खम्मा घणी...!!

भारतीय प्रौद्योगिकी संस्थान जोधपुर



Khamma Ghani...!!

Indian Institute of Technology Jodhpur

आरम्भ!!

वर्ष 2018 का दूसरा पहर संस्थान के लिए उपलब्धि पूर्ण रहा। इस पहर में संस्थान ने चौथा दीक्षांत समारोह उल्लास पूर्वक मनाया। मानव संसाधन विकास मंत्रालय द्वारा संस्थान के नये अध्यक्ष, अभिशासक मंडल, निदेशक एंव परिषद के मनोनीत सदस्यों की नियुक्ति की गई। इस अविध के दौरान संकाय सदस्यों द्वारा प्रस्तावित 7 नए प्रायोजित अनुसंधान परियोजनाओं को स्वीकृति भी मिली तथा संकाय सदस्यों द्वारा लिखे गए 62 जर्नल शोधपत्र, 09 प्रीप्रिंट, 15 कान्फ़रेस पेपर, 1 पुस्तक अध्याय तथा 1 संपादित पुस्तक शामिल हैं। संस्थान ने 04 संकाय सदस्य, 04 प्रशासनिक एवं 01 तकनीकी सदस्यों को परिवार में जोड़ा। इस अविध के दौरान संकाय सदस्यों द्वारा संस्थान में विभिन्न बाह्य गतिविधियों (Outreach) का आयोजन किया गया।

कामना है कि नववर्ष 2019 हम सबके लिए प्रगतिशील एवं मंगलकारी रहे तथा संस्थान नये शैक्षणिक मापदंड स्थापित करने में सफल रहे।

क्षेमा प्रकाश (संपादक)

BIG NEWS

Appointment of new Chairman, Board of Governors, IIT Jodhpur



Dr. R. Chidambaram, Former Principal Scientific Advisor, Government of India, and DAE - Homi Bhabha Chair Professor at Bhabha Atomic Research Centre, Bombay, is appointed as Chairman, Board of Governors, IIT Jodhpur. The Institute welcomes him warmly to its Board of Governors

Professor Santanu Chaudhury assumes charge as Director, IIT Jodhpur



Professor Santanu Chaudhury, Professor, Department of Electrical Engineering, IIT Delhi, has assumed charge as Director, IIT Jodhpur, on 10 December 2018. Professor Chaudhury holds B.Tech. (Electronics and Electrical Communication Engineering) and Ph.D. (Computer Science & Engineering) Degrees from IIT Kharagpur.

Professor Chaudhury joined as Faculty Member in the Department of Electrical Engineering, IIT Delhi, in 1992. He was Dean, Under-Graduate Studies at IIT Delhi. He has served as Director of CSIR-CEERI, Pilani, during 2016-18. Professor Chaudhury is a recipient of the Distinguished Alumnus award from IIT Kharagpur.

Professor Chaudhury is a Fellow of Indian National Academy of Engineers (INAE) and National Academy of Sciences (NAS). He is a Fellow of International Association Pattern Recognition (IAPR). He was awarded the INSA (Indian National Science Academy) Medal for Young Scientists in 1993. He received ACCS-CDAC award for his research contributions in 2012.

A keen researcher and a thorough academic, *Professor Chaudhury* has about 300 publications in peer reviewed journals and conference proceedings, 15 patents and 4 authored/edited books to his credit.

Appointment of new Members of the Board of Governors, IIT Jodhpur

The Board of Governors of IIT Jodhpur has been reconstituted with 4 new Members, namely:

- 1. Additional Secretary (Technical Education), Ministry of Human Resource Development, Government of India, New Delhi;
- 2. Narpat S. Shekhawat, Former Professor (Plant Technology), Jai Narayan Vyas University, Jodhpur;
- 3. Akhil Ranjan Garg, Professor (Electrical Engineering), Jai Narayan Vyas University, Jodhpur; and
- 4. Anil Bhavarlal Jain, Vice Chairman, MD & CEO, Jain Irrigation Systems, Jalgaon.

4th Convocation

The 4th Convocation of Indian Institute of Technology Jodhpur was organized on 25 August 2018 in its Permanent Campus. The Chief Guest for this momentous occasion was Dr. Srikumar Banerjee, Chancellor, Homi Bhabha National Institute, Mumbai. Dr. R. Chidambaram, Chairman, Board of Governors, IIT Jodhpur (and former Principal Scientific Advisor to Government of India), presided over the ceremony. In this 4th Convocation, the Institute awarded 388 degrees – 289 B.Tech, 37 M.Sc, 43 M.Tech and 19 Ph.D. degrees, consisting of students who graduated in 2017 and 2018 together. With this the total number of students who graduated from this Institute has reached 1,108.

On 25 August 2018, 267 of these 388 students received their degrees in person in the presence of their parents and family members. Also, the academically outstanding students received medals and certificates.

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Dr. R. Chidambaram, Chairman, Board of Governors, IIT Jodhpur, addressing the gathering



Chief Guest's Address by Dr. Srikumar Banerjee, Chancellor, Homi Bhabha National Institute, Mumbai



Kartik Venkata Ramachandruni receiving the 2018 Chairman, Board of Governors Prize



Vijay Kumar Paliwal receiving the 2018 President's Gold Medal



August Gathering at the 4th Convocation

INSTITUTE EVENTS

Opening Ceremony of Children's Library @ The Learning Hub, IIT Jodhpur

The Learning Hub, IIT Jodhpur, has started a Children's Library under its umbrella for children of IIT Jodhpur fraternity on the occasion of 72nd Independence Day Celebration. The Children's Library was formally opened by Dr. (Mrs.) Bharti Swami, Principal, Vidhyashram International School, Jodhpur. On this occasion, Gp. Capt. (Rt.) S. K. Sharma, Director, Vidhyashram International School, Jodhpur, Professor C. V. R. Murty, Director, IIT Jodhpur, Professor Kirankumar R. Hiremath, Chairman, Library Committee of IIT Jodhpur, and invited guests from outside of the Institute and children of IIT Jodhpur employees along with their Parents were present and became witness of the historical moment. Professor Kirankumar R. Hiremath, in his closing remarks appreciated the efforts put-in by the Staff Members of Office of Library in this endeavour and urged the children to make best use of this facility, which has been specially created for them. He also mentioned that some weekend activities will be planned for them in the Children's Library, like Story Hour, Quiz and Book Donation Drive, in the period to come.



Dr. (Mrs.) Bharti Swamy, opening the Children's Library





Today's enthused readers, tomorrow's informed citizens...!!



Curious children and parents during the Opening Ceremony of Children's Library

72nd Independence Day Celebration

The 72nd Independence Day of the Nation was celebrated at IIT Jodhpur on 15 August 2018. The Director hoisted the National Flag, and the National Anthem was sung with affection and devotion to the mother land, by all present. The Director in his address insisted on quality in our thoughts and actions, and dedication in our deeds towards serving the nation.



Flag Hosting by Director, IIT Jodhpur, on 15 August 2018



Cultural Program by Students of IIT Jodhpur on 15 August 2018



Cultural Program by Students of IIT Jodhpur on 15 August 2018

Celebration of Rashtriya Ekta Diwas, Birth Anniversary of Sardar Vallabhbhai Patel

Indian Institute of Technology Jodhpur, under the guidance of Ministry of Human Resource Development (MHRD), Government of India, celebrated *Rashtriya Ekta Diwas* on 31 October 2018 to commemorate the birth anniversary of Sardar Vallabhbhai Patel, one of the founding fathers of the *Republic of India*, at its Permanent Campus, Nagaur Road NH-65, Karwad, Jodhpur.

Professor S. R. Vadera, Professor, IIT Jodhpur, led the Institute's Community i.e., the Faculty Members, Staff Members and Students, in taking a pledge for National Unity which was taken at Institute's Lecture Hall Complex.

Also, on this occasion, a 5 kilometer Run for Unity event was flagged off by Vadera along with Sh. Subhash Pandey, Advisor (Administration), IIT Jodhpur. Many Students, Faculty and Staff Members participated in the event. Professor Vadera encouraged the participants and distributed prizes amongst the winners of Run for Unity.





Professor S.R. Vadera, Head and Professor, Department of Physics, and Sh. Subhash Pandey, Advisor (Administration) flagging off of the Run for Unity

Observance of Swachhta Pakhwada

Swachhta Pakhwada was observed at Indian Institute of Technology Jodhpur during 1-15 September 2018. On this occasion, activities such as Institute Lecture on Swachhta and Hygiene in Children, poster making and slogan writing, were organized. The Institute Swachhta Committee assessed the level of cleanliness in buildings on campus and a cleanliness drive was undertaken in the Institute.



Members of the Institute Swachhta Committee assessing level of cleanliness in buildings on Campus



Dr. Saroj Dabas, Principal, KV IITJ, delivering a talk on How to inculcate Swachhta and Hygiene in Children on 14 September 2018











Hostel Hygiene and Cleanliness

- 1) Keep your room neat and tidy
- 2) Take a bath everyday
- 3) Flush the toilet after use
- 4) Wipe the bathroom after shower
- 5) Do not litter anywhere
- 6) Do not let water stagnate in open spaces
- 7) Wash your hands before a meal

Posters on Swachhta, signages and advisory were displayed prominently at select points and hostels in the campus.

Observance of 2018 Vigilance Awareness Week

As per Central Vigilance Commission's (CVC) guidelines, the 2018 Vigilance Awareness Week was observed at the Institute from 29 October 2018 to 3 November 2018, with the theme Eradicate Corruption - Build a New India. The pledge of integrity was administered by Professor S. R. Vadera, Head and Professor, Department of Physics, which was attended by the Faculty Members and Staff Members on 30 October 2018.

Banners and display boards propagating the message on Vigilance Awareness, Anti-corruption etc. were displayed at all prime locations of the Institute. Also, essay writing and presentation competitions on the said theme were organized by *Dr. Gaurav Harit*, Chief Vigilance Officer, during 1-2 November 2018 for all members of the Institute.









Participants of Essay Writing and Presentation competitions receiving prizes

Celebration of International Day of the Girl Child

The 2018 International Day of Girl Child was observed by IIT Jodhpur on 11 October 2018. On this occasion, the Women Cell of the Institute organized its Autumn Activities to culminate on the International Day of Girl Child on 11 October 2018. Professor Poonam Saxena, Vice Chancellor, National Law University, Jodhpur, graced the occasion as Chief Guest and addressed the audience on Towards Making Gender Parity a Reality. Prizes and Certificates were given away to the winners and participants of the Legal Awareness Competition, which was co-sponsored by the National Commission for Women.



Sakshi Shukla, Ph.D. Student, Department of Humanities & Social Sciences, receiving prize and certificate



Professor Poonam Saxena addressing the audience

Celebration of National Education Day

The Children's Library of the Institute celebrated the 2018 National Education Day, which is the birthday of Maulana Abul Kalam Azad, on 17 November 2018 by organizing elocution and drawing competitions for children of the employees of IIT Jodhpur. Children participated in these competitions with great enthusiasm. Prizes were given away to the winners and runners up by Professor S. R. Vadera, Professor and Head, Department of Physics.





Children participating in Drawing Competition and Elocution Competition

ACADEMICS

IIT Jodhpur rolls out new B.Tech. M.Tech and Ph.D academic programs:

From July 2018, IIT Jodhpur had rolled out new academic programs, namely B. Tech (Biotechnology) with 60 seats, M. Tech. (Computer Science & Engineering) with 20 seats, M.Tech. (Metallurgical and Materials Engineering) with 10 seats and Ph.D. (Metallurgical and Materials Engineering) program.

Ph.D. Thesis Defense

The following eight students of IIT Jodhpur successfully defended their Ph.D. Theses in these six months.

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S	.No.	Name of the Student	Title of Thesis	Supervisor	Department	Date of Defense
	1.	Rohitash Kumar	Design, Development and Characterization of Low and High Temperature Phase Change Materials for Thermal Energy Storage Applications	Ambesh Dixit	Physics	17 July 2018
	2.	Kapil Sharma	Utilizing Topology Structures For Delay Sensitive Traffic in Data Center Network	B. Venkata Ramana	Computer Science & Engineering	13 July 2018
	3.	Ranveer Singh	A Measure of Balance, Spectra of Signed Graphs, and a Novel Algorithm for Matrix Determinant and Permanent	Bibhas Adhikari	Mathematics	19 July 2018
	4.	Rohan Sharma	Complex network generative models using corona product of graphs	Bibhas Adhikari	Mathematics	19 July 2018
	5.	Parmod Kumar Paul	Technical Analysis for Short-Term Forecasting of Financial Data and Turn of the Year Effect	Vivek Vijay	Mathematics	5 October 2018
	6.	Parvinder Singh	Analysing Multiqubit Entanglement, Nonlocality and Quantum Information Processing Protocols	Atul Kumar	Mathematics	8 October 2018
	7.	Om Prakash Mahela	Power Quality Assessment and Mitigation in Distribution System with Renewable Energy Penetration	Abdul Gafoor Shaik	Electrical Engineering	11 October 2018
	8.	Suresh Dahiya	Massive MIMO Systems: Channel Modeling and Efficient System Architecture	Arun Kumar Singh	Electrical Engineering	13 October 2018

R&D

New Research Projects

Sandip Murarka, Assistant Professor, Department of Chemistry, has been sanctioned the sponsored research project "Tandem Annulations Involving Metallocarbenes: Towards Diverse Molecular Architectures" by Science and Engineering Research Board, Government of India. The duration of the project is 3 years.

Nirmal Kumar Rana, Assistant Professor, Department of Chemistry, has been sanctioned the sponsored research project "Development of Catalytic Diastereo and Enantiodivergent Tandem Reactions" by Department of Science and Technology, Government of India. The duration of the project is 2 years.

Prodyut Ranjan Chakraborty, Assistant Professor, Department of Mechanical Engineering, has been sanctioned the sponsored research project "Cascaded Latent Heat Storage (CLHS) for high temperature CSP applications material development and characterization to lab-scale setup" by Department of Science and technology, Government of India. The duration of the project is 3 years.

Shree Prakash Tiwari, Assistant Professor, Department of Electrical Engineering, has been sanctioned the sponsored research project "High Performance Low Voltage Flexible Organic Field-Effect Transistors for Circuit and Sensing Applications" by Science and Engineering Research Board, Government of India. The duration of the project is 3 years.

Deepak Kumar M. Fulwani, Assistant Professor, Department of Electrical Engineering, has been sanctioned the sponsored research project "Hub and Spoke Consortia for e2W and e3W Electric Drives-Design Development of Prototyping of Advanced IM and Synchronous Reluctance Drives and Vehicle Integration for e2W and e3W Applications" by Department of Heavy Industry, The Ministry of Heavy Industries and Public Enterprises, Government of India. The duration of the project is 2 years.











Ambesh Dixit, Assistant Professor, Department of Physics, has been sanctioned the sponsored research project "Synthesis and study of properties of electrochemically active composites based on lithium intercalated silicates of iron, manganese, cobalt and having high electron conductivity corbosilicides of transition metal" by Department of Science and Technology, Government of India. The duration of the project is 2 years.



Priyanka Singh, Assistant Professor, Department of Bioscience & Bioengineering, has been sanctioned the sponsored research project "Role of Centriole Protein, CPAP in neurodevelopmental disorder" by Science and Engineering Research Board, Government of India. The duration of the project is 3 years.



Research Publications

Department of Bioscience and Bioengineering

Journal Articles

- Joshi, V., Upadhyay, A., Chhangani, D., Amanullah, A., Sharan, R. N., & **Mishra, A.** (2018). Gp78 involvement in cellular proliferation: Can act as a promising modulator for cell cycle regulatory proteins? Journal of Cellular Physiology, 233(10), 6352-6368. ISSN: 1097-4652. https://doi.org/10.1002/jcp.26618
- 2. Mishra, R., Upadhyay, A., Prajapati, V. K., & **Mishra, A.** (2018). Proteasome-mediated proteostasis: Novel medicinal and pharmacological strategies for diseases. *Medicinal Research Reviews*, 38(6), 1916-1973. ISSN: 0198-6325. https://doi.org/10.1002/med.21502
- Narula, A., Pandey, R. K., Khatoon, N., **Mishra, A.,** & Prajapati, V. K. (2018). Excavating chikungunya genome to design B and T cell multi-epitope subunit vaccine using comprehensive immunoinformatics approach to control chikungunya infection. *Infection, Genetics and Evolution,* 61, 4–15. ISSN: 1567-1348. https://doi.org/10.1016/j.meegid.2018.03.007
- 4. Shahid, U., & **Singh, P.** (2018). Emerging Picture of Deuterosome-Dependent Centriole Amplification in MCCs. Cells, 7(10), 152. ISSN: 2073-4409. https://doi.org/10.3390/cells7100152
- 5. Singh, S., & **Jha, S.** (2018). NLRs as Helpline in the Brain: Mechanisms and Therapeutic Implications. *Molecular Neurobiology*, 55(10), 8154–8178. ISSN: 1559-1182. https://doi.org/10.1007/s12035-018-0957-4
- 6. Upadhyay, A., & **Mishra, A.** (2018). Amyloids of multiple species: are they helpful in survival? *Biological Reviews*, 93(3), 1363-1386. ISSN: 1469-185X. https://doi.org/10.1111/brv.12399

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- 1. Bahuguna, G., Ram, P., **Sharma, R. K.**, & **Gupta, R.** (2018). An Organo-fluorine Compound Mixed Electrolyte for Ultrafast Electric Double Layer Supercapacitors. ChemElectroChem, 5(19), 2767-2773. ISSN: 2196-0216. https://doi.org/10.1002/celc.201800908
- 2. Chaubey, B., & **Pal, S.** (2018). Binding Interaction of Organofluorine-Serum Albumin: A Comparative Ligand Detected 19F NMR Analysis. The Journal of Physical Chemistry B, 122(40), 9409–9418. ISSN: 1520-5207. https://doi.org/10.1021/acs.jpcb.8b06583
- Gupta, N., Rao, K. D. M., Srivastava, K., **Gupta, R.**, Kumar, A., Marconnet, A. M., Fisher, T. S., & Kulkarni, G. U. (2018). Cosmetically Adaptable Transparent Strain Sensor for Sensitively Delineating Patterns in Small Movements of Vital Human Organs. ACS Applied Materials & Interfaces, 10(50), 44126–44133. ISSN: 1944-8252. https://doi.org/10.1021/acsami.8b16282
- 4. **Gupta, R.** (2018). Fabrication of stretchable compliant electrodes on PDMS with Au nanoparticles. Bulletin of Materials Science, 41(5), 114. ISSN: 0973-7669. https://doi.org/10.1007/s12034-018-1630-2
- 5. Laishram, D., Shejale, K. P., **Gupta, R.**, & **Sharma, R. K.** (2018). Solution Processed Hafnia Nanoaggregates: Influence of Surface Oxygen on Catalytic Soot Oxidation. ACS Sustainable Chemistry & Engineering, 6(9), 11286–11294. ISSN: 2168-0485. https://doi.org/10.1021/acssuschemeng.8boo674
- 6. Laishram, D., Shejale, K. P., **Gupta, R.,** & **Sharma, R. K.** (2018). Heterostructured HfO2/TiO2 spherical nanoparticles for visible photocatalytic water remediation. Materials Letters, 231, 225-228. ISSN: 0167-577X. https://doi.org/10.1016/j.matlet.2018.08.053
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- 8. Naz, E. G., Godara, S., & **Paranjothy, M.** (2018). Direct Chemical Dynamics Simulations of H₃₊₊ CO Bimolecular Reaction. The Journal of Physical Chemistry A, 122 (43), 8497–8504. ISSN: 1089-5639. https://doi.org/10.1021/acs.jpca.8b08671
- 9. Nunes-Pereira, J., Lima, R., Choudhary, G., Sharma, P. R., Ferdov, S., Botelho, G., **Sharma, R. K.,** & Lanceros-Méndez, S. (2018). Highly efficient removal of fluoride from aqueous media through polymer composite membranes. Separation and Purification Technology, 205, 1–10. ISSN: 1383-5866. https://doi.org/10.1016/j.seppur.2018.05.015
- Padmapriya, S., Harinipriya, S., Jaidev, K., Sudha, V., Kumar, D., & **Pal, S.** (2018). Storage and evolution of hydrogen in acidic medium by polyaniline. International Journal of Energy Research, 42(3), 1196–1209. ISSN: 1099-114X. https://doi.org/10.1002/er.3920

- 11. **Rana, N. K.**, Shukla, K., Mahto, P., Jha, R. K., & Singh, V. K. (2018). A facile and highly diastereoselective synthesis of carbocyclic spiro-pyrazolones via DABCO catalyzed Michael-Michael domino reaction. *Tetrahedron*, 74(38), 5270-5279. ISSN: 0040-4020. https://doi.org/10.1016/j.tet.2018.02.002
- 12. Shejale, K. P., Laishram, D., **Gupta, R.,** & **Sharma, R. K.** (2018). Engineered ZnO-TiO2 Nanospheres for High Performing Membrane Assimilated Photocatalytic Water Remediation and Energy Harvesting. ChemistrySelect, 3(25), 7291–7301. ISSN: 2365-6549. https://doi.org/10.1002/slct.201800988
- 13. Singh, P., & **Kumar, A.** (2018). Analysing Nonlocal Correlations in Three-qubit Partially Entangled States Under Real Conditions. International Journal of Theoretical Physics, 57(10), 3172–3189. ISSN: 1572-9575. https://doi.org/10.1007/s10773-018-3835-y
- 14. Singh, P., & **Kumar, A.** (2018). Analysing nonlocality robustness in multiqubit systems under noisy conditions and weak measurements. Quantum Information Processing, 17(9), 249. ISSN: 1573-1332. https://doi.org/10.1007/s11128-018-2016-5
- 15. Soni, V. K., Roy, T., Dhara, S., Choudhary, G., Sharma, P. R., & **Sharma, R. K.** (2018). On the investigation of acid and surfactant modification of natural clay for photocatalytic water remediation. Journal of Materials Science, 53(14), 10095–10110. ISSN: 1573-4803. https://doi.org/10.1007/s10853-018-2308-2
- 16. Urgunde, A. B., Kumar, A., Shejale, K. P., **Sharma, R. K.**, & **Gupta, R.** (2018). Metal Wire Networks functionalized with Ni Alkanethiolate for Transparent and Enzymeless Glucose Sensors. ACS Applied Nano Materials, 1(10), 5571–5580. ISSN: 2574-0970. https://doi.org/10.1021/acsanm.8b01115

Preprints

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- 2. Srivastava, A., Karmakar, S., & **Debnath, A.** (2018). Slow Relaxations of Chemically Confined Hydration Layers near Lipid Bilayers: Dynamical Heterogeneities above Supercooling. ArXiv:1808.03933 [Cond-Mat]. http://arxiv.org/abs/1808.03933

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- 2. **Banik, A.,** Panolan, F., Raman, V., & Sahlot, V. (2018). Fréchet distance between a line and avatar point set. *Algorithmica*, 80(9), 2616-2636. ISSN: 1432-0541. https://doi.org/10.1007/s00453-017-0352-y
- 3. **Khatua, M.,** Safavi, S. H., & Cheung, N. M. (2018). Sparse Laplacian Component Analysis for Internet Traffic Anomalies Detection. IEEE Transactions on Signal and Information Processing over Networks, 4(4), 697 711. ISSN: 2373-776X. https://doi.org/10.1109/TSIPN.2018.2818950
- 4. Sharma, D., & **Chattopadhyay, C.** (2018). High-level feature aggregation for fine-grained architectural floor plan retrieval. IET Computer Vision, 12(5), 702–709. ISSN: 1751-9640. https://doi.org/10.1049/iet-cvi.2017.0581

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1. Goyal, S., Chattopadhyay, C., & Bhatnagar, G. (2018). ASYSST: A framework for synopsis synthesis empowering visually impaired. In Proceedings of the 2018 Workshop on Multimedia for Accessible Human Computer Interface (pp. 17–24). Seoul, Republic of Korea: ACM. ISBN: 978-1-4503-5980-1. https://doi.org/10.1145/3264856.3264859

Preprint

- 1. Kalshetti, P., Rahangdale, P., Jangra, D., Bundele, M., & Chattopadhyay, C. (2018). Antara: An Interactive 3D Volume Rendering and Visualization Framework. ArXiv:1812.04233 [Cs]. http://arxiv.org/abs/1812.04233
- 2. Kumar, A., Choudhary, S., Khokhar, V. S., Meena, V., & **Chattopadhyay, C.** (2018). Automatic Feature Weight Determination using Indexing and Pseudo-Relevance Feedback for Multi-feature Content-Based Image Retrieval. ArXiv:1812.04215 [Cs]. http://arxiv.org/abs/1812.04215

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- Dahiya, S., Kumar, A., & **Singh, A. K.** (2018). Average power allocation based sum-rate optimization in massive MIMO systems. *Annals of Telecommunications*, 73 (11–12), 689–701. ISSN: 1958-9395. https://doi.org/10.1007/s12243-018-0628-5
- 2. Goel, N., Kumar, R., Hojamberdiev, M., & **Kumar, M.** (2018). Enhanced carrier density in a MoS₂/Si heterojunction-based photodetector by inverse auger process. IEEE Transactions on Electron Devices, 65(10), 4149 4154. ISSN: 0018-9383. https://doi.org/10.1109/TED.2018.2839913
- 3. Kumar, R., Goel, N., Raliya, R., Biswas, P., & **Kumar, M.** (2018). High-performance photodetector based on hybrid of MoS2 and reduced graphene oxide. Nanotechnology, 29(40), 404001. ISSN: 1361-6528. https://doi.org/10.1088/1361-6528/aad2f6
- 4. Kumar, R., Kulriya, P. K., Mishra, M., Singh, F., Gupta, G., & **Kumar, M.** (2018). Highly selective and reversible NO2 gas sensor using vertically aligned MoS2 flake networks. Nanotechnology, 29(46), 464001. ISSN: 0957-4484. https://doi.org/10.1088/1361-6528/aade20
- 5. Kumari, C., Varun, I., **Tiwari, S. P.,** & **Dixit, A.** (2018). Robust non-volatile bipolar resistive switching in sol-gel derived BiFeO3 thin films. Superlattices and Microstructures, 120, 67-74. ISSN: 0749-6036. https://doi.org/10.1016/j.spmi.2018.05.008
- 6. **Mathur, A.,** Ai, Y., Bhatnagar, M. R., Cheffena, M., & Ohtsuki, T. (2018). On Physical Layer Security of α-η-κ-μ Fading Channels. IEEE Communications Letters, 22(10), 2168 2171. ISSN: 1558-2558. https://doi.org/10.1109/LCOMM.2018.2860020

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- 2. **Ghosh, S.,** Varshney, R. K., & Pal, B. P. (2017). Diffusive Dynamics and Signature of Phase Singularities in Gain/Loss Assisted Disordered Optical Waveguide Lattices. In *Frontiers in Optics 2017 (2017), paper JTu*3A.81 (p. JTu3A.81). Washington, D.C., USA: Optical Society of America. ISBN: 978-1-943580-33-0. https://doi.org/10.1364/FIO.2017.JTu3A.81
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Awards & Recognitions

Mahesh Kumar selected as Emerging Leader by Journal of Physics D, Institute of Physics, UK

Mahesh Kumar, Assistant Professor, Department of Electrical Engineering, has been selected as Emerging Leader 2018 by the Journal of Physics D: Applied Physics, published by the Institute of Physics, UK. Journal of Physics D: Applied Physics (JPhysD) will be publishing a special issue bringing together the best early-career researchers in condensed matter physics. Called Emerging Leaders, this special issue will be part of the Journal of Physics (JPhys) series' 50th anniversary celebrations in 2017, recognizing the talents of exceptional, upcoming researchers. According to the journal, an emerging leader is a top researcher in their field who completed their Ph.D. in 2007 or later (nine years excluding career breaks). They are identified by the Editorial Board of Journal of Physics D, as the most exciting researchers in their generation. This special issue will cover a vast range of topics covered within the scope of the journal. Together with the other journals in the JPhys series the special issues should provide a collection that presents some key new work in some of the most exciting fields across the whole of physics. Full text of this article can be accessed at http://iopscience.iop.org/journal/0022-3727/page/EmergingLeaders

Mahesh Kumar has been admitted as Member of The Royal Society of Chemistry, UK

Mahesh Kumar, Assistant Professor, Department of Electrical Engineering, has been admitted as Member of The Royal Society of Chemistry, UK, with effect from 05 October 2018

Sushmita Jha has been selected for Outstanding Scientist Molecular Biology at VIRA 2018

Sushmita Jha, Assistant Professor, Department of Bioscience & Bioengineering, has been selected for "Outstanding scientist Molecular Biology" Award under the Health and Medical Sciences Discipline for 4th Venus International Research Awards - VIRA 2018 (August 11, 2018, Chennai). This award recognizes 'Expertly Qualified Research Professionals' for their exceptional research record of significant contribution (Fundamental Discoveries, New Theories, or Insights which had an Impact on their own discipline and beyond and cutting-edge achievements) to the laboratory/Institute.

Amit Mishra awarded eminent Shri Om Prakash Sharma Award From Indian Academy of Biomedical Sciences (IABS)

Amit Mishra, Assistant Professor, Department of Bioscience & Bioengineering, has been awarded eminent Shri Om Prakash Sharma Award, India from Indian Academy of Biomedical Sciences (IABS) India who has made outstanding contributions in Biomedical Research (age: below 45 years).

Amit Mishra selected Indian Council of Medical Research (ICMR) Human Resource Development (HRD)-Health Research Ministry prestigious Shankunta Amir Chand Prize



Honorable Minister of State for Health and Family Welfare **Anupriya Patel**, Dr. Soumya Swaminathan, Secretary, Department of Health Research, and Director-General, ICMR, and Deputy Director General WHO, Dr. V. K. Paul, Member, NITI Aayog; Dr. K. Vijay Raghavan (Currently Principal Scientific Advisor to the Prime Minister of India), Secretary, Department of Biotechnology; and Vaidya Rajesh Kotecha, Special Secretary, Ministry of AYUSH awarded Amit Mishra, IIT Jodhpur, the prestigious *Shankunta Amir Chand Prize*. The ICMR awards recognize the contributions of Indian biomedical scientists undertaking pioneering work in various fields of health sciences and finding solutions for health problems in the country.

Amit Mishra's Candidature Selected for the Distinguished Life Time Membership of National Academy of Medical Sciences (NAMS), India

National Academy of Medical Sciences (India) is a unique institution, which fosters and utilizes academic excellence as its resource to meet medical and social goals. A number of prestigious Orations and Awards have been instituted by the Academy and are bestowed upon eminent bio-medical scientists in recognition of their outstanding contributions. Through a peer reviewed process and finally voting by of all the NAMS Fellows, Amit Mishra candidature has been consider as a Life Time Member of National Academy of Medical Sciences (India) for his excellent research contribution in Biomedical Science.

STUDENTS

Activities & Achievements

Tushar Shinde, Ph.D. Student, has been awarded Winner's Prize at IEEE International Conference on Image Processing (ICIP 2018) held at Athens, Greece

Tushar Shinde, Ph.D. Student, working with Anil Kumar Tiwari, Assistant Professor, Department of Electrical Engineering, has been awarded Winner's Prize of \$1500 in 3 Minute Thesis Competition for a compelling oration on his research work at the IEEE International Conference on Image Processing (ICIP 2018), held during 7-10 October 2018 at Athens, Greece.

Harshkooshal Kamlesh Gandhi, II Year B.Tech. (Electrical Engineering) Student has been awarded Excellence in poster presentation at international conference PHOTONICS 2018.

Harshkooshal Kamlesh Gandhi, II Year B.Tech. (Electrical Engineering) Student has been awarded Excellence in poster presentation. He has been given a Certificate of Appreciation and Rs. 10,000/- for the paper titled Asymmetric Pulse Propagation through Time-dynamic Gain-loss Assisted Media jointly authored with Piyali Biswas, Bishnu P. Pal and Professor Somnath Ghosh. It was presented to him during the international conference PHOTONICS 2018: The International Conference on Fiber Optics and Photonics, 12-15 December 2018 at IIT Delhi.

Abhinav Srivastava, Ph.D. Student, awarded Best Poster for his Research Work at International conference on Computational Fluids (CompFlu-2018)

Abhinav Srivastava, Ph.D. student, working with Ananya Debnath, Assistant Professor, Department of Chemistry, received Best Poster Prize from Royal Society of Chemistry, for his research work at the International conference on Computational Fluids (CompFlu-2018) held during 06-09 December 2018 at Indian Institute of Technology Roorkee.



Abhinav Srivastava receiving best poster award for his research work

Student Counselling Services

Orientation Program 2018 - 23 July 2018 to 29 July 2018

The Orientation Program 2018 was a weeklong activities full of enthusiasm, zeal and ecstasy. A week full of fun-filled activities welcoming the just students to college and making their transition from school to college smooth. Orientation week included motivating talks from guest speakers *Dr. Arvind Bhatt* and *Smita Majumdar*, a fun-filled trip to Mehrangarh Fort, a social drive to the various government school in villages near Jodhpur.

Arvind Bhatt, Director, Samvaad, advised students to not focus on problems but on selections. Compliment others, don't criticize them and welcome criticism from your well-wishers, he said.

Smita Majumder, Founder, Monkeyshanti, is a strategic marketer, passionate about people, trends and change her strongest belief – 'Attitude matters!'. Her enthusiasm and energy extend into the social/cultural life in different ventures across continents.



Welcome Program during Orientation Week



Speaker during the Orientation Program



Yoga Session during Orientation Program



Group Photograph of the Student Counselling Team

Student Counseling Service in coordination with Border Security Force (BSF) organized a trip to Jaisalmer and Indo-Pak border outpost during 7 August 2018, 18 August 2018 and 23 September 2018 for the newly joined students. Amit Lodha, IPS Officer, addressed these students during their visit and inspired them to be a patriotic citizen of India.







Some photographs of the BSF, Jaisalmer during the visit of students

Celebration of World Gratitude Day

A day to thank for the opportunities that we got in our lifetime that brought in us a positive change! That was the motto of Student Counseling Service Team, IIT Jodhpur, while organizing the World Gratitude Day on 21 September 2018. The activities included a carnival with a series of social media posts, rides and open mic.



World Gratitude Day, 21 September 2018

Activities of Campus Life Society

The Campus Life Society, IIT Jodhpur, has celebrated the following festivals.

Janmashtami Celebration, 3 August 2018



Krishna puja

Matkiphor

Ganesh Chaturti, 13-23 September 2018



Ganesh Puja



Kabaddi

Navratri Celebration, 10-18 October 2018



Dandiya Night



Diwali, 7 November 2018



Rangoli Decoration at Hostel



Lightening at Hostel

The Social Service Club, IIT Jodhpur, with Rotaract Club of IIT Jodhpur has organized Diwali Celebration in the labor camp on 07 November 2018. The team with 15 volunteers visited the Labor camp. The purpose of the event was to celebrate the festival of Diwali with the labor. The event started with lightning the Earthen lamps followed by the Goddess Lakshmi pooja and then the distribution of the sweets



Students in labour camp during Diwali celebration

Student Science and Technology Society

Inter-IIT TechMeet 2018

A contingent of 32 students participated in the Inter-IIT TechMeet 2018 held in IIT Bombay, and won one **Gold Medal** and two **Bronze Medals**. The Gold Medal was won in the event BETiC Innovation Challenge by the team comprising Dhruv Krishna, Aman Goel, Pushpank Katare, Deepak Arjariya, Subham Suresh Gattani, Bhaskar Vijay, Mukesh Sharma, and Ashutosh Pandey. The Bronze Medal was won in the Campus Sustainability Challenge by the team mentored by Dr. Ritu Gupta, comprising Kuldeep Singh Jangir, Shreyas Mahajan, Vaibhav Mishra, Aksh Chordia, Nikhil Srivastava, Aryan Singh, Shivang Khandelwal, Sanchit Tapadiya, Piyush Kumar, and Saksham Sanjay Banga. Another Bronze Medal was won in the Coding Hackathon by the team comprising Ajat Prabha, Sahil Harish Batra, Abhinav Suthar, and Saksham Sanjay Banga. The overall position of IIT Jodhpur in the TechMeet was 10th among all the participating IITs.









Our students at the Inter-IIT TechMeet 2018, IIT Bombay

DST & TI India Innovation Challenge Design Contest (IICDC) 2018

Two of our teams have qualified for the quarterfinals of the DST & TI India Innovation Challenge Design Contest (IICDC) 2018. These teams comprise Eashan Jindal, Ankit Mittal, Arham Chordia, Akshay Goel, and Animesh Kumar Singh (for their project on automated quality control of crops), and Kanani Alishkumar Hareshkumar, Chakshu Gupta, Siddhant Shrikant Saoji, Sumanth U, and Srijan Agarwal (for their project on Netra - Indoor navigator for the visually impaired). This edition of IICDC witnessed participation by 26,511 students from 10,146 teams from all the states of India. Our two teams are among the 346 teams who will be moving ahead to the Quarterfinals Round.

ACM ICPC Regional Rounds

Three teams from our Institute qualified for the ACM ICPC Regional Rounds, out of which the team comprising Anurag Shah, Srijan Agarwal, and Shambhu Singh have received a rank 30 in the Regional rounds.

IEEE Student Branch of IIT Jodhpur

Women in Engineering Preuniversity Outreach Program (STAR)

The IEEE Women in Engineering Student Branch Affinity Group of IIT Jodhpur organized another activity as a part of its preuniversity outreach program (STAR Program) at the Government Senior Secondary School, Karwar on 17 November 2018. The activity involved introducing the students to engineering disciplines, a science quiz, and a hands-on session on making basic electronic circuits using breadboards. The team from IEEE Student Branch included Student Branch Chair, Megha Singh, the WIE AG Chair, Hiteshi Jain, STAR Program Coordinator, Bhuvnesh Rathore, and members from the Student Activity Committee, Arpita Jaitawat, P. Shabari Nath, Brajesh Shukla, and Divya Gupta.







Preuniversity outreach program at Government Senior Secondary School, Karwar by IEEE Student Branch of IIT Jodhpur

IEEE Day 2018 Celebrations

The IEEE Student Branch of IIT Jodhpur celebrated IEEE Day on October 03, 2018. The event included a technical talk, a Photo Contest and a Technology Quiz Contest. The technical talk by Dr. Chiranjoy Chattopadhyay was focused on the developments in the area of document analysis over the years. The Photo Contest, won by Rajat Mangla, invited entries from students on themes including leveraging technology for a better tomorrow and role of women in engineering. The Science and Technology Quiz Contest were won by the team of Sabyasachi Pradhan, Siddhant Saoji, and Anshul Ahuja. The event was attended by about 50 students.





IEEE Day 2018 Celebrations at the IEEE Student Branch of IIT Jodhpur, October 2018

IEEE Signal Processing Society Travel Grants 2018

Two of our PhD students received \$1000 as a part of the IEEE Signal Processing Society Travel Grant to attend two flagship international conferences of the IEEE Signal Processing Society. Hiteshi Jain (PhD Student, CSE) was awarded the travel grant for attending IEEE International Conference on Image Processing (ICIP) 2018 in Greece, and Deepak (PhD Student, EE) received the travel grant for attending IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2018 in California, US

CAMPUS NEWS

IIT Jodhpur receives 5 Star GRIHA LD V1 Rating for its Campus Master Plan

The Master Plan of IIT Jodhpur's Permanent Campus has been awarded 5 Star Rating by the Green Rating for Integrated Habitat Assessment (GRIHA) Council on 11 December 2018. GRIHA Council is an independent platform for the interaction on scientific and administrative issues related to sustainable habitats in the Indian subcontinent. It was founded by TERI (The Energy and Resources Institute, New Delhi) with support from MNRE (Ministry of New and Renewable Energy, Government of India). GRIHA Council, in association with The Energy and Resources Institute (TERI) and the Ministry of New and Renewable Energy (MNRE), has launched the Green Rating for Integrated Habitat Assessment (GRIHA).

The campus design of IIT Jodhpur visualizes all parts of all zones as interdependent, integral network, like the metabolism of a living organism, integrating social, economic and environmental sustainability to become a near-zero emission campus. Unlike a campus where buildings are spread out, increasing infrastructure and water consumption and creating heat islands, this campus uses a series of compact urban clusters typical of desert settlements. The campus is designed to be a flexible plug and play system by using a series of service tunnels, trenches and serviceable shafts that allow easy maintenance and upgrading of all wired and piped services without breaking open a wall, slab or road.

NEW JOININGS

IIT Jodhpur welcomes the following new Faculty Members and Staff Members into the family:

Name	Designation	Department / Office	Date of Joining
Shyam Sunder Singh	Junior Assistant	Office of Recruitment	19 July 2018
Sampat Raj Vadera	Professor	Department of Physics	20 July 2018
Sumit Kalra	Assistant Professor	Department of Computer Science and Engineering	23 July 2018
Ishmeet Singh	Junior Assistant	Office of Research and Development	30 July 2018
Ganesh Kumawat	Junior Assistant	Office of Stores and Purchase	13 August 2018
Mahesh Kumar Meena	Junior Assistant	Office of Academics	o6 September 2018
Abir Bhattacharyya	Assistant Professor	Department of Metallurgical & Materials Engineering	20 September 2018
Ravi K R	Assistant Professor	Department of Metallurgical & Materials Engineering	24 September 2018
Anand Padegaonkar	Assistant Executive Engineer (Civil)	Office of Infrastructure Engineering	08 October 2018

OUTREACH

Memorandum of Understanding signed between AIIMS Jodhpur and IIT Jodhpur

A Memorandum of Understanding was signed between All India Institute of Medical Sciences, Jodhpur, and Indian Institute of Technology Jodhpur, on 10 July 2018 at IIT Jodhpur. This Memorandum of Understanding (MoU) seeks the joint pursuit of education, advancement of research and product development in the thrust area of Healthcare Technologies of mutual interest. The Liaison Officers from the two Institutes are the Dean (Academics) of AIIMS, Jodhpur, and the Associate Dean (Research & Development) of IIT Jodhpur. The MoU was signed by Professor Sanjeev Misra, Director, All India Institute of Medical Sciences, Jodhpur, and Director, IIT Jodhpur. The event was attended by the Office Bearers of the two Institutes. This MoU facilitates sharing of academic and research facilities. Also, the development and running of a Joint Center for Healthcare Technologies, which shall undertake medical devices technology development, is planned under this MoU.



Professor Sanjeev Misra, Director, AIIMS, Jodhpur, and Director, IIT Jodhpur, signing the Memorandum of Understanding (MoU)



Tree plantation in front of the Main Building, IIT Jodhpur



The Directors and Office Bearers of AIIMS, Jodhpur, and IIT Jodhpur

Alumni Induction & Orientation 2018, 25 August 2018

The First Alumni Induction and Orientation Program of Indian Institute of Technology Jodhpur took place on the noon of 25th August 2018, after the 4th Convocation ceremony of the Institute. Organized by the Alumni Relations Committee (ARC), this event oriented the fresh Graduates of the Institute about the activities of the Committee. Professor C. V. R. Murty, Director, IIT Jodhpur, in his Induction Address encouraged Alumni to reconnect with their alma mater and summarized mutual expectations in the Alumni-Institute relationship. Professor Shankar Manoharan, Chairman, ARC, spoke about the current focus of the Alumni Relations Committee and its proposed activities. On this occasion, the First Edition of the Alumni eNewsletter was jointly released by Vijay Kumar Paliwal and Nithin, V., the 2018 and 2017 President's Gold Medal Winners in B.Tech., respectively. Thereafter, a Panel Discussion was organized with the Alumni. The panel comprised of the Director, IIT Jodhpur, Members of the ARC, and participants from the Alumni in attendance. The panel responded to several queries on the current and future activities of the ARC. Also, the panel encouraged Alumni to participate actively in the events organized for them by the ARC. Several suggestions and inputs from the participants were received and recorded. Professor Appala Naidu Gandi, Member Secretary, ARC, thanked the Panel and all participants for their presence, and proposed the vote of thanks for the program.



Panel Discussion with the Alumni



Group Photo of the Director, ARC office Bearers and Alumni

Science Exhibition and Lecture Series on Nanotechnology

A one-day "Science Exhibition and Lecture Series on Nanotechnology" was organized by Professor Ritu Gupta, Department of Chemistry, IIT Jodhpur with the help of students and staff volunteers at IIT Jodhpur and in collaboration of Centre for Nano and Soft Matter, Bangalore and support from Karnataka Science and Technology Promotion Society (Govt. of Karnataka). The event was scheduled at IIT Jodhpur on 15 October 2018 and Rajasthan University, Jaipur on 29 October 2018 for science students belonging to different streams from various schools, colleges and institutes of Jodhpur and Jaipur.

There were around 300 participants from at the event organized at IIT Jodhpur and 250 participants at Rajasthan University, Jaipur. The event consisted of introductory and advanced lectures, an exhibition, open discussion session, a guiz and a video show. The students were excited with the program and delighted to see the real-life examples of nanotechnology and how the properties of materials changes at the nano-scale.

The main objective of the event was to introduce the importance of nanoscience for mankind and linking the activities of Tenth Bengaluru India Nano Promotional Programme organized every year by Department of Information Technology, Biotechnology, and Science & Technology and Vision Group on Nanotechnology (VGNT) under the guidance and support of Prof. C. N. R. Rao, FRS. In the end, the event received great appreciation from students and faculty members who participated in the program and the glimpse of the events were further displayed at Bangalore Nano Conference during 5-7 Dec 2018.





Pre Event Lecture Series and Road Show







Group Photographs

Sixth GIAN Course on Topological Solutions and their Applications, 10-15 December 2018.

The Sixth course under GIAN Program at IIT Jodhpur on "Topological Solitons and their Applications" was organized during 10-15 December 2018. Subhashish Banerjee, Physics Department, IIT Jodhpur and Richard MacKenzie, University of Montreal, Canada were the key resource persons.

The course was attended by participants from various Institutes/Organizations including 3 Faculty Members, 16 Students and 1 participant from a Research Organization. The Course had 12 expert Lectures.

It is hoped that this would open up venues for joint research partnership between University of Montreal and IIT Jodhpur.



Group Photo of Outside Participants, Faculty and Students with Invited Guests

National Workshop on Emerging Applications of Nonlinear Dynamics and Chaos in Science and Engineering, 13-15 December 2018

A National Workshop on "Nonlinear Dynamics and Chaos (NDCSE2018)" was organized during 13th-15th December 2018 at Department of Mechanical Engineering, IIT Jodhpur. The workshop had six Keynote Talks, 20 invited Lectures and poster presentation in the area of nonlinear dynamics and Chaos by postgraduate students/research scholar from various IITs/NITs/Central universities. The workshop received a very encouraging response and it was attended by more than eighty five participants. The aim of this workshop is to bring together leading specialists from engineering, applied mathematics, physics, and biophysics to promote interdisciplinary discussion in areas related to dynamics, chaos and their applications. This workshop was primarily designed to present the fundamentals and the recent developments in the fast developing, interdisciplinary field of Nonlinear Dynamics and Chaos. This workshop provided a platform to exchange experiences in the field of Nonlinear Dynamics. The outcome presented recent breakthroughs in the state-of-art applied research being carried out in the field of Nonlinear Dynamics and Chaos. Further, the workshop encouraged Students and Scholars pursuing M.Sc. (Physics/Applied Mathematics/Bio-physics), M.E/M.Tech. and PhD and provided an opportunity to present their current research interest in this scientific field with their poster presentations.



Prof. S. Chaudhury, Director of IIT Jodhpur addressing the Workshop



Group-photo on the closing day

Prof. Santanu Chaudhary, Director of IIT Jodhpur welcomed the participants and invited speakers and provided the opening note for the conference while Prof. Barun Pratiher, Convener of NDCSE 2018 addressed briefly about the workshop. The workshop was started with keynote lectures by Prof. P. Parmananda (IIT Bombay) and Prof. S. Prof. Keshavamurthy (IIT Madras).

Prof. S. K. Dwivedy (IIT Guwahati), Prof. Kannan Iyer (IIT Bombay), Prof. Nandan K. Sinha (IIT Madras), and Prof. S Sinha (IISER Mohali) delivered keynote talks while Prof. S. P. Harsha (IIT Roorkee), Prof. B. K. Goswami (BARC, Mumbai), Prof. S. Chakraborty (IIT Kanpur), Prof. A. Prasad (Delhi University), Prof. L. Chandra (IIT BHU), Prof. N. Bairagi (Javadpur University), Prof. A. Garg (JNVU, Jodhpur), Prof. J. Vajpai (JNVU, Jodhpur), Prof. M. Shrimali (CU, Rajasthan), Prof. D. Fulwani (IIT Jodhpur), Prof. A. Mishra (IIT Jodhpur), and Prof. Rakesh Choubisa (BITS, Pilani) delivered the invited talks in this workshop.

The workshop also provided an opportunity to the graduate and post-graduate students to present their current research interest in this scientific field with their poster presentations. We express our sincere gratitude to SERB and Micropoint computer private limited for their partial financial support in order to host this event successfully.

Seminars

A seminar presentation was given by Dr. Srinu Tothadi on "Crystal Engineering: Design and Synthesis of Multicomponent Crystals and their Applications" on 24th October 2018. Dr. Srinu Tothadi is associated with NCL, Pune. The seminar was hosted by the Department of Chemistry.





A seminar presentation was given by Dr. Rama S. Verma on "Developing a Biological Dressings From Biological Waste For Diabetic Wound Healing" on 30 August 2018. Dr. Rama S. Verma is associated with Department of Biotechnology, Indian Institute of Technology Madras. The seminar was hosted by the Department of Bioscience & Bioengineering.

Vanguard Lectures

Mr. S. Bhattacharya, Chief Designer at Rotary Wing Research & Design Centre (RWRDC), Hindustan Aeronautics Limited, Bangalore, addressed the members of the Department of Mechanical Engineering on "Development Challenges of Modern Helicopter Transmission Systems" on 28th September 2018, as a part of the Vanguard Lecture Series.

Guest Lectures

Professor Inder K. Rana delivered two lectures on "Why Linear Algebra!" and "Beyond Infinity" respectively on 12 November 2018 and 14 November 2018 September 2017. Prof. Rana is Emeritus Fellow at the Department of Mathematics, IIT Bombay. The lectures were hosted by the Department of Mathematics.



DEPARTMENT IN FOCUS – Mechanical Engineering

The academic and research activities of the *Department of Mechanical Engineering* are primarily focused on preparing its students to contribute towards national needs and global causes. The specific domains of interests of the department are aligned with thrust areas identified by the institute namely, Solar Energy, Automotive Technologies, Healthcare Technologies and Arid Zone Technologies. The B. Tech Program in Mechanical Engineering commenced in 2008, since the inception of IIT Jodhpur. Since inception, seven batches have graduated and its Alumni are pursuing successful careers in the industry. A significant number of students have also chosen to pursue higher studies in India, Europe and the USA. The department started M.Tech. program in Mechanical Engineering from July 2015 to meet diverse demands of industries and research organizations and two batches have graduated till now. Currently, about 25 doctoral students are pursuing research in the broader domains of Mechanical Engineering namely, Thermal and Fluids; Design and Solid Mechanics and; Manufacturing. The department has several ongoing research projects running through funding received from government agencies (such as DST, DBT), government organizations (such as ISRO, DRDO) and Industries (such as TVS Motor Company, IOCL, GE India). The department shifted to its Mechanical Engineering Building at its permanent campus in Karwad during March 2018.



Department of Mechanical Engineering, IIT Jodhpur

Programs

With excellent laboratory facilities and dedicated Faculty Members, the Department of Mechanical Engineering offers the following programs::

- 1. B.Tech. (ME) Program,
- 2. M.Tech. (ME) Program, and
- 3. Ph.D. Program with specialisation in Mechanical Engineering.

People

The Department has ten regular Faculty Members working in three broader disciplines of Mechanical Engineering namely, Thermal and Fluids Engineering; Design and Solid Mechanics and; Manufacturing.

Name	Designation	Research Area
Kaushal A Desai	Assistant Professor & Head	CAD/CAM, CNC Machine Tools, Micro-Machining, Product Development
Anand Krishnan Plappally	Assistant Professor	Water, Water Management and Characterization of Engineering Materials
B. Ravindra	Associate Professor	Design, Dynamics, Vibration and Control
Barun Pratiher	Assistant Professor	Dynamics of Machines and Structures, Flexible Robots, MEMS, Rotor Dynamics, Nonlinear Oscillations
Hardik B. Kothadia	Assistant Professor	Multiphase Flow, Boiling and Condensation, Heat Transfer, Fluid Mechanics, Gasification
Prodyut Ranjan Chakraborty	Assistant Professor	Heat and mass transfer, Latent heat based storage device for high temperature applications, Alloy solidification process, Active and passive solar cooling systems, Electronic cooling
Rahul Chhibber	Assistant Professor	Welding and joining, Manufacturing and materials processing, Mechanical behaviour of materials
Sudipto Mukhopadhyay	Assistant Professor	Energy Technology, Combustion Technology, Computational Fluid Dynamics, Turbulent flows, Sprays
Suril Vjaykumar Shah	Assistant Professor	Robotics, Multibody Dynamics and Control
C. Venkatesan	Visiting Professor	Helicopter Dynamics and Aeroelasticity, Design of Autonomous Mini Helicopters, Smart Structure Analysis

Additionally, the department has one visiting faculty member, namely, Professor Ashok Joshi, Department of Aerospace Engineering, Indian Institute of Technology Bombay, to support its academic activities.

The department has Six Technical Staff Members and one Administrative Staff Member to assist in academic, research and administration activities. The department is continuously encouraging prospective candidates for faculty positions by visiting the department in person. The interested candidates may apply through online portal: <a href="http://iitj.ac.in/faculty/faculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/saculty/

Infrastructure

The department has following teaching and research laboratories established within ME building to support its teaching and research activities.

- 1. Fluid Mechanics and Turbomachinery Laboratory
- 2. IC Engines Laboratory
- 3. Heat Transfer Laboratory
- 4. Thermal Energy Conversion Laboratory
- 5. Refrigeration and Air-conditioning Laboratory
- 6. Optical Diagnostics and Imaging Laboratory
- 7. Vibrations and Control Laboratory
- 8. Dynamics of Machines Laboratory
- 9. Mechatronics Laboratory
- 10. Helicopter Laboratory
- 11. Industrial Engineering Laboratory
- 12. Metrology Laboratory
- 13. Automated Manufacturing Laboratory
- 14. Central Workshop



R&D Projects

The Faculty Members of the Department are currently running sponsored research projects funded by various government agencies. List of some of the recent projects is as follows:

- 1. Local composite geo-textile mats for soil and water conservation in Western Rajasthan, DST
- 2. Minimizing Deflection Induced Surface Errors in End Milling of Thin-Walled Components, DST
- 3. Thermal Design of PCM Cool and Warm Vest, DRDO
- 4. Bifurcation and Stability Assessment of a Highly Lightweight Rotor-Bearing System with Moving Platform, DST
- 5. Hybrid Reactionless Manipulation and Visual Servoing of a Satellite Mounted Robot for Autonomous on Orbit Services, DST
- 6. Development of Highly Efficient Low Cost Insulation for Power Plants, Ministry of Power MHRD GE India
- 7. Cascaded Latent Heat Storage for High Temperature CSP Applications Material Development and Characterization to Lab-Scale Setup, DST
- 8. Development of Paired Neck-Chamber Device for Assessment of Baroreflex Sensitivity, DST

Collaboration

The faculty members of the department actively collaborating with other academic organizations, government R&D organizations and industries. The nature of collaborations primarily include,

- 1. Engagement in routine academic activities by teaching of joint courses
- Organizing short courses
- 3. Participating in joint research activities

Outreach

The Department of Mechanical Engineering hosts various seminars for Ph.D. Students and also invites eminent persons from academia and industry for guest lectures and talks. The details of seminars and guest lectures can be found at the following URL; http://iitj.ac.in/department/index.php?id=news-archives&item=seminars-and-meetings&dept=me





Graduating PG Batch - 2018

Graduating UG Batch - 2018

OFFICE IN FOCUS - Office of Administration

The Office of Administration is the key office of the Institute responsible to handle the correspondence with the MHRD and provide the data/report as sought from time to time by the MHRD, furnish the information regarding Parliament Questions, furnish the information regarding RTI Applications, handle Legal Cases of the Institute including empanelment of lawyers as retainers. It facilitates the following:

- (a) **Correspondence with the MHRD:** Forwarding the Query/information sought by the MHRD to concerned Office/Department, Compiling the information received from the concerned Office /Department, and after proper examining and compilation, sending the information to the MHRD by the mode, in which sought by the MHRD (by email /Speed Post) after approval of the Competent Authority (if needed).
- (b) Conducting of the Meetings of the Board of Governors
- (c) Parliament Questions: Forwarding the Parliament Question to concerned Office/Department immediately after receiving it, compiling the information and after compilation of the information then sending directly to the MHRD in the stipulated time period.
- (d) Legal Matters: (a) Extension of the term of engaged Advocate(s) by adopting due procedure (b) Payment of Retainership to the Institute empaneled Advocate(s) (C) Handling Institute's Legal Cases and liaising with Institute's empaneled Advocate(s) (D) Keeping track of all Legal Cases of the Institute (E) forwarding the matters for Legal Opinion/Advice to the Institute Legal Advisor(s) as and when needed.
- (e) Handling of Right to Information (RTI) Matters and Online Portal: (a) Handling the online RTI Portal of Nodal Officer, RTI and Central Public Information Officer (CPIO), RTI (b) Handling the online portal of First Appellate Authority of RTI (C) Sending the reply (within 30 days of receipt of RTI Application) in accordance with the RTI Act 2005, by mode (Online OR Offline), in which RTI Application has been received (d) Filing Quarterly RTI Reports in the RTI Web Portal.
- (f) Handle The Centralized Public Grievance Redress and Monitoring System (CPGRAMS) Portal and prepare the reply of the Grievance and the uploading the same on the Web-portal.

People

Activities of the Office of Administration are coordinated by the Advisor (Administration), who is in turn assisted by the Staff Member. The following are the people associated with this Office:

NameDesignationSubhash PandeyAdvisor (Administration)Neeraj KumarJunior Assistant

Editorial Board

Associate Dean (Faculty)

Associate Dean (Academics - PG Programs) Associate Dean (Academics - UG Programs)

Associate Dean (R&D)
Associate Dean (Students)

Deputy Librarian

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Editor

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