

A Biannual Newsletter of IIT Tirupati Samvid

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IIT Tirupati Transit Campus Project wins First Prize in HUDCO Design Awards - 2018

IIT Tirupati Transit Campus Project secured the first prize in the HUDCO Design Awards - 2018 given by Housing and Urban Development Corporation (HUDCO), under the category 'Green Buildings' for the design and construction of an eco-friendly campus with sustainable construction materials and technologies.

In the transit campus, the five four-storey hostel buildings, to accommodate 750 students, have been built using Glass Fibre Reinforced Gypsum panels as both wall and roof elements. Gypsum is a waste product from chemicals and fertilizer factories. The use of bricks and plastering of walls is

completely eliminated. The quantity of cement and steel used is also reduced. The flooring in the laboratory buildings has been made with polished concrete. These high strength and mirror finished floors completely eliminate the use of tiles. In the hostels and class room buildings, 48 volts DC light and fan fittings have been provided. These reduce the consumption of energy by 30%. A 220 kW solar roof top plant has been set up. The wastewater is treated in STP and recycled for flushing and gardening purpose. The hot water is supplied through solar water heaters. High volume low speed (HVLS) fans have been installed in the laboratories and dining hall.

MoUs Signed by IIT Tirupati

CSIR - Central Building Research Institute (CBRI), Roorkee

IIT Tirupati signed an MoU with CSIR-CBRI, Roorkee on 10th January 2019 chiefly to promote interaction between the two institutes in the mutually beneficial areas of Civil and Infrastructural Engineering. The principal areas of collaboration will include Structural Engineering, Seismic Microzonation, Geotechnical Engineering, Environmental Engineering, Building Science & Technology, Housing Systems, Geology and other areas of mutual interest to IITT and CSIR-CBRI. The MoU aims to initiate academic and research collaboration between the two institutions.



Toshiba Software India Pvt. Ltd

IIT Tirupati signed an MoU with Toshiba R&D India on 10th January 2019 chiefly to promote interaction between the two institutes in the mutually beneficial areas of Artificial Intelligence and Data Analytics. The principal areas of collaboration will include development of novel mathematical models and machine learning algorithms for studies on static and time series data arising in a multi sensor environment.

Central Manufacturing Technology Institute (CMTI), Bangalore

IIT Tirupati and CMTI Bangalore signed an MoU on 22nd January 2019 to work together in mutual areas of interest. The major focus of this collaboration is in the areas of Additive Manufacturing, Nano Finishing, MEMS Device Development, Ultra-precision Machining, and AI techniques for vision based systems.

University of Calgary

An MoU was signed between IIT Tirupati and the University of Calgary on 30th January 2019 to explore possibilities for

collaboration and to strengthen friendly cooperation. The general purpose of this MoU is to facilitate mutually beneficial academic and research cooperation between the two Institutions which includes the following: Joint educational and research activities including applications for funding to promote these activities, exchange of visiting scholars for the purpose of conducting research, exchange of scholarly work, exchange of undergraduate and graduate students, exchange of faculty, and organising joint workshops and short programmes.

APPCB and MoEF&CC, Government of India

A tripartite MoU between IIT Tirupati, Andhra Pradesh Pollution Control Board (APPCB), and the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India has been signed on 6th June 2019 at Delhi. Ministry has appointed Dr. Suresh Jain from IIT Tirupati as the nodal officer to work closely in implementation of National Clean Air Programme (NCAP) at the state level. IIT Tirupati will work as a technical partner for APPCB in implementation of NCAP. IIT Tirupati will facilitate the APPCB in identifying the priority actions to improve air quality in the non-attainment cities identified in Andhra Pradesh.

Distinguished Lecture Series



IIT Tirupati started a 'Distinguished Lecture Series' on 7th January 2019 with the inaugural lecture by Professor Rajmohan Gandhi, a well-known Historian & Biographer, on 'South India's Role in the Story of India'. The

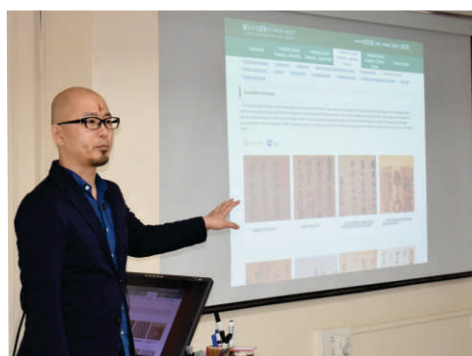
distinguished lecture series aims to invite the eminent scholars from across the country to enlighten IIT Tirupati fraternity. Professor G. Baskaran, Theoretical Physicist, Institute of Mathematical Sciences, Chennai was invited to deliver the second lecture of the series on 12th March 2019 on the topic "A Quantum Leap and a Bright Future". The third lecture was delivered by Prof. Jayant V. Narlikar, Emeritus Professor, Inter-University Centre for Astronomy and Astrophysics, Pune, on the topic "How Well do We Know Our Universe?" on 29th March 2019.

Invited Lectures/Talks held at IIT Tirupati

Professor Sonia Sikka, University of Ottawa delivered a lecture on "Faith, Identity and Reason" on 28th January 2019 commemorating International Philosophy Day.

Dr. Pratap Sriram Sundar, CEO and Chief Consultant, Natura Consultancy Services Pvt Ltd, "Technology Enablers for the Circular Economy" 13th February 2019.

Dr. Miyamoto Takashi, University of Tokyo, "Institutional and Grass-Roots Digital Archives in Japan" 6th March 2019.



Professor Mark Fox, University of Toronto "Accountable AI Systems" 11th March 2019.

Dr. Nandini Rajamani, IISER Tirupati, "How does Climate Affect Species of Small Mammals in the Ladakh Trans-Himalayan Landscape" 3rd April 2019.



Conferences, Workshops, Symposiums, FDPs Organised by IIT Faculty

International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments

IIT Tirupati jointly organised an International conference with IIT Delhi and CIAAS (The China India Association of Atmospheric Scientists) in Delhi on "Atmospheric Chemistry and Physics in Highly Polluted Environments," during 24-26th March 2019. More than 180 people from across the world participated in it. The Directors of IIT Delhi and IIT Tirupati were patrons of the conference.

Faculty Development Program cum Workshop on Climate across the Curriculum: Educational Resources for Teachers

IIT Tirupati organised a Faculty Development Program cum Workshop on "Climate across the Curriculum: Educational Resources for Teachers" in collaboration with TROP ICSU, a climate education project of the International Science Council (ISC), on April 26-27, 2019.

Summer School in Mathematical Modelling and Scientific Computing with Python (SSMMSC-2019)

IIT Tirupati and Kathmandu University, Nepal jointly organised a summer School in Mathematical Modelling and Scientific Computing with Python (SSMMSC-2019) which was held at Kathmandu University from 3rd June to 7th June 2019.

Faculty and Staff News

New Faculty Entrants

With the joining of the following faculty members, the faculty strength at IIT Tirupati reaches 73:

SI No.	Name	Department	PhD	Previous Employment
1	Dr. Shaon Sahoo	Physics	IISc Bangalore	Postdoctoral Researcher, Technische University
2	Dr. Mamilla Ravi Sankar	Mechanical Engineering	IIT Kanpur	Assistant Professor, IIT Guwahati
3	Dr. Pooja Vyavahare	Electrical Engineering	IIT Bombay	Postdoctoral Researcher, University of Illinois, Urbana Champaign
4	Dr. A. Murali Krishna	Civil Engineering	IISc Bangalore	Associate Professor, IIT Guwahati
5	Dr. Sarvagya Pawan Dwivedi	Electrical Engineering	Ghent University, Belgium	Postdoctoral Researcher, University of California USA
6	Dr. Ravinder B.	Mathematics	The Institute of Mathematical Sciences, Chennai	INSPIRE Faculty, Chennai Mathematical Institute

New Staff Entrants

With the joining of the following staff members, the number of staff at IIT Tirupati reaches 53:

SI No.	Name	Designation
1	Dr. Iyyappan I	Physical Education Officer
2	Prashanth Vyankat Nannavare	Horticulture Officer

SI No.	Name	Designation
3	V. Vasudevara Rao	Physical Training Instructor
4	Pakala Nagamani	Staff Nurse
5	J. Sesha Naidu	Staff Nurse

New 'Sponsored Research Projects' at IIT Tirupati

SI No.	Title	Funding Agency	Principal Investigator
1	Lattice Effects in Strongly Correlated Electron Systems at Extreme Conditions	SERB-DST	Dr. Rudra Sekhar Manna Dept. of Physics
2	National Centre for Advanced Research in Hydrogen Energy and its Applications	DST, MECSP	Dr. E. Anil Kumar Dept. of Mechanical Engg.
3	Hybrid Mechanical Vapor Compression with Coupled Pressure and Temperature Swing Adsorption for Smart Heat Pump	SERB-DST	Dr. E. Anil Kumar Dept. of Mechanical Engg.

SI No.	Title	Funding Agency	Principal Investigator
4	A Novel Scheme to Cool the Translational as well as Internal Degrees of Freedom of any Molecular Ion Beam	SERB-DST	Dr. Reetesh Kumar Gangwar Dept. of Physics
5	Smart Hybrid Fiber Reinforced Polymer Composite Strengthening System for Civil Infrastructure	SPARC	Dr. Oinam Romanbabu Meetei Dept. of Civil & Environmental Engg.
6	Developing a Novel Twin-Fluid Atomizer for Energy Efficient Spray Drying of High Viscosity Liquids	SERB-DST	Dr. Madan Mohan Avulapati Dept. of Mechanical Engg.
7	A Novel Approach to Wind Turbine Siting and Wind Resource Assessment using Smart Drone Based Wind Measurement System	SERB-DST	Dr. Balaji Subramanian Dept. of Mechanical Engg.
8	Assessing Households' Preference for Energy Efficient Appliances in Bengaluru City, India: Internalities, Externalities, and Social Norms	ICSSR	Dr. Rahul A Sirohi Dept. of Humanities & Social Sciences
9	Folk Media and Identity Construction: Production and Dissemination in Second Phase Telangana Movement	ICSSR	Dr. V. Vamshi Krishna Reddy Dept. of Humanities & Social Sciences
10	Pāṇinīan School of Grammar: A Seat of Modern Linguistics and (Post)Structuralist Poetics	ICSSR	Dr. Prabha Shankar Dwivedi Dept. of Humanities & Social Sciences
11	Impact of Agricultural Interventions on Farmers' Wellbeing: Evidences from Semi-Arid Regions of Rural India	ICSSR	Dr. Chandra Sekhar Bahinipati (Co-Investigator) Dept. of Humanities & Social Sciences

Recent Faculty Publications

Civil Engineering

- Araya, V., **S. M. Maliyekkal**, and L. Philip. "Water Pollution and Treatment Technologies: Indian Perspective." *Water Futures of India: Status of Science and Technology*, editors: P. P. Majumdar and V. M. Tiwari. *Indian National Science Academy*, pp. 215-252, 2019.
- Kotagi, P. B., and **G. Asaithambi**. "Microsimulation Approach for Evaluation of Reversible Lane Operation on Urban Undivided Roads in Mixed Traffic." *Transportmetrica A: Transport Science*, Vol. 15, No. 2, pp. 1613-1636, 2019.
- Oinam, R. M.**, P. C. A. Kumar, and D. R. Sahoo. "Cyclic Performance of Steel Fiber-reinforced Concrete Exterior Beam-column Joints." *Earthquakes and Structures*, Vol. 16, No. 5, pp. 533-546, 2019.
- Raj, P., S. Kalaanidhi, **G. Asaithambi**, and A. U. Ravi Shankar. "Review of Methods for Estimation of Passenger Car Unit Values of Vehicles." *Journal of Transportation Engineering Part A: Systems, ASCE*, Vol. 145, No. 6., pp., 2019.
- Sharma, D., and **S. Jain**. "Impact of Intervention of Biomass Cookstove Technologies and Kitchen Characteristics on Indoor Air Quality and Human Exposure in Rural Settings of India." *Environmental International*, Vol. 123, No., pp. 240-255, 2019.

Electrical Engineering

- Kalamraju, M., R. J. Sheeba, K. Govindan, and **Rama Krishna Gorthi**. "Consistent Robust and Recursive Estimation of Atmospheric Motion Vectors from Satellite Images." *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, No. 3, pp. 1538-1544, 2019.

- Priya, M. R., M. Deepak, and **Rama Krishna Gorthi**. "Detection Based Long Term Tracking in Correlation Filter Trackers." *Pattern Recognition Letters*, Vol. 122, pp. 79-85, 2019.
- Spoorthi, G. E., **S. Gorthi**, and **Rama Krishna Gorthi**. "PhaseNet: A Deep Convolutional Neural Network for Two-Dimensional Phase Unwrapping." *IEEE Signal Processing Letters*, Vol. 26, No. 1, pp. 54-58, 2019.
- Srirag, N., D. Soumyadeep, V. Sarita, and **Rama Krishna Gorthi**. "Star Cluster Detection and Characterization Using Generalized Parzen Density Estimation." *Monthly Notices of the Royal Astronomical Society*, Vol. 482, No. 3, pp. 3789-3802, 2019.

Mechanical Engineering

- Debashis, P., **E. Anil Kumar**, and Sanjay K. Singh. "Amine Modification of Binder-Containing Zeolite 4A Bodies for Post-Combustion CO₂ Capture." *Industrial & Engineering Chemistry Research*, Vol. 58, No. 13, pp. 5301-5313, 2019.
- Mohan, M., Maitray Sharma, Vinod Kumar Sharma, **E. Anil Kumar**, A. Satheesh, and P. Muthukumar. "Performance Analysis of Metal Hydride Based Simultaneous Cooling and Heat Transformation System." *International Journal of Hydrogen Energy*, Vol. 44, pp. 10906-10915, 2019.
- Mohan, M., Vinod Kumar Sharma, **E. Anil Kumar**, and V. Gayathri. "Hydrogen Storage in Carbon Materials – A Review." *Energy Storage*, Vol. 1, No. 2, pp. 1-26, 2019.

Physics

- Banerjee, S., **P. C. Deshmukh**, V. K. Dolmatov, S. T. Manson, and A. S. Kheifets. "Strong Dependence of Photoionization Time Delay on Energy and Angle in the Neighborhood of

Fano Resonances." *Phys. Rev.*, Vol. A 99, No. 1, pp. 013416, 2019.

- Kumar, V. U., G. Chitikela, N. Balasa, and **P. C. Deshmukh**. "Revisiting Table-Top Demonstration of Relativistic Time-Dilation and Length-Contraction." *Bulletin of the Indian Association of Physics Teachers*. Vol. 11, No. 6, pp. 172-179, 2019.
- Saha, S., J. Jose, **P. C. Deshmukh**, G. Aravind, V. K. Dolmatov, A. S. Kheifets, and S. T. Manson. "Wigner Time Delay in Photodetachment." *Phys. Rev.*, Vol. A 99, No. 1, pp. 043407, 2019.
- Saha, S., **P. C. Deshmukh**, A. S. Kheifets, and S. T. "Manson Dominance of Correlation and Relativistic Effects on Photodetachment Time Delay Well Above Threshold." *Phys. Rev.*, Vol. A 99, No. 1, pp. 063413, 2019.

Mathematics

- Ammari, H., **D. P. Challa**, A.P. Choudhury, and M. Sini. "The Point-interaction Approximation for the Fields Generated by Contrasted Bubbles at Arbitrary Fixed Frequencies." *J. Differential Equations*, Vo. 267, No. 4, pp. 2104-2191, 2019.
- **Challa, D. P.**, F. Mouffouk, and M. Sini. "Estimation of a Class of Quasi-resonances Generated by Multiple Small Particles with High Surface Impedances." *Math. Meth. Appl. Sci.(M2AS)*, Vol. 42, No. 10, pp. 3568-3578, 2019.
- **Das, I.**, S. Sen, N. R. Chaganty, and P. Sengupta. "Regression for Doubly Inflated Multivariate Poisson Distributions." *Journal of Statistical Computation and Simulation*, Vol. 89, No. 13, pp. 2549-2561, 2019.

Humanities and Social Sciences

- **Bahinipati, C. S.** "Adaptation to Climate Change in the Hindu Kush Himalaya: Stronger Action Urgently Needed." Wester P., Mishra A., Mukherji A., Shrestha A. (eds), *The Hindu Kush Himalaya Assessment*. Springer, pp. 457-490, 2019.
- **Dwivedi, P. S.** "Ontology of Dialogic Inquisition: A Study in Relation to Kena and Praśna Upaniṣads, and Bergsonism." *Journal of Comparative Literature and Aesthetics*, Vol. 42, No. 1, pp. 64-72, 2019.
- **Dwivedi, P. S.** "W. B. Yeats's Poetic Self and Indian Philosophy." *The Yeats Journal of Korea: An International Journal of Yeats and Modern Literature*, Vol. 58, pp. 85-104, 2019.
- Patnaik, U., P. K. Das, and **C. S. Bahinipati**. "Developmental Interventions, Adaptation Decision and Farmers' Well-being: Evidence from Drought-prone Households in Rural India." *Climate and Development*, Vol. 11, No. 4, pp. 302-318, 2019.
- **Raghuramaraju, A.** "Compilers Now and Authors Later: Indent from Indian Philosophy." *Barefoot Philosophers: Taking Philosophy Back*, 2019.

Books Published

- **Dwivedi, P. S.** *Epistemology and Linguistics: Bhartrhari, Structuralism, and Poststructuralism*, Motilal Banarasi Dass Publishers, New Delhi, 2019.
- **Raghuramaraju, A.** *Calibrating Western Philosophy for India: Rousseau, Derrida, Deleuze, Guattari and Vaddera Chandidas*. Routledge India, 2019.
- **Raghuramaraju, A.** *Vaddera Chandidas: Dharsanam Sahityamu. (Telugu)*. EMESCO Publications, Vijayawada, 2019.
- **Sirohi, Rahul A.** *From Developmentalism to Neoliberalism- A Comparative Analysis of Brazil and India*. Palgrave Macmillan, 2019.

Conference

Chemical Engineering Chemistry

- **Harikrishnan Ramanan**. "Electro-Separation Technologies for Water Treatment." Invited Lecture, *Indo-German Joint Scientific Workshop* on "Membranes for Water and Energy," CSIR-Central Salt and Marine Chemicals Research Institute, Bhavnagar, Gujarat, 18-20 February 2019.

Chemistry

- **R. Biswas**. "In Silico Spectroscopy and Structure-Spectrum Correlations of Aqueous Systems." *Dynamics at the Interface of Chemistry and Biology (DICB - 2019)*, Indian Institute of Science Bangalore, 18-20 February 2019.

Civil Engineering

- A. Singh, A. K. Chandrappa, P. V. Sampath, and **K. P. Biligiri**. "Case Studies on the Construction of Pervious Concrete Pavements in India." *International Seminar on Construction and Rehabilitation of Rigid Pavement - Current Practice and Way Forward*, New Delhi, India, 18-19 January 2019.
- A. Singh, S. J. Gaddam, P. V. Sampath, and **K. P. Biligiri**. "A Rational Approach for Characterizing In-Situ Infiltration Parameters of Two-Layered Pervious Concrete Pavement Systems." *98th Annual Meeting of the Transportation Research Board, National Academies of Engineering*, Washington, DC, USA, 13-17 January 2019.
- D. Ghosh, S. Beniwal, **A. Ganguli**, A. Mukherjee and S. Bishnoi. "Cross-Correlation Based Imaging of Defects in Plate Using Ultrasonic Lamb Waves." *NDE 2018 Conference & Exhibition of the Indian Society for NDT (ISNT)*, Navi Mumbai, 19-21 December 2018.
- D. Sharma, and **S. Jain**. "Indoor Air Pollution from Solid Biomass Burning in Cookstoves: An Intervention Analysis to Assess the Benefits and Co-Benefits in Rural Settings." *International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments (CIAAS-2019)*, IIT-Delhi, 22-24 March 2019.

- M. Madan, and **S. Jain**. "Real-Time Air Quality and Exposure Assessment Inside the Different Passenger Modes of Transport in Delhi." *International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments (CIAAS-2019)*, IIT-Delhi, 22-24 March 2019.
- N. Kathuria, and **S. Jain**. "Determinants of lung cancer using epidemiological approach: A case-control study at All India Institutes of Medical Sciences New Delhi." *International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments (CIAAS-2019)*, IIT- Delhi, 22-24 March 2019.
- P. B. Kotagi and **G. Asaithambi**. "Study of Impact of Modal Shift of Private Vehicles to Public Transport using Microscopic Simulation Model: A Case Study of Three Metropolitan Cities in India." *98th Transportation Research Board Annual Meeting, Washington D.C., USA*, 12-16 January 2019.
- **S. M. Maliyekkal**. "New and Efficient Technologies on Fluoride Removal." *Two Day National Workshop on Management of Grey Water in Rural Areas and Arsenic and Fluoride Remediation*, IIT Madras, 22-23 March 2019.
- S. Mittal, and **K. P. Biligiri**. "A Rational Methodology to Evaluate Resilience of a City Impacted by Disaster: Emphasis on Transportation Infrastructure." *4th World Congress on Disaster Management*, Mumbai, 29 January – 1 February 2019.
- S. Singh, R. Bayya, S. Sundar, and **K. P. Biligiri**. "Development of Tire/Pavement Noise Performance Criteria for a Two-wheeler." *INTER-NOISE 2019*, Madrid, Spain, 16-19 June 2019.
- **S. Jain**. "IAQ Monitoring & Modeling." Session Chair: *Asian Conference on Indoor Environmental Quality (ACIEQ 2019)*, Indian Aviation Academy, New Delhi, 1-2 February 2019.
- **S. Jain**. "Life Cycle Assessment: A Sustainable Approach." Keynote Speaker, *2nd International Conference on Sustainable Technologies for Environmental Management (STEM-2019)*, Delhi Technological University, Delhi, 25-26 March 2019.
- T. Sharma, and **S. Jain**. "Impact of Transport Demand Policies on Vehicle Usage and Air Pollution in Urban Cities." *National Environmental Conference (NEC-2019)*, IIT-Bombay, 31 January – 2 February 2019.
- T. Sharma, **S. Jain**, and P. Sharma. "Impact of Transportation Demand Management Policies on the Modal Share and Air Quality in Cities: Causes, Consequences and Effectiveness of Policy Options." *International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments (CIAAS-2019)*, IIT-Delhi, 22-24 March 2019.
- V. Barthwal, and **S. Jain**. "Occupational Health Effects among Women Construction Workers: A Perception Based Cross Sectional Study in Delhi and Satellite Towns." *International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments (CIAAS-2019)*, IIT- Delhi, 22-24 March 2019.

Computer Science & Engineering

- Ravi Sharma, and **Venkataramana Badarla**. "Analysis of a Novel Beacon Placement Strategy for 3D Localization in Indoor Spaces." *11th International Conference on COMMunication Systems and NETworkS (COMSNETS)*, Bangalore, 7-11 January 2019.
- S. D. Joshi, and **S. Chimalakonda**. "RapidRelease: A Dataset of Projects and Issues on Github with Rapid Releases." *16th International Conference on Mining Software Repositories (MSR '19)*. NJ, USA, 26-27 May 2019.

Electrical Engineering

- J. Mandapalli, **S. S. Gorthi, Rama Krishna Gorthi**, and S. Gorthi. "Circular Fringe Projection Method for 3D Profiling of High Dynamic Range Objects." *14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP)*, Prague, Czech Republic, 25-27 February 2019.
- J. Haj-Yahya, M. M. Wong, **V. Pudi**, S. Bhasin and A. Chattopadhyay. "Lightweight Secure-Boot Architecture for RISC-V System-on-Chip." *IEEE 20th International Symposium on Quality Electronic Design (ISQED)*, 6 March 2019.

Mechanical Engineering

- K. Phanindra, S. R. Banik, I. M. Iqbal, and **M. R. Sankar**. "Tribological Characterization of Biodegradable Magnesium Alloys Under Dry-Sliding Conditions." *6th International Conference on Production and Industrial Engineering (CPIE-2019)*, NIT Jalandhar, 8-10 June 2019.
- S. R. Banik, I. M. Iqbal, R. Nath, L. J. Bora, B. K. Singh, N. Mandal, and **M. R. Sankar**. "State of the art on Zirconia Toughened Alumina Cutting Tools." *9th International Conference on Material Processing and Characterization (ICMPC-2019)*, GRIET, Hyderabad, 8-10 March 2019.
- J. Das, S. R. Banik, S. R. S, S., K Reddy, **M. R. Sankar**, and P. S. Robi. "Review on Process Parameters Effect on Fatigue Crack Growth Rate in Friction Stir Welding." *9th International Conference on Material Processing and Characterization (ICMPC-2019)*, GRIET, Hyderabad, 8-10 March 2019.
- **M. R. Sankar**, S. Saxena, S. R. Banik, I. M. Iqbal, R. Nath, L. J. Bora, and K. K. Gajrani. "Experimental Study and Artificial Neural Network Modelling of Machining with Minimum Quantity Cutting Fluid." *9th International Conference on Material Processing and Characterization (ICMPC-2019)*, GRIET, Hyderabad, 8-10 March 2019.
- S. K. Matta, S. Singh, and **M. R. Sankar**. "Surface Morphology and Metallurgical Studies on Gas Assisted Laser Beam Hybrid Micromachined Steel." *1st International Conference on Industry 4.0 and Advance Manufacturing (I4AM-2019)*, Indian Institute of Science, Bengaluru, 28-29 June 2019.

Physics

- **R. S. Manna.** "Frustrated Quantum Magnets: The Case of Honeycomb Iridates." *Discussion Meeting on Recent Advances in Magnetism (DMRAM-2019)*, Indian Institute of Technology Mandi, 14-16 May 2019.
- **R. S. Manna.** "Breakdown of Magnetic Order in the Pressurized 3D Kitaev Iridate B-Li₂IrO₃." *American Physical Society (APS) March Meeting*, Boston, USA, 4-8 March 2019.

Mathematics

- **I. Das,** S. Sen, N. R. Chaganty and P. Sengupta. "Regression in the Doubly Inflated Multivariate Poisson Distributions." *National Conference on Challenges and Opportunities in Statistics and Informatics for Futuristic Humanosphere Especially in Agriculture (COSIFHA - 2019)*, S. V. Agricultural College, Tirupati, 29 - 31 January 2019.
- **I. Das.** "Multivariate Distributions Using Copula." *13th National Statistics Day Cum Workshop on Data Science for Growing a Nation*, Sri Venkateswara University, Tirupati, 29 June-1 July 2019.

Humanities and Social Sciences

- **A. Raghuramaraju.** "Manage an Enigmatic India." *International Conference on Essential Management in the Age of Disruption*, Department of Management Studies, S. V. University, Tirupati, 19 January 2019.
- **A. Raghuramaraju.** "Science and Spirituality: The Transition Context." *A Conference on Towards Peace, Harmony, Happiness: Transition to Transformation*, Institute of Public Enterprise, Hyderabad, 22-23 March 2019.
- **C. S. Bahinipati,** and U. Patnaik. "Loss and Damages from Floods in India: Influence of Human Development, Income and Inequality." *24th Annual Conference of the European Association of Environmental and Resource Economists*, The University of Manchester, Manchester, United Kingdom, 26-29 June 2019.
- **C. S. Bahinipati,** and P. K. Viswanathan. "Do Resource Efficient Technologies Resolve India's Groundwater Crisis? Evidence from Western India." *The LEEP Institute's Meeting of International Excellence in Environmental and Resource Economics*, University of Exeter Business School, Exeter, United Kingdom, 24-25 June 2019.
- **C. S. Bahinipati,** V. Kumar, and P. K. Viswanathan. "Do Farmers Respond to Climate Change in India: A Systematic Review of Literature." *National seminar on 'Green revolution and agricultural sustainability in India: issues and challenges'*, Ravenshaw University, Cuttack, 23-24 February 2019.
- **C. S. Bahinipati,** V. Kumar, and P. K. Viswanathan. "A Systematic Review of Indian Farmers' Adaptation Practices to Climate Change: Scope for Integration of Behavioral and Experimental Economics Principles." *TAPMI-Max Planck-SOTON Winter School on Bounded Rationality 2019*, TAPMI, Manipal, 14-20 January 2019.

- **Bharath Kumar.** "Nationalism from Below." *International Seminar on 'Building Bridges between Latin American and Indian Philosophy*. Centre for Philosophy at Jawaharlal Nehru University, Delhi, 18-20 March 2019.
- Kashyapi Ghosh and **Vamshi Vemireddy.** "The Gastronomer Woman in Cinema: Gender, Culture and Transnationalism." *Conference on 'Region/Nation/Trans-Nation: Literature-Cinema Interface*. Department of Humanities and Social Sciences, BITS Pilani, Goa Campus, 31 January - 02 February 2019.
- **P. S. Dwivedi.** "Understanding the Tāntric Roots of Karāha- An Esoteric Worship of Kṛṣṇa in North India." *17th Annual Conference of the European Association for the Study of Religions (EASR)*, on Religion - Continuities and Disruptions, University of Tartu, Estonia, 25-29 June 2019.
- **P. S. Dwivedi.** "Vākyapadiya and Proto-Structuralism: Towards Understanding the Contemporaneity of Bhartṛhari's Theses." *International Conference on Relevance of Indian theories of Art/Literature Today with Special Reference to Rasa, Dhvani, Auchitya and Bhartrihari's Vakyapadiya*, IAS, Rashtrapati Nivas, Shimla, 5-11 April 2019.
- Pankaj Kumar Verma, and **P. S. Dwivedi.** "Dhanamjaya's Conceptions of Dramatic Art and the Dramaturgy of Early Hindi Cinema." *International Conference on Region/Nation/ Trans-Nation: Literature-Cinema Interface*, BITS Pilani, Goa Campus, 31 January - 02 February 2019.
- **Vamshi Vemireddy.** "Language, Ideology and Political Economy: Changing Contours of Contemporary Telugu Cinema." *Conference on Contemporary Indian Cinema: Contestations and Consolidations*, Department of Media and Communication Studies, Savitribai Phule Pune University, Pune, 7 - 9 February 2019.
- **Vamshi Vemireddy.** "Folk Media and Identity Construction: Production and Dissemination in Second Phase Telangana Movement." *Conference on the Histories of Media and Performances; The Political, The Cultural and the Deep Pasts*, S. N. School of Arts and Communication, University of Hyderabad, 14-15 March 2019.
- **Vamshi Vemireddy.** "Aghoris- the Saiva Tantriks of Banaras: Towards a Dialectical Study of Truth, and Myth Generated through Indian Cinema." *17th Annual Conference of the European Association for the Study of Religions (EASR)*. University of Tartu, Estonia, 25-29 June 2019.

Awards and Achievements

- **Dr. Shihabuddeen M. Maliyekkal** received the Research Excellence Award under the subcategory "Teaching Faculty" at IEI- FCRIT Excellence Awards- 2019.
- **Dr. Suresh Jain** received best oral-presentation award for his co-authored paper titled, "Impact of transportation demand management policies on the modal share and air quality in cities: Causes, consequences and effectiveness of policy options" at the International Conference on Atmospheric Chemistry and Physics in Highly Polluted Environments (CIAAS-2019), held at IIT Delhi, 22-24 March, 2019.

Events & Activities

70th Republic Day Celebrations on the Permanent Campus

IIT Tirupati celebrated the 70th Republic Day on 26th January 2019 on the permanent campus. The celebrations began with unfurling of the national flag by the Director Prof. K. N. Satyanarayana, followed by the National Anthem. The Director addressed the gathering of the faculty, staff and students. Students organised many cultural events relating to the national unity and love for the country.



The Fourth Institute Day

The fourth Institute Day of IIT Tirupati was celebrated on the Permanent Campus on 16th April 2019. Prof. Ashok Jhunjhunwala, Institute Professor, IIT Madras, was the chief guest of the event. Prof. K. N. Satyanarayana, Director, IIT Tirupati, presided over the function. The event formally began with the welcome address by Prof. K. Krishnaiah, Dean, Academic Affairs, followed by the speeches of the chief guest, and the Director. The students gave excellent cultural performances on the occasion. The chief guest awarded medals to the toppers of the various branches, and distributed prizes to the winners of various events held during the year. The vote of thanks was proposed by Dr. N. Venkaiah, Associate Dean, Student Affairs.

IIT Tirupati bags first prize in Smart India Hackathon 2019

The team *Beginner's Luck Strikes* from IIT Tirupati (Mr. Gowtham Senthil, Mr. Aravindh Rajiv, Mr. Nandhakumar K, Mr. Abishekh P, Mr. Koushik K S, Ms. Rishitha Reddy) won the first prize of Rs. 1 Lakh and a shield for the problem statement "App Based Solution for Digitization of Valuation of Mobile Assets" in Smart India Hackathon 2019.

Gymkhana Club Sports Meet

Gymkhana Club conducted intramural sports meet from

February to April 2019. Students were divided into four houses namely Titans, Mavericks, Warriors and Dynamites. Various games and events were conducted for men and women like Badminton, Basketball, Cricket, Football, Table Tennis, Volleyball, Throw ball and Athletics. Finally, the Mavericks house won the overall championship. B. Nitish Kumar (Final year, Mechanical) and S. Spandana (Second year, Civil) were declared the Best Athletes among men and women, respectively.

Tirutsava - 2019

Tirutsava - 2019, held on 1-3 February 2019 was the second edition of the techno-cultural fest of IIT Tirupati. It witnessed enthralling cultural performances like fire dance and laser dance which left the audience awestruck.

Students showcased their technical expertise and came up with innovative ideas by participating in a wide array of technical events conducted during the course of 2-day fest.

Several students from all over Tirupati attended the workshops conducted around the latest themes in the technological frontier like machine learning and artificial intelligence. The



performances by Lagori, a rock band, and the DJ night were crowd pullers. The citizens of Tirupati thronged to both the events in large numbers to thoroughly enjoy the weekend. Overall, Tirutsava was truly the efforts of several teams of students who seamlessly worked together to make it a massive success.



Editors

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