH was conducted on a grand scale from 20-22 January. This year Elan and nVision were complementarily themed as ‘Medieval Rampage’ and ‘The Future Tech’ respectively. In addition to the spectacular cultural programs, a program for cultural awareness and career guidance for the students of ZPHS school and cloth donation by the NSS team of IITH were also organized. This year’s program had a spectra of events such as Manthan (fusion competition), Nitranjali, Walk the ramp (auditions for Femina Miss India beauty pageant), Vibrazione, Octave, RoboQuidditch, Robo soccer, and quizzing. The highlight of the cultural show was the Pro-nite and EDM nite with Benny Dayal and Nikhil Chinapa.
All India Off Road Designing and Racing Competition (BAJA)

A team of students from IIT Hyderabad has participated in the competition for the past 3 years. The team works round the year in designing and building their race car. The car is then self-fabricated by students, with critical inputs from faculty members of MAE and team alumni who still support the team in one way or other. The team has been performing well every year, and has a target to win the competition in the 6th year of its participation (i.e., by 2019). With each car that has been built, the team is producing results in the right direction towards achieving its target. Most of the car assemblies are now designed and fabricated by students themselves, exposing them to the practical side of mechanical engineering. Right from choosing the bolt and nut to the roll-cage design, everything is done hands-on. The team develops a CAD model, analyzes it using various CAE tools and the cycle continues, till it satisfies the targets for the competition. With unconditional support from the department in every form, the facilities in central workshop is utilized for fabrication. An added benefit is that the students learn management of resources, time, discipline, honesty, while excelling in academics and placements.
INNOVATION DRIVES THE WORLD
The year started with training the students on Medical and First Aid with the help of institute’s hospital staff. In August, the student members of NSS welcomed the freshmen for orientation program and kick-started the fortnight celebrations of Independence Day with a Blood Donation and Cloth Donation Drives. More than 160 volunteers participated in various activities organized by NSS IITH. To support the mission of Clean India, NSS IITH organized Swacch Bharath Campaign every semester. NSS IITH also celebrated Gandhi Jayanti and Children’s Day and shared the vision of those leaders lead India to independence. NSS IITH supported Open Day, Vidyadaan, organized for rural school children. It also supported the ITDA Start-30 visit to get first-hand experience of the state of the art research happening at IITH. Both the programs were aimed at inculcating scientific temper in school children.

On the festive day of Diwali, Cloth Collection Camps were organized in six locations in and around Hyderabad. Following the motto Not Me But You to the truest sense, in an orphanage visit, NSS IITH stood firmly in assuring the destitute children a hope of togetherness and happiness.
International Day of Yoga

IIT Hyderabad, sports department and NSS cell has organized second International Day of Yoga Fest 2016 from 16 to 21 June. On 16 June started with the lightning of lamp by Dr. Prem Pal, Dean Students at UDDH. It was followed by yoga practice with meditation and pranayama. From 17th to 20th June daily at D block terrace between 8:00 to 9:00 AM the yoga experts demonstrated deferent asanas to all the participants regularly. On 21st June, Second International Day of Yoga, started at UDDH by Prof. U B Desai, Director IIT with a speech about yoga and its uses in practicing on a daily basis. It followed by practicing of yoga asanas and meditation demonstrated by yoga experts. Later there was short speech followed by vote of thanks by Dr S G Singh, Chairman Sports.
Sports 2016-17

With strength of around 600 students, the National Sports Organization started its full-fledged program for the academic year 2016-17 in the month of August. The list of events goes as follows:

Friendship Race

It was conducted on 6 August 2016 as a part of freshmen interaction on the eve of International Friendship day. It had a huge participation of around 500 students, staff and faculty with their family members. Prizes for the event were distributed on the eve of Independence Day.

Inter-IIT Sports Meet 2016

Camp for Inter-IIT Sports Meet 2016 started on 30 November with a total participants of 113 in various events like Badminton (M&W), Basketball (M&W), Cricket, Football, Hockey, Lawn Tennis (M&W), Table Tennis (M&W), Volleyball (M&W) and athletic events. Inter-IIT Sports meet 2016 held at IIT Kanpur from 12 to 19 December.
Intramural Sports

Informal leagues for badminton, basketball, cricket, hockey, volleyball, table tennis and football were conducted. The 9th annual sports meet was Inter-year. We organised Inter-Year Sports Meet in which UG, PG and staff participated better than ever and made students compete in the same level as in Inter-IIT Sports Meet. It covered all the team events along with athletic events as that of the Inter-IIT sports meet. Prizes were distributed on Gymkhana day.

Interaction Matches

As major part of freshmen interaction program, football, cricket, volleyball, basketball, badminton etc were conducted from the date of registration till 10 August 2016.

NSO

Our first NSO interaction with fresh men was conducted on 3 August. The main aim of NSO, IIT Hyderabad is to inculcate sportive spirit in the students. With six coaches in total for various events and sports equipment for about eight team events, aquatics and athletics, it has been and is functioning smooth. New registrations for NSO were invited from the freshmen. After enrolment, NSO hours have been conducted on every Wednesday and Friday for all the NSO registered B.Techs.

Run for Unity

It was organized on 31 October 2016 on the eve of Rashtriya Ekta Diwas. It had huge participation from students, faculty and staff.

Friendly tournaments

Students of IIT Hyderabad have played friendly practice matches with institutes like BITS Hyderabad, GITAMS Hyderabad, Medak District teams and ODF employees’ team.

Students also participated in friendly tournaments with CBIT, IIT Hyderabad, BITS Hyderabad etc.
Gymkhana Day

On 11 April, prizes were distributed for winner teams of various events and rolling shield for General Champion Ship for the 4th year which bagged highest points in inter year sports meet- 2017. Mementos for Sports person of the year and for the best athlete were also given.