



**4TH INTERNATIONAL CONFERENCE
ON MATERIALS, MECHANICS AND MANAGEMENT**
COLLEGE OF ENGINEERING TRIVANDRUM
ON 5, 6 AND 7 MARCH 2020

SCHEDULE

DAY 1 (5th March 2020)

08.30AM to 10.00 AM: Registration

10.00 AM to 11.00 AM: Inauguration & Key Note Address

10.00 AM to 11.00 AM
Inauguration & Key Note Address
Venue: Grand Utsav, Hotel SP Grand Days

Welcome	Dr. Jiji C. V. IMMM2020 Conference Chair & Principal, CET
Inaugural address:	Dr. Rajasree M. S. Vice Chancellor, APJ Abdul Kalam Technological University
Presidential Address:	Dr. K. P. Indira Devi Director of Technical Education, Govt. of Kerala
Key Note Address:	Dr. R. Venu Gopal IPESS Deputy Chief Controller of Explosives Petroleum & Explosives Safety Organization (PESO) Government of India.
Vote of Thanks:	Dr. Asok Kumar N. IMMM2020 Organising Secretary

11.00 AM to 11.15 AM: Tea Break

DAY 1 (5th March 2020) : 11.15 AM to 12.45 Noon Key Note Lectures (Parallel Sessions # 1)		
Venue	Topic	Speaker
Spice Days	Recent advancements in high-strength materials	Dr. Jayant Jain, IIT Delhi
Aqua Grand B	Constitutive Modelling of Static and Cyclic Behaviour of Clays with Different Microfabric	Dr. Rakesh J Pillai, IIT Palakkad
Aqua Grand C	Mankind and the Need for Sustainability through Convergence of Resources	Kedarnath Rao Ghorpade, Former Chief Planner of Mumbai MRDA

1.0 PM to 2.00 PM: lunch Break

DAY 1 (5 th March 2020): 2.00 PM to 3.30 PM			
Paper Presentation (Parallel Sessions # 1)			
Venue	Paper Id	Topic	Speaker
Chairs: Dr. Rohinikumar B(NITC) and Dr. Manoj T Nair(IIST) Session Manager: Dr. Anjan R Nair			
Spice Days	68	Performance Analysis of Serpentine Flat Plate Solar Collector	Lishad K P
	23	Fresnel Lens Concentrated Photo Voltaic/Thermal Hybrid Solar Collector	Askkar Ali P
	119	Numerical analysis of heat transfer and flow friction characteristics of perforated disc compact heat exchanger	Ghanashyam K C
	105	Experimental investigations on the effect of strut geometries in supersonic mixing	V Sumesh
	158	Effect of Data Uncertainties in the Thermal Analysis of a Printed Circuit Board Using Monte Carlo Method	Midhun C
	115	Production, Engine performance and emission characteristics of blends of nano-fueled waste plastic oil obtained by pyrolysis method mixed with conventional diesel in a CI engine.	Alex Y
Chair: Dr. M. Satyakumar Co-Chair: Dr. Anu P Alex Session Manager: Prof. Preethi P			
Aqua Grand B	80	Stabilization of Pavement Subgrade Treated with Quarry Dust and Lime	Manjula Devi
	143	The 2019 Kerala floods: Impact of Natural Disasters on Traffic and Transportation	V S Sanjay Kumar
	169	Developing Cool Concrete Pavements using Phase Change Materials	Anupam B R
	83	Prediction of Unconfined compressive strength of stabilized soil using Regression analysis	Aditya Ahirwar
Chair: Prof. A Kasturi Rangan Co-Chair: T M Sudha Session Manager: Prof. Saritha G P			
Aqua Grand C	52	Disaster Risk Reduction Model: Case Panamaram, Wayanad	Pournami Narayanan
	60	Ecotourism Development Plan for Minicoy Island Lakshadweep	Prithvijith V. S. Nair
	74	Development of a settlement pattern for Kuttanad - A case of Kainakary	I S Durga
	110	An Assessment of Vulnerability of Fishermen Settlements to Coastal Hazards in Kerala- A Case of Kollam District	Smitha M V
	40	Community based disaster preparedness - A case of Western Ghats Kerala region	Jenny Maria Sony
	48	Planning Framework for the sustainable management of wetland - A case of Ashtamudi Lake in Kollam	Shahina Muthu S

3.30 PM to 3.45 PM: Tea Break

DAY 1 (5th March 2020): 3.45 PM to 5.30 PM			
Paper Presentation (Parallel Sessions # 2)			
Venue	Paper Id	Topic	Speaker
Chairs: Dr. Rohinikumar B(NITC) and Dr. Manoj T Nair(IIST) Session Manager: Dr. Sunil Kumar S			
Spice Days	5	Analysis of the Thermal Behaviour of Free stream Cooling of Microprocessor by Using Rectangular Type Heat Sinks	Dr. Arun Kumar Pandey
	13	Natural convection boundary layer flow over cylinders and cones.	Dinesh D
	157	Numerical study on heat transfer augmentation in a tube heat exchanger with symmetrical airfoil shaped insert	Anson John
	129	Numerical analysis of heat transfer and flow friction characteristics of curved longitudinally finned-tube heat exchanger	Sarath S
	30	Modelling and experimental investigation of the effect of particle size on biomass gasification	Vipindas M
	6	Effect of MWCNT Content of Heat Transfer Characteristics of Water Based Nano Coolant	Vijay Verma
Chair: Dr. Aadarsh S Co- chair : Dr. Shibu A Session Manager: Divya Chandran			
Aqua Grand B	10	Calibration of Water Distribution Network using Genetic Algorithm	Aryalakshmi M
	15	Analysis of Groyne Orientation in Meanders with Permeable Groynes – A Laboratory Study	Indulekha K P
	43	Gis Based Morphometric Ananalysis and Flood Hazard Vulnerability of Two River Basins Under Different Climatic Milieu	Arathy Nair G R
	139	Water Audit for Engineering College Campus	Shradha Phalle
	140	Assessment of Soil Surface Roughness Statistics Using a Simple Photogrammetric Acquisition System	V S Anagha
	167	Green Roofs for Urban Storm water Management: A Review	Ganga R S
Chair: Prof. A Kasturi Rangan Co-Chair: T M Sudha Session Manager: Prof. Saritha G P			
Aqua Grand C	58	A spatial framework for exploring the Sense of Community in planned residential areas – Sense of Community (SOC)	Feba K. Jones
	79	Study on the implications of Coastal Regulation Zone (CRZ) notification in the development of Islands - the case of backwater islands in Kochi, Kerala	Sharika Ravi
	90	Energy Efficient Planning for Cities – An Approach to Develop Parameters for Energy Efficient City Planning	Amala Sali Paul
	92	The Influence of Urban Planning in Road safety- Towards more Sustainable cities	Sharmin Shafeek
	133	Urban Resilience Index as an Instrument to Sustainable Development	Kiran Kumar S
	141	Post Disaster Planning Interventions in Nepal	Arun Shankar M

DAY 2 (6th March 2020)

DAY 2 (6 th March 2020): 9.00 AM to 11.00 AM Paper Presentation (Parallel Sessions # 3)			
Venue	Paper Id	Topic	Speaker
Chairs: Dr. V. Madhusudanan Pillai (NITC)& Dr. V. Ravi (IIST)Session Manager: Dr. Binoosh S. A.			
Spice Days	27	Optimization of aviation turbine fuel transport in pipeline networks	Yeldho Peter
	62	Performance Improvement Verification Model in Educational Institutions	Althaf S M
	64	Exploration and Analysis of Advanced Green Tools Applicable for Process Industries	Leeja J
	136	Analysis of hand-arm vibration in hand-held power tool operators	Akhila S L
	151	Different Approaches in Playground Equipment Design To Bring Inclusiveness	Akshaya J
	96	E-Commerce Marketing Framework Using Consumer Online Presence	Vishnu A P
	152	Application of nature inspired algorithms for optimizing water distribution system post disaster; A review	Karthik D M
Chairs: Dr. Akshay Dilip Shende and Dr. Sheela A.M. Session Manager: Dr. Shibu K			
Aqua Grand B	67	Ozonation as a Technique for Domestic Wastewater Treatment	Preeti Shrivastava
	137	Study on Integrated Treatment system for Medium Strength Domestic Wastewater	Guru Munavalli
	146	Maintenance and Management of Parvathy Puthanar Canal in Thiruvananthapuram	Nidhi C Mohan
	147	Study on Depth and Characteristics of Sludge in Field-Scale Anaerobic Baffled Reactor	Satyam Shinde
	149	Estimation of Oxygen Transfer Parameter in Feeding System of Vertical Flow Constructed Wetland	Piyush Jadhav
	150	Package Treatment System for Domestic Wastewater: A Review	Vivek Patil
	155	Study on Alternate modes of plantation in Bio-rack Constructed Wetland	Tulsiram Jangid
	164	Urban Heat Island Effects: A Review	Najiya N
Chair: Prof. A Kasturi Rangan Co-Chair: T M Sudha Session Manager: Prof. Saritha G P			
Aqua Grand C	25	Readjusting Urban Land Through Town Planning Schemes in Kerala - A Critical Analysis	Anna John
	26	Framework for assessment of suitability of multi-storeyed residential buildings under Slum Upgradation Programmes: A case of Chennai Corporation	Agnes Rachel Simon
	31	Formulation of methodology to assess the effectiveness of Responsible tourism in Kerala	Rini Thomas Kutty
	33	Assessment of the Quality of Urban Parks in Kerala context- A case of Ernakulam city	Ann Joy

	156	Effective Land Management for conserving Paddy Farm Sector	Sandra Rose
	55	Framework for assessing Land Suitability for Robber Cultivation in Kerala	Reshma George
		Concluding by Chair & Co-Chair	

11.00 AM to 11.15 AM: Tea Break

DAY 2 (6 Feb 2020) : 11.15 AM to 12.45 Noon Key Note Lectures (Parallel Sessions – # 2)		
Venue	Topic	Speaker
Spice Days	Community-based Understanding of Solar Entrepreneurship Development Dynamics in Rural India	Dr. Jayendran V, IIT Bombay
Aqua Grand B	Sustainable Water Management: Concerns and Solutions in the Indian Context	Prof. (Dr.) K.P. Sudheer, Ex Officio Principal Secretary S&T Department & Executive Vice President KSCSTE
Aqua Grand C	Designing Future-Proof Cities	Prof. Devi Prasad, Director, School of Architecture, VIT

1.00 PM to 2.00 PM: lunch Break

DAY 2 (6th March 2020): 2.00 PM to 3.30 PM Paper Presentation (Parallel Sessions # 4)			
Venue	Paper Id	Topic	Speaker
Chairs: Dr. Praveen Krishna(IIST) and Er. Paul George(LPSC) Session Manager: Dr. Mini R S			
Spice Days	121	Feasibility study of epoxidised rice bran oil as cutting fluid	Jithin Prakash
	122	Fabrication and Performance Analysis of a Grease Formulation Setup	Gokul Biju
	138	Friction and wear characteristics of RCO derived biodiesel	Arvind P
	125	Performance Evaluation of Vegetable Oils as Metal Cutting Fluids	G V S Karthik
	77	Stearic Acid as a Green Anti-Wear Additive for Biolubricant	Abhijith K
	123	Feasibility study on the Formulation of rice bran oil based Bio-grease	Deepkant A
	17	Production of bio-ethanol from fruit peel	Arya S Nair

Chairs: Dr. Sheela S and Dr. Ruby Abraham		Session Manager: Dr. Yashida Nadir	
Aqua Grand B	02	Finite Element Simulation of Roll Bending Process of Cylindrical Waffle Structure	Jeny J S
	09	Experimental Investigation on Mechanical Properties of Sustainable Concrete Incorporated with Fly ash, GGBS and Recycled Aggregate	Merin Mathew
	14	Pond Ash as Partial Replacement of Fine Aggregate in Concrete	Avadhuth K
	19	Buckling Analysis of Stiffened Functionally Graded Material Plates under Uniaxial Compression	Gayathri D S
	32	Addition of Glass Powder and Egg Shell Powder: A Green Solution for Improving the Mechanical Properties of Concrete	Dr. Mini Koshy
	37	Effect of Fly Ash Replacement on Strength and Durability Properties of Slag Based Geopolymer Concrete	Anusha Raj K
	108	Modelling of Post-Tensioned Beams with Parabolic Cable Profile	Surya Raghunath
Chair: Ar. Nirmal Chandy Co-Chair: Ar. Sachin Sathyan Session Manager: Prof. Saritha G P			
Aqua Grand C	21	Architecture and Interactions: The Role of Physical interface in facilitating user interactions at World Expos	Shagi S Nair
	12	Urban design strategies for retention of wetlands in urban areas	Benjoy C Joy
	34	Sensitive ecological issues leading to development induced landslides in urban highlands	Alli M Sudhan
	46	Need of Urban Consciousness in Designing Responsive Public Spaces	Jincy Varghese
	57	Commons to contested domain – Contemporary trends in transformation of urban riparian edge	Smitha C
	16	Reconsidering the concept of Residual spaces: “Flyovers” as a potential opportunity for the city fabric	Shagi S Nair

3.30 PM to 3.45 PM: Tea Break

DAY 2 (6th March 2020): 3.45 PM to 5.15 PM			
Paper Presentation (Parallel Sessions # 5)			
Venue	Paper Id	Topic	Speaker
Chairs: Dr. V. Madhusudanan Pillai (NITC) and Dr. V. Ravi (IIST) Session Manager: Dr. Sunil Kumar K			
Spice Days	162	Identification of risk due to RSI among auto rickshaw drivers	Jithu Gopinath
	163	Preparedness of E-pharmacy in Rural India: A Quantitative Analysis using DEA.	Betsy Mathai
	165	Effect of Variable Deterioration Rate on Perishable Food Supply Chains	Dileep M V
	71	Human skeleton tracking using Microsoft Kinect in pump manufacturing industries	Praveen S
	72	Performance improvement of a tertiary hospital using Kano model and quality function deployment	Amal Soni

Chair: Ar. Nirmal Chandy Co-Chair: Ar. Sachin Sathyan Session Manager: Prof Saritha G P			
Aqua Grand C	112	Waste management in Kerala urban neighbourhood by adapting 'zero waste city' concept – a case of Edappally	Swetha Santhosh
	114	Power, Politics and Identity of Capital Cities	Monisha V Kunjumon
	116	Form based code as a tool for creating sustainable mixed use neighbourhoods	Reshma P R
	54	Study of Kanadukathan- A Chettinad Village Development	Samyuktha Krishnan T M
	106	Maintenance Management Plan for Agraharams of Valiyashala	Miria Rose Jacob
		Conclusion by Chair & Co-Chair	

6.30 PM to 7.30 PM:

Traditional Dance Programme of Kerala & Music, Venue: Grand Utsav, SP Grand Days

7.45 PM to 9.00 PM: Conference Dinner.

DAY 3 (7th March 2020)

DAY 3 (7th March 2020): 9.00 AM to 11.45 AM			
Paper Presentation (Parallel Sessions # 6)			
Chair: Dr. V. Ravi (IIST) and Er. Ganesh Pillai(LPSC) Session Manager: Dr. V. S. Unnikrishnan			
Venue	Paper Id	Topic	Speaker
Spice Days	51	Constructing a more efficient financial crisis warning model using various hybrid z-score models	Vishnupriya R. C
	44	Detection of defect in steel sheets using Convolutional Neural Networks	J Visweswara Iyer
	63	Diabetic retinopathy detection using machine learning	Kishore M V
	73	Machine Learning Based Methodology For Pneumonia Diagnosis	Arun Kumar S
	128	Futures Portfolio Optimization of Energy and Non-Energy Commodities	Sreelakshmi U
	132	Predicting exchange rates using commodity prices in the Indian market	Soumya Sankaran
	142	Comparative Study on Application of Hybrid Algorithms for Portfolio Optimization	Aswajith R S
	148	Price Prediction Using Machine Learning Algorithm on Daily Stock Prices	Anantha Narayan K R
	154	Advancements in Stock Price Prediction using Long Short Term Memory (LSTM) neural Network: A Review	Manisha.F

Chairs: Dr. Balan K and Dr. Sheela Evangeline		Session Manager: Dr. Bindu J	
Aqua Grand B	38	Performance Study of Clay Mixture Amended with Activated Carbon as Clay Liner	S Anju
	39	Modelling and Analysis of Tapered Stone Columns using ABAQUS Software	Kiron Keerthi
	42	Behaviour of Circular Footing Subjected to Horizontal Loads	Amritha Varsha. T S
	45	Behaviour of Circular Footing Subjected to Moments	Sreedhu P S Potty
	113	Effect of Nickel on the Adsorption Characteristics of Landfill Liner using Marine Soil	Ajitha A R
	166	Influence of Flood on the Behaviour of Footing	Salini Valiyaparambil
Chairs: Dr. Praveen Krishna (IIST) & Er. Paul George (LPSC) Session Manager: Dr. Gopalakrishnan KC			
Aqua Grand C	35	Numerical analysis on the Vibrational characteristics of Flexible tubes conveying fluids using Two way Fluid Structure Interaction.	Nizam Mon K S
	124	Vibration analysis of a rectangular plate immersed in a flowing fluid.	N Arun Kumar
	59	Modal analysis of horizontal axis jacket supported offshore wind turbine.	Jithin J
	24	Development of an experimentation setup for the analysis of flow induced vibrations in flexible tubes conveying fluid.	Amal G Nath
	135	Modal Analysis of a Launch Vehicle	Amal Surendran
	20	Design and Development of Performance Improved and Cost Effective 3d Printer	John George Simon
	120	Design of blast resistant hull for armoured vehicles	Sandeep K T
	168	Tool pin profiles and the quality of welds in friction stir welding of aluminium alloys	Abey Vishnu

12.00 Noon to 1.00PM: Valedictory Function

DAY 3 (7th March 2020): 12.00 Noon to 1.30PM

Valedictory Function

Venue: Spice Days

1.30 PM to 2.30 PM: lunch Break

3.00 PM to 4.00 PM: Certificate distribution to Participants.

SUMMARY OF THE WHOLE PROGRAMME

SCHEDULE

DAY 1 (5 Feb 2020)

08.30 AM to 10.00 AM: Registration

10.00 AM to 11.00 AM: Inauguration & Key Note Address

11.00 AM to 11.15 AM: Tea Break

11.15 AM to 12.30 Noon: Key Note Lectures (Parallel Sessions # 1)

1.00 PM to 2.00 PM: lunch Break

02.00 PM to 3.30 PM: Paper Presentation (Parallel Sessions # 1)

3.30 PM to 3.45 PM: Tea Break

3.45 PM to 5.15 PM: Paper Presentation (Parallel Sessions # 2)

DAY 2 (6 Feb 2020)

9.00 AM to 11.00 AM: Paper Presentation (Parallel Sessions # 3)

11.00 AM to 11.15 AM: Tea Break

11.15 AM to 12.30 Noon: Key Note Lectures (Parallel Sessions # 2)

1.00 PM to 2.00 PM: lunch Break

02.00 PM to 3.30 PM: Paper Presentation (Parallel Sessions # 4)

3.30 PM to 3.45 PM: Tea Break

3.45 PM to 5.15 PM: Paper Presentation (Parallel Sessions # 5)

6.30 PM to 7.30 PM : Traditional Dance Programme of Kerala & Music, Venue: Main Auditorium.

7.45 PM to 9.00 PM: Conference Dinner.

DAY 3 (7 Feb 2020)

9.00 AM to 11.30 AM: Paper Presentation (Parallel Sessions # 6)

12.00 Noon to 1.00 PM: Valedictory Function

1.30 PM to 2.30 PM: lunch Break

3.00 PM to 4.00 PM: Certificate distribution to Participants.