



# 6<sup>TH</sup> ASIAN SYMPOSIUM ON COMPUTATIONAL HEAT TRANSFER AND FLUID FLOW (ASCHT – 2017)

## PROGRAMME SUMMARY

VENUE: IC & SR BUILDING, IIT MADRAS		10 – 13 DECEMBER, 2017		
<b>Day – 0 (10<sup>th</sup> December, 2017, Sunday)</b>				
1700 – 1900 Hrs.	REGISTRATION AND NETWORKING – ICSR			
	TEA – ICSR DINING HALL			
<b>Day – 1 (11<sup>th</sup> December, 2017, Monday)</b>				
0800 – 0900 Hrs.	REGISTRATION – ICSR			
INAUGURAL SESSION AT IC&SR MAIN AUDITORIUM, IIT MADRAS				
0905 – 0910 Hrs.	INVOCATION			
0910 – 0920 Hrs.	Welcome Address	Prof. Ashok Kumar Mishra, Dean Academic Research, IIT Madras		
0920 – 0930 Hrs.	About the Department of Mechanical Engineering By Prof. B. V. S. S. Prasad, Chairman, LOC			
0930 – 0940 Hrs.	Aim of the Conference	Prof. K. Muralidhar, Honorary Chair, ASCHT - 2017		
0940 – 1000 Hrs.	Address	Dr. Aravind S. Bharadwaj, Chief Technology Officer, Farm Equipment Sector, Mahindra & Mahindra Ltd.		
1000 – 1005 Hrs.	Vote of Thanks	Prof. C. Balaji, Organizing Secretary, ASCHT - 2017		
1005 – 1025 Hrs.	TEA – ICSR DINING HALL			
1030 – 1120 Hrs.	Key note Lecture – Prof. T Sundararajan, IIT Madras, India		Session Chair – Prof. Nahmkeon Hur	
1125 – 1215 Hrs.	Key note Lecture – Prof. Hiroshi Suzuki, Kobe University, Japan		Session Chair – Prof. K. Muralidhar	
1220 – 1310 Hrs.	Key note Lecture – Prof. Haecheon Choi, Seoul National University, Korea		Session Chair – Prof. Kazuhiko Suga	
1310 – 1400 Hrs.	LUNCH – ICSR DINING HALL			
TECHNICAL SESSION, VENUE – ICSR BUILDING				
	AUDITORIUM	HALL - 1	HALL - 2	HALL - 3
1400 – 1530 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	INDUSTRIAL HEAT TRANSFER	COMPUTATIONAL MULTICOMPONENT & MULTIPHASE FLOW
1530 – 1600 Hrs.	TEA – ICSR DINING HALL			
1600 – 1800 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	NUMERICAL MICRO/NANO FLUID DYNAMICS AND HEAT TRANSFER	COMPUTATIONAL MULTICOMPONENT & MULTIPHASE FLOW

**Day – 2 (12<sup>th</sup> December, 2017, Tuesday)**

0800 – 0900 Hrs.	REGISTRATION – ICSR		
0905 – 0955 Hrs.	Key note Lecture – Dr. Debasis Chakraborty, DRDL, Hyderabad, India Session Chair – Prof. B. V. S. S. Prasad		
0955 – 1015 Hrs.	TEA – ICSR DINING HALL		
1020 – 1110 Hrs.	Key note Lecture – Prof. Dangling Sun, Beijing Institute of Petrochemical Technology, China Session Chair – Prof. Haecheon Choi		
1115 – 1205 Hrs.	Key note Lecture – Prof. Koji Fukagata, Keio University, Japan		Session Chair – Prof. S. P. Venkateshan

**TECHNICAL SESSION, VENUE – ICSR BUILDING**

	AUDITORIUM	HALL - 1	HALL - 2	HALL - 3
1210 – 1310 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	NUMERICAL MICRO/NANO FLUID DYNAMICS AND HEAT TRANSFER	COMPUTATIONAL MULTICOMPONENT & MULTIPHASE FLOW
1310 – 1400 Hrs.	LUNCH – ICSR DINING HALL			
	HALL - 1	HALL - 2	HALL - 3	HALL - 4
1400 – 1530 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	RADIATIVE, NUMERICAL BIO-FLUID DYNAMICS & HEAT TRANSFER	INVERSE HEAT TRANSFER AND UNCERTAINTY ANALYSIS
1530 – 1600 Hrs.	TEA – ICSR DINING HALL			
1600 – 1800 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS
1800 – 1830 Hrs.	TEA – ICSR DINING HALL			
1845 – 2115 Hrs.	CULTURAL PROGRAMME - TITLE: NATYA PARAMPARA THEME: CONFLUENCE OF INDIAN CULTURAL HERITAGE FOLLOWED BY DINNER AT ICSR DINING HALL			

**Day – 3 (13<sup>th</sup> December, 2017, Wednesday)**

0900 – 0950 Hrs.	Key note Lecture – Prof. Qing Li, Central South University, China		Session Chair – Prof. C. Balaji	
0955 – 1045 Hrs.	Key note Lecture – Prof. Zhiguo Qu, Xi'an Jiaotong University, China		Session Chair – Prof. Kazuyoshi Nakabe	
1045 – 1115 Hrs.	TEA – ICSR DINING HALL			

**TECHNICAL SESSION, VENUE – ICSR BUILDING**

	AUDITORIUM	HALL - 1	HALL - 2	HALL - 3
1115 – 1300 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	----	----
1300 – 1400 Hrs.	LUNCH – ICSR DINING HALL			
1400 – 1600 Hrs.	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS	----	----
1600 – 1630 Hrs.	TEA – ICSR DINING HALL			
1630 – 1700 Hrs.	VALEDICTORY CEREMONY, VENUE – ICSR AUDITORIUM			

## LIST OF KEYNOTE SPEAKERS

Name of the Speaker	Topic of The Keynote
Prof. T. Sundararajan, IIT Madras, India	Single and Multiphase flow instability
Prof. Hiroshi Suzuki, Kobe University, Japan	Bulge Structure Observed in a Cavity Swept by a Visco-Elastic Fluid
Prof. Haecheon Choi, Seoul National University, Korea	Fluid-structure interactions of large amplitude vibrations
Dr. Debasis Chakraborty, DRDL, Hyderabad, India	Thermal characterization of high speed propulsion system through CFD
Prof. Dongliang Sun, Beijing Institute of Petrochemical Technology, China	Recent Development of Velocity-Pressure Coupling Algorithm-IDEAL and interface Capturing Method-VOSET
Prof. Koji Fukagata, Keio University, Japan	Toward Dissimilar Control of Turbulent Momentum and Heat Transfer
Prof. Qing Li, Central South University, China	Lattice Boltzmann Methods for multiphase flow and Liquid-Vapor Phase change: Theory and Applications
Prof. Zhiguo Qu, Xi'an Jiaotong University, China	Numerical study of heat and mass transfer in porous media

## LIST OF TRACKS WITH PAPER NUMBER

Name of the Track	Paper Nos.
Computational heat transfer and fluid dynamics	2, 12, 18, 19, 20, 22, 24, 25, 26, 28, 29, 32, 36, 39, 42, 44, 46, 48, 50, 51, 55, 62, 64, 67, 68, 71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 86, 87, 88, 89, 90, 92, 94, 98, 99, 103, 104, 105, 114, 117, 118, 123, 126, 127, 128, 129, 130, 131, 135, 136, 138, 141, 148, 151, 153, 157, 163, 169, 170, 171, 174, 177, 179, 180, 181, 182, 190, 192, 193, 194, 195, 198, 199, 201, 204, 205, 207, 213, 215, 219, 221, 225, 227, 228, 230, 232, 237, 240, 256, 257, 259, 263, 268, 269, 270, 271, 272, 278, 284 ---- Total Number of Papers – 108
Computational multi-component and multiphase flow	30, 40, 45, 60, 79, 85, 110, 113, 119, 121, 122, 150, 155, 156, 158, 187, 217, 226 ---- Total Number of Papers – 18
Industrial heat-transfer	54, 57, 107, 159, 239, 255, 265, 282, 286 ---- Total Number of Papers – 09
Numerical bio-fluid dynamics and heat transfer	38, 41, 120, 212 ---- Total Number of Papers – 04
Numerical methods in multi-scale and multi-physics modeling	139 ---- Total Number of Papers – 01
Numerical methods in radiative heat transfer	147, 223 ---- Total Number of Papers – 02
Numerical micro/nano fluid dynamics and heat transfer	14, 16, 21, 35, 52, 137, 191, 222, 238, 277, 280, 285 ---- Total Number of Papers – 12
Parameter estimation and inverse problems	23, 273 ---- Total Number of Papers – 02
Uncertainty analysis and experimental validation	162 ---- Total Number of Papers – 01

# PROGRAMME SCHEDULE

## DAY – 1 (11TH DECEMBER, 2017, MONDAY) : SESSION - 1

**VENUE: ICSR AUDITORIUM      TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>11.12.2017 Monday Session – 1 1400 – 1530 Hrs. Session chair: Prof. Shaligram Tiwari</b>	<b>1400 – 1415 Hrs.</b>	Zhi-Gen Wu and Zhuo Li	<b>2</b>	A NOVEL EXPERIMENTAL-NUMERICAL METHOD OF STUDYING NATURAL CONVECTION IN A RECTANGULAR CAVITY FILLED WITH POROUS MEDIUM
	<b>1415 – 1430 Hrs.</b>	Hiroshi Noda, Koichi Miyashita, Takeshi Kishida and Akihiko Nakayama	<b>12</b>	TURBULENT BOUNDARY LAYER GENERATED USING STOCHASTIC METHOD FOR INFLOW CONDITION OF LES
	<b>1430 – 1445 Hrs.</b>	Bo Wu, Zhongxian Yuan and Zhongqiu Liu	<b>18</b>	UNSTEADY HEAT TRANSFER OF HITEC MOLTEN SALT IN SQUARE CAVITY
	<b>1445 – 1500 Hrs.</b>	Songwei Du and Zhongxian Yuan	<b>19</b>	NUMERICAL STUDY ON HEAT AND MASS TRANSFER IN ANNULAR ADSORPTION BED
	<b>1500 – 1515 Hrs.</b>	Krishna Chandran and Muralidhar K	<b>20</b>	CONDITION NUMBER ANALYSIS OF FLOW FIELDS ARISING FROM CFD SIMULATIONS
	<b>1515 – 1530 Hrs.</b>	Lun Zhou, Pengfei Fu, Jiping Liu and Junjie Yan	<b>24</b>	NUMERICAL STUDY ON THE EFFECT OF OPERATING CONDITIONS ON STABLE STEAM JET

**VENUE: ICSR HALL - 1      TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>11.12.2017 Monday Session – 1 1400 – 1530 Hrs. Session chair: Dr. Arul Prakash</b>	<b>1400 – 1415 Hrs.</b>	Kun Zhang and Liangbi Wang	<b>94</b>	NUMERICAL ANALYSIS OF NATURAL CONVECTION IN INTERNALLY FINNED HORIZONTAL ANNULI
	<b>1415 – 1430 Hrs.</b>	Pullarao Muvvala, Kushal M B, Balaji C and Venkateshan S P	<b>141</b>	NUMERICAL INVESTIGATIONS ON CONJUGATE HEAT TRANSFER FROM IMPINGING AIR JETS
	<b>1430 – 1445 Hrs.</b>	Anisha Vijay and Abhilash Suryan	<b>98</b>	NUMERICAL INVESTIGATION OF PROPULSION SYSTEM BASED ON MOVING WEIGHT INSIDE AN EJECTION TUBE
	<b>1445 – 1500 Hrs.</b>	Srinivas Miriyala, Pramod Jadhav, Raja Banerjee and Kishalay Mitra	<b>99</b>	SURROGATE BASED OPTIMIZATION OF CFD MODEL SIMULATING THE SUPERSONIC FLOW OVER MISSILE BODY UNDER UNCERTAINTY USING ARTIFICIAL NEURAL NETWORKS
	<b>1500 – 1515 Hrs.</b>	Manjul Sharma, R Vishnu and A Sameen	<b>103</b>	BIFURCATION CHARACTERISTICS OF FLOW INSIDE A CYLINDER WITH ROTATING LID
	<b>1515 – 1530 Hrs.</b>	Annie Rose Elizabeth, Pedda Peeraiah, Santhosh K.S. and Jayachandran T.	<b>105</b>	MODELLING AND NUMERICAL SIMULATION OF GRANULAR PROPELLANT COMBUSTION USING EULERIAN-EULERIAN TWO FLUID MODEL

**VENUE: ICSR HALL – 2**
**TRACK: INDUSTRIAL HEAT TRANSFER**

<b>Date, Day, Session and Session Chair</b>	<b>Timing</b>	<b>Author(s)</b>	<b>Paper No.</b>	<b>Title</b>
<b>11.12.2017 Monday Session – 1 1400 – 1530 Hrs. Session chair: Prof. S. P. Venkateshan</b>	<b>1400 – 1415 Hrs.</b>	Li-Min Chang, Xiao-Lu Liu, Liang-Bi Wang and Liang-Chen Wang	<b>54</b>	A NUMERICAL STUDY ON THE EFFECT OF THE TUBE PITCH ON THE HEAT TRANSFER PERFORMANCE OF A CIRCULAR TUBE BANK FIN HEAT EXCHANGER
	<b>1415 – 1430 Hrs.</b>	Xuan Zhang, Xiaomin Wu, Jingchun Min and Xin Liu	<b>107</b>	SHAPE VARIATION OF A SESSILE DROPLET DURING FREEZING
	<b>1430 – 1445 Hrs.</b>	Yuri Hosokawa, Keisuke Arai, Yoshifumi Ogami and Koji Fukudome	<b>159</b>	COMPUTATIONAL ANALYSIS OF MICRO GAS TURBINES FOR DESIGN DEVELOPMENT
	<b>1445 – 1500 Hrs.</b>	Shogo Tsuchikawa, Ikuya Sakanaka, Takeshi Enya, Reiko Kuriyama, Kazuya Tatsumi and Kazuyoshi Nakabe	<b>265</b>	CHANGE OF FLOW STRUCTURE AND HEAT TRANSFER PERFORMANCE OF PHOTSENSITIVE MICELLAR SOLUTIONS WITH LIGHT IRRADIATION
	<b>1500 – 1515 Hrs.</b>	Kewei Song, Toshio Tagawa, Qi Liu and Liangbi Wang	<b>282</b>	EFFECTS OF CONCAVE AND CONVEX CURVED VORTEX GENERATORS ON HEAT TRANSFER ENHANCEMENT OF PLATE-FIN HEAT EXCHANGER
	<b>1515 – 1530 Hrs.</b>	Tomohiro Nakamata, Selvan Bellan, Koji Matsubara, Cho Hyun Seok, Nobuyuki Gokon and Tatsuya Kodama	<b>286</b>	HEAT TRANSFER ANALYSIS OF LATENT HEAT STORAGE IN CYLINDRICAL CONTAINER

**VENUE: ICSR HALL – 3 TRACK: COMPUTATIONAL MULTI-COMPONENT & MULTI PHASE FLOW**

<b>Date, Day, Session and Session Chair</b>	<b>Timing</b>	<b>Author(s)</b>	<b>Paper No.</b>	<b>Title</b>
<b>11.12.2017 Monday Session – 1 1400 – 1530 Hrs. Session chair: Dr. Kameswararao Anupindi</b>	<b>1400 – 1415 Hrs.</b>	Pu He, Wenquan Tao, Li Chen and Yutong Mu	<b>30</b>	MODELING OF PROTON EXCHANGE MEMBRANE FUEL CELL FOR THE EFFECT OF ELECTRODE DESIGN AND WATER MANAGEMENT
	<b>1415 – 1430 Hrs.</b>	Lingdong Gu and Jingchun Min	<b>40</b>	CONVECTIVE HEAT AND MASS TRANSFER DURING WATER EVAPORATION INTO LAMINAR AIRFLOW
	<b>1430 – 1445 Hrs.</b>	Zhizhu Cao, Dongliang Sun, Bo Yu and Jinjia Wei	<b>45</b>	A COUPLED VOLUME OF FLUID AND LEVEL SET (VOSET) METHOD BASED ON ANALYTIC PLIC FOR UNSTRUCTURED QUADRILATERAL GRIDS
	<b>1445 – 1500 Hrs.</b>	Raghvendra Singh and Samarjeet Chanda	<b>60</b>	PREDICTION OF PRODUCTION POTENTIAL OF A HYDRATE RESERVOIR USING ARTIFICIAL NEURAL NETWORK
	<b>1500 – 1515 Hrs.</b>	Aman Rusia, Raghvendra Singh and Malay Das	<b>85</b>	DOMAIN DECOMPOSITION METHODS FOR SIMULATION OF MULTIPHASE FLOW IN GAS HYDRATE RESERVOIRS
	<b>1515 – 1530 Hrs.</b>	Guoxi He, Dongdong Tang, Yansong Li, Yongtu Liang and Qiyu Huang	<b>110</b>	NUMERICAL MODELING OF THE FLUID CONCENTRATION DISTRIBUTION DURING THE INTERFACIAL CONTAMINATION PROCESS IN MULTIPRODUCT PIPELINE



**DAY – 1 (11TH DECEMBER, 2017, MONDAY) : SESSION - 2**

**VENUE: ICSR AUDITORIUM TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>11.12.2017</b> <b>Monday</b> <b>Session – 2</b> <b>1600 – 1800 Hrs.</b> <b>Session chair:</b> <b>Dr. Balaji Srinivasan</b>	<b>1600 – 1615 Hrs.</b>	Xing-Jie Ren and Wen-Quan Tao	<b>28</b>	NUMERICAL SIMULATION OF DIFFERENT DATA DENSITY OF ROUGH SURFACES ON THERMAL CONTACT RESISTANCE OF WOVEN PIERCED COMPOSITES
	<b>1615– 1630 Hrs.</b>	Surendra Raghavendra, Chittepu Jayapal Reddy and A Sathyabhama	<b>22</b>	COMPUTATIONAL EVALUATION OF AERODYNAMIC PERFORMANCE OF LEADING EDGE SLOTS AT LOW REYNOLDS NUMBERS
	<b>1630 – 1645 Hrs.</b>	Jia Li, Sumin Jin and Liang Chen	<b>25</b>	EFFECT OF INCLINATION ANGLE AND FILLING RATIO ON HEAT TRANSFER PERFORMANCE OF PLATE-FIN HEAT PIPE RADIATOR
	<b>1645 – 1700 Hrs.</b>	Ramakishnan T, Mukul Parmananda, Amaresh Dalal and Ganesh Natarajan	<b>26</b>	DEVELOPMENT OF A LOW MACH NUMBER SOLVER TO STUDY COMBINED TURBULENT CONVECTIVE-RADIATIVE HEAT TRANSFER
	<b>1700 – 1715 Hrs.</b>	Le Lei, Kong Ling and Wen-Quan Tao	<b>29</b>	NUMERICAL SIMULATION OF BUBBLE GROWTH IN A RECTANGULAR MICROCHANNEL
	<b>1715 – 1730 Hrs.</b>	Saurav Chakraborty, Sajal Randhar, Sandeep Pal Singh and Prabal Talukdar	<b>32</b>	OPTIMAL DESIGN OF TRANSVERSE BURNER CONFIGURATION IN A PUSHER TYPE REHEATING FURNACE
	<b>1730 – 1745 Hrs.</b>	Xionghui Li, Ting Ma and Qiuwang Wang	<b>36</b>	MOLECULAR DYNAMICS SIMULATIONS ON DIFFUSION BONDING BETWEEN CU AND AL OF DIFFERENT INTERFACE PLANES
	<b>1745 – 1800 Hrs.</b>	Naman Bartwal, Ganaparthi Chanakya and Pradeep Kumar	<b>39</b>	CALCULATION OF NON-GRAY RADIATION OF WATER-VAPOUR AT HIGH TEMPERATURE USING HITEMP DATABASE.

**VENUE: ICSR HALL - 1 TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>11.12.2017</b> <b>Monday</b> <b>Session – 2</b> <b>1600 – 1800 Hrs.</b> <b>Session chair:</b> <b>Prof.Prasad Patnaik</b> <b>B S V</b>	<b>1600 – 1615 Hrs.</b>	Ryo Tanaka and Takahiro Tsukahara	<b>114</b>	DNS OF TAYLOR-COUPETTE FLOW BETWEEN COUNTER-ROTATING CYLINDERS WITH LOW RADIUS RATIO: RE-DEPENDENCE AND $\eta$ -DEPENDENCE
	<b>1615– 1630 Hrs.</b>	Sushanlal Babu and Anish S	<b>117</b>	A COMPUTATIONAL INVESTIGATION OF PURGE FLOW IN A LINEAR TURBINE CASCADE WITH UPSTREAM WAKES
	<b>1630 – 1645 Hrs.</b>	Sreejith B K, Pratik B Maniya, Ravi N Patel and Sathyabhama A	<b>123</b>	EFFECT OF BOUNDARY LAYER TRIPS ON AERODYNAMIC PERFORMANCE OF E216 AIRFOIL PROFILE
	<b>1645 – 1700 Hrs.</b>	Kai Chen, Rui-Na Xu and Pei-Xue Jiang	<b>126</b>	NUMERICAL INVESTIGATION OF JET IMPINGEMENT COOLING WITH CO <sub>2</sub> AT SUPERCRITICAL PRESSURES UPON LOW-CONDUCTIVITY COOLING PLATE
	<b>1700 – 1715 Hrs.</b>	Manash Pratim Borthakur, Binita Nath, Gautam Biswas and Dipankar Bandyopadhyay	<b>127</b>	NUMERICAL SIMULATION OF BREAK-UP OF LIQUID JETS CURVED BY GRAVITY
	<b>1715 – 1730 Hrs.</b>	Binita Nath, Manash Pratim Borthakur, Gautam Biswas and Amaresh Dalal	<b>128</b>	DEFORMATION OF A DROPLET IN CONSTRICTED MICROFLUIDIC CHANNELS AT LOW REYNOLDS NUMBER
	<b>1730 – 1745 Hrs.</b>	Koya Yamasaki, Takahiro Tsukahara and Ichiro Ueno	<b>129</b>	DIRECT NUMERICAL SIMULATION OF THERMOCAPILLARY-DRIVEN FLOW IN A FREE LIQUID FILM WITH CONSIDERING SURFACE DEFORMATION
	<b>1745 – 1800 Hrs.</b>	Lei Cai, Min Wang, Xinyu Zhang and Bo Yu	<b>135</b>	NUMERICAL INVESTIGATION ON THE TEMPERATURE DROP PROCESS IN A DOUBLE-PLATE FLOATING ROOF OIL TANK

**VENUE: ICSR HALL – 2 TRACK: NUMERICAL MICRO/NANO FLUID DYNAMICS & HEAT TRANSFER**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>11.12.2017 Monday Session – 2 1600 – 1800 Hrs. Session Chair: Dr. Arvind Pattamatta</b>	<b>1600 – 1615 Hrs.</b>	Yinsheng Yu, Yubing Tao and Yaling He	<b>14</b>	MOLECULAR DYNAMICS STUDY ON THE THERMAL PROPERTIES OF CARBON NANOMATERIALS-KNO <sub>3</sub> COMPOSITE PHASE CHANGE MATERIALS (CPCM) DURING PHASE TRANSITION
	<b>1615– 1630 Hrs.</b>	Narendran G, Gnanasekaran N and D.Arumuga Perumal	<b>16</b>	CONJUGATE HEAT TRANSFER ANALYSIS OF GRAPHENE NANOFUID IN MICROSCALE HEAT SINK COMBINED WITH HEAT SPREADER – A HOLISTIC APPROACH FOR EFFECTIVE PACKAGING
	<b>1630 – 1645 Hrs.</b>	Xuan Tong, Qiang Liu, Qiuwang Wang and Min Zeng	<b>21</b>	THE INFILTRATION OF PHASE CHANGE MATERIAL IN PORES OF NANOPOROUS METAL: A MOLECULAR DYNAMICS SIMULATION
	<b>1645 – 1700 Hrs.</b>	Dong Huang, Bing-Ye Song and Ya-Ling He	<b>35</b>	EFFECTS OF ANODIC SOLUTION PH ON CATHODIC OXYGEN TRANSFER IN MICROBIAL FUEL CELLS
	<b>1700 – 1715 Hrs.</b>	Yuki Mori, Rintaro Moritani, Masayuki Kaneda and Kazuhiko Suga	<b>52</b>	MD SIMULATION OF LIQUID OXYGEN FLOWS IN CARBON NANOTUBES
	<b>1715 – 1730 Hrs.</b>	Yujie Chen, Yu Zou, Dongliang Sun, Bo Yu, Yi Wang and Jinjia Wei	<b>137</b>	MOLECULAR DYNAMICS SIMULATION OF BUBBLE NUCLEATION ON NANOSTRUCTURE SURFACE
	<b>1730 – 1745 Hrs.</b>	Lei Chen, Shan-You Wang, Yi-Nan Nie and Wen-Quan Tao	<b>191</b>	NUMERICAL STUDY ON THE ELECTRICAL AND THERMAL CONDUCTIVITIES OF PROTON EXCHANGE MEMBRANE BY MOLECULAR DYNAMICS SIMULATION
	<b>1745 – 1800 Hrs.</b>	Zhigang Huang, Lei Chen, Wen-Quan Tao, Ding-Bin Huang, Yi-Nan Nie and Shan-You Wang	<b>222</b>	A STUDY ON DYNAMIC DESORPTION PROCESS OF METHANE IN SLITS

**VENUE: ICSR HALL – 3 TRACK: COMPUTATIONAL MULTI-COMPONENT & MULTI PHASE FLOW**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>11.12.2017 Monday Session – 2 1600 – 1800 Hrs. Session Chair: Dr. Raja Banerjee</b>	<b>1600 – 1615 Hrs.</b>	Yoshimasa Fuma, Hiroya Mamori, Naoya Fukushima, Makoto Yamamoto and Yoji Okita	<b>113</b>	NUMERICAL SIMULATIONS OF SAND EROSION ON COATED AND UNCOATED CMC VANES IN LOW PRESSURE TURBINE
	<b>1615– 1630 Hrs.</b>	Kei Nitta, Masakazu Muto, Ken Yamamoto, Masahiro Motosuke and Takahiro Tsukahara	<b>119</b>	TWO-DIMENSIONAL DIRECT NUMERICAL SIMULATION OF DRIVING LIQUID COLUMN WITH PHOTORESPONSIVE SURFACTANT
	<b>1630 – 1645 Hrs.</b>	Guoxi He, Yansong Li, Qiyu Huang and Yongtu Liang	<b>121</b>	NUMERICAL PREDICTION OF LIQUID LEVEL IN A LARGE DIAMETER RICH GAS PIPELINE UNDER THE GAS-LIQUID STRATIFIED FLOW CONDITION
	<b>1645 – 1700 Hrs.</b>	Dong Niu, Lin Guo and Guihua Tang	<b>122</b>	THE EFFECT OF SOLID-LIQUID INTERFACIAL THERMAL RESISTANCE ON DROPWISE CONDENSATION HEAT TRANSFER: MOLECULAR DYNAMICS SIMULATION AND THEORETICAL ANALYSIS
	<b>1700 – 1715 Hrs.</b>	Wei-Wei Wang, Liang-Bi Wang and Le-Li Wang	<b>150</b>	NUMERICAL STUDY ON HEAT TRANSFER-THERMAL ENERGY STORAGE PERFORMANCE OF A SHELL-AND-TUBE PHASE CHANGE THERMAL ENERGY STORAGE UNIT
	<b>1715 – 1730 Hrs.</b>	Xiaoyu Feng, Tao Zhang, Jingfa Li, Shuyu Sun, Bo Yu and Dongliang Sun	<b>155</b>	STUDY ON NUMERICAL SIMULATION OF TWO PHASE FLOW BY SIMPLE ALGORITHM BASED ON PHASE FIELD THEORY
	<b>1730 – 1745 Hrs.</b>	Chaoling Han and Zhenqian Chen	<b>156</b>	STUDY ON TWO PHASE FLOW IN A PROTON EXCHANGE MEMBRANE FUEL CELL BASED ON THE GENERALIZED DESIGN METHOD
	<b>1745 – 1800 Hrs.</b>	Mikiko Iwago, Hiroya Mamori, Naoya Fukushima and Makoto Yamamoto	<b>158</b>	EFFECT OF EVAPORATION ON MELTING RATIO OF ICE CRYSTALS FLOWING IN JET ENGINE

## DAY – 2 (12TH DECEMBER, 2017, TUESDAY) : SESSION - 1

**VENUE: ICSR AUDITORIUM TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017 Tuesday Session – 1 1210 – 1310 Hrs. Session Chair: Prof. K. Srinivasan</b>	<b>1210 – 1225 Hrs.</b>	Masayuki Kaneda and Kazuhiko Suga	<b>42</b>	EFFECT OF MAGNET LAYOUT ON MAGNETOTHERMAL CONVECTION
	<b>1225 – 1240 Hrs.</b>	Jingchun Min	<b>44</b>	GEOMETRIC OPTIMIZATION OF DELTA AND RECTANGULAR WINGLETS USED FOR MASS TRANSFER ENHANCEMENT IN A MEMBRANE CHANNEL UNDER EQUAL PRESSURE DROP CONDITION
	<b>1240 – 1255 Hrs.</b>	Ji-Xin Liu, Guo-Bao Jiang and Wen-Quan Tao	<b>48</b>	NUMERICAL SIMULATION OF FORCED CONVECTIVE BOILING IN HORIZONTAL MICRO-FIN TUBES
	<b>1255 – 1310 Hrs.</b>	Fan Bai, Zhen Tang and Wenquan Tao	<b>50</b>	A MASSIVELY PARALLEL GPU-BASED PROGRAM FOR DSMC SIMULATIONS OF RAREFIED GAS FLOWS AROUND A BLUNTED CONE

**VENUE: ICSR HALL - 1 TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

<b>12.12.2017 Tuesday Session – 1 1210 – 1310 Hrs. Session Chair: Dr. Shyama Prasad Das</b>	<b>1210 – 1225 Hrs.</b>	Kangxin Zhang, Dongxu Han, Bo Yu, Dongliang Sun and Peng Wang	<b>136</b>	INFLUENCE FACTORS ANALYSIS OF OIL VAPOR REPLACEMENT PROCESS IN STORAGE TANK BASED ON MULTI-OBJECTIVE ORTHOGONAL TEST
	<b>1225 – 1240 Hrs.</b>	Qing Yuan, Yulong He, Bo Yu, Dongliang Sun and Changchun Wu	<b>138</b>	STUDY ON THE RESTART OF WAXY CRUDE OIL PIPELINE BASED ON ADAPTIVE WAVELET COLLOCATION METHOD
	<b>1240 – 1255 Hrs.</b>	Harish Alagani and Raghavan Vasudevan	<b>86</b>	NUMERICAL INVESTIGATION OF FLAME STRUCTURE AND REACTION ZONES OF BIOGAS JET DIFFUSION FLAMES IN COMPARISON TO THE FLAMES FROM PURE METHANE AND METHANE DILUTED WITH NITROGEN
	<b>1255 – 1310 Hrs.</b>	Peng Wang, Shangmin Ao, Bo Yu, Dongxu Han, Jingfa Li, Dongliang Sun, Yue Xiang and Liyan	<b>151</b>	FAST METHOD FOR THE HYDRAULIC AND THERMODYNAMIC COUPLED SIMULATION OF COMPLEX NATURAL GAS PIPELINE NETWORK BASED ON DIVIDE AND CONQUER APPROACH

**VENUE: ICSR HALL – 2 TRACK: NUMERICAL MICRO/NANO FLUID DYNAMICS & HEAT TRANSFER**

<b>12.12.2017 Tuesday Session – 1 1210 – 1310 Hrs. Session Chair: Dr. Arvind Pattamatta</b>	<b>1210 – 1225 Hrs.</b>	Wenhe Zhou, Xuan He and Liangbi Wang	<b>238</b>	THE STRUCTURE EFFECTS OF UPPER ELECTRODE ON RESPONSE TIME OF THE PARALLEL PLATE CAPACITIVE POLYIMIDE HUMIDITY SENSOR
	<b>1225 – 1240 Hrs.</b>	Tianbao Wang and Min Chen	<b>277</b>	A NON-EQUILIBRIUM MOLECULAR DYNAMICS SIMULATION STUDY OF EVAPORATION/CONDENSATION COEFFICIENT
	<b>1240 – 1255 Hrs.</b>	Keisuke Arai, Yuri Hosokawa, Koji Fukudome and Yoshifumi Ogami	<b>280</b>	NUMERICAL SIMULATION OF MICRO GAS TURBINE FOR DECREASING HEAT TRANSFER INFLUENCE
	<b>1255 – 1310 Hrs.</b>	Liqiang Ai, Xiangxiong Zhang, Min Chen and Daxi Xiong	<b>285</b>	IMPACT OF MICROSTRUCTURE ON THE THERMAL CONDUCTIVITY OF DIAMOND-LIKE CARBON FILM

**VENUE: ICSR HALL – 3 TRACK: COMPUTATIONAL MULTI-COMPONENT & MULTI PHASE FLOW**

<b>12.12.2017 Tuesday Session – 1 1210 – 1310 Hrs. Session Chair: Dr. Sateesh G</b>	<b>1210 – 1225 Hrs.</b>	Huan Mao, Liang Gong, Xinyue Duan and Zhang Bai	<b>187</b>	LATTICE BOLTZMANN SIMULATION FOR EFFECTS OF SURFACE WETTABILITY ON IMMISCIBLE DISPLACEMENT IN POROUS CHANNELS
	<b>1225 – 1240 Hrs.</b>	Chirag Khalde and Jitendra Sangwai	<b>217</b>	COMPUTATIONAL STUDY OF HYDROCYCLONE FOR SEPARATION OF SOLID PARTICLES
	<b>1240 – 1255 Hrs.</b>	Hyunjong Kim, Parthasarathy Nanjundan, Yoon Hwan Choi and Yeon Won Lee	<b>226</b>	NUMERICAL STUDY ON THE REDUCTION OF SLOSHING IN A PRISMATIC TANK UNDER HORIZONTAL EXCITATION
	<b>1255 – 1310 Hrs.</b>	Sizong Zhang, Qinye Li, Xunliang Liu, Zhi Wen, Guofeng Lou, Fuyong Su and Ruifeng Dou	<b>79</b>	NUMERICAL PREDICTION OF TEMPERATURE AND VOLATILE COMPONENT VARIATION DURING COAL PYROLYSIS IN LURGI-SPUELGAS FURNACE



**DAY – 2 (12TH DECEMBER, 2017, TUESDAY) : SESSION - 2****VENUE: ICSR HALL - 1****TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

<b>Date, Day, Session and Session Chair</b>	<b>Timing</b>	<b>Author(s)</b>	<b>Paper No.</b>	<b>Title</b>
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 2</b> <b>1400 – 1530 Hrs.</b> <b>Session Chair:</b> <b>Dr. Ashis Kumar Sen</b>	<b>1400 – 1415 Hrs.</b>	Satoshi Yokojima, Yoshiaki Shimada, Shuta Fujii and Takashi Miyahara	<b>46</b>	INFLUENCE OF MASS DENSITY RATIO ON PREFERENTIAL CONCENTRATION OF SMALL PARTICLES IN ISOTROPIC TURBULENCE
	<b>1415 – 1430 Hrs.</b>	Qiang Zhang, Yong-Heng Zhang and Liang-Bi Wang	<b>55</b>	THE DIFFERENCES OF HEAT CONVECTION CAUSED BY LONGITUDINAL VORTICES IN A LAMINAR CHANNEL FLOW AT DIFFERENT THERMAL BOUNDARIES
	<b>1430 – 1445 Hrs.</b>	R Vishnu, Manjul Sharma and A Sameen	<b>51</b>	NUMERICAL STUDY ON EFFECT OF LID ROTATION ON CONVECTIVE HEAT TRANSFER IN RAYLEIGH BENARD CONVECTION
	<b>1445 – 1500 Hrs.</b>	Dong Li, Ya-Ling He, Qin-Long Ren and Zhan-Bin Liu	<b>67</b>	LATTICE BOLTZMANN MODEL FOR AXISYMMETRIC SOLID-LIQUID PHASE CHANGE IN POROUS MEDIA
	<b>1500 – 1515 Hrs.</b>	Chonghai Huang, Qinghui Wang, Jinjia Wei and Bo Yu	<b>68</b>	DIRECT NUMERICAL SIMULATION OF TURBULENT FLOW OVER THE WIDE-RIB RECTANGULAR GROOVES
	<b>1515 – 1530 Hrs.</b>	Hao Ding and Wen-Quan Tao	<b>72</b>	NUMERICAL SIMULATION OF HEAT TRANSFER CHARACTERISTICS OF LIQUID LEAD-BISMUTH EUTECTIC FLOWING ALONG HEXAGONAL ROD BUNDLES

**VENUE: ICSR HALL - 2****TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

<b>Date, Day, Session and Session Chair</b>	<b>Timing</b>	<b>Author(s)</b>	<b>Paper No.</b>	<b>Title</b>
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 2</b> <b>1400 – 1530 Hrs.</b> <b>Session Chair:</b> <b>Prof. S. P. Venkateshan</b>	<b>1400 – 1415 Hrs.</b>	Vikas Dwivedi, Balaji Srinivasan and Sawan Suman Sinha	<b>153</b>	PREDICTION OF TRANSITION IN TEMPORAL MIXING LAYER USING ILES
	<b>1415 – 1430 Hrs.</b>	Harikrishnan S and Shaligram Tiwari	<b>157</b>	EFFECT OF SECONDARY CORRUGATION ON FLOW AND HEAT TRANSFER IN A SINUSOIDAL WAVY CHANNEL
	<b>1430 – 1445 Hrs.</b>	Yongheng Zhang, Jin Liu, Liangbi Wang, Zhimin Lin and Jun Yan	<b>163</b>	THE EFFECT OF VORTEX INTENSITY ON HEAT TRANSFER CHARACTERISTICS OF CIRCULAR TUBE BANK FIN HEAT EXCHANGER WITH TRIANGULAR WAVY FINS
	<b>1445 – 1500 Hrs.</b>	Shivam Choubey, Omprakash Bharti, Arun Kumar Saha and Malay Kumar Das	<b>169</b>	NUMERICAL SIMULATION OF STEADY LAMINAR NATURAL CONVECTIVE FLOW IN A DIFFERENTIALLY HEATED CUBICAL ENCLOSURE
	<b>1500 – 1515 Hrs.</b>	Wenhua Liu, Mo Yang, Zhiyun Wang and Yousheng Zhao	<b>170</b>	NUMERICAL SIMULATION OF MULTIPHASE FLOW AND NOX EMISSION CHARACTERISTICS IN 200MW COAL-FIRED BOILER
	<b>1515 – 1530 Hrs.</b>	Mei Su and Liangbi Wang	<b>171</b>	NUMERICAL STUDY ON HEAT TRANSFER AND FLUID FLOW PERFORMANCE OF FIN AND TUBE HEAT EXCHANGERS USING COUPLING NUMERICAL METHOD

VENUE: ICSR HALL – 3

TRACK: NUMERICAL BIO-FLUID DYNAMICS & HEAT TRANSFER,  
RADIATIVE HEAT TRANSFER

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 2</b> <b>1400 – 1530 Hrs.</b> <b>Session Chair:</b> <b>Dr. Kameswararao</b> <b>Anupindi</b>	<b>1400 – 1415 Hrs.</b>	Ajay Bhandari, Ankit Bansal, Anup Singh and Niraj Sinha	<b>41</b>	DCE-MRI BASED VOXELIZED COMPUTATIONAL MODEL FOR CHEMOTHERAPEUTIC DRUG TRANSPORT IN HUMAN BRAIN TUMOR
	<b>1415 – 1430 Hrs.</b>	Atsumasa Yoshida, Koji Moriuchi, Yasushi Ueda and Shinichi Kinoshita	<b>120</b>	INVESTIGATION OF SIMULATION MODEL OF CULTIVATED PLANT PRODUCT IN PLANT FACTORY
	<b>1430 – 1445 Hrs.</b>	Biswajeet Rath, Pawan Kumar Pandey and Malay Das	<b>212</b>	STUDY OF FLOW STRUCTURES, FORMED DUE TO ARRHYTHMIC PULSATILE BLOOD FLOW, IN SUDDEN EXPANSION
	<b>1445 – 1500 Hrs.</b>	Shujian Zhang, Dong Li and Bin Chen	<b>38</b>	NUMERICAL STUDY OF LASER TREATMENT OF OTA'S NEVUS WITH EXTERNAL SKIN COOLING
	<b>1500 – 1515 Hrs.</b>	Rahul Yadav, C. Balaji and S.P. Venkateshan	<b>147</b>	RADIATIVE TRANSFER ANALYSIS IN THREE DIMENSIONAL RECTANGULAR FURNACES WITH NON GRAY GASES AND SOOT IN A HIGH TEMPERATURE GRADIENT FIELD
	<b>1515 – 1530 Hrs.</b>	Shashikant Cholake, S P Venkateshan and T Sundararajan	<b>223</b>	NUMERICAL ANALYSIS OF COMBINED CONDUCTION AND RADIATION HEAT TRANSFER IN NON-GRAY PARTICIPATING MEDIUM

VENUE: ICSR HALL - 4

TRACK: INVERSE HEAT TRANSFER AND UNCERTAINTY ANALYSIS

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 2</b> <b>1400 – 1530 Hrs.</b> <b>Dr. Pallab Sinha</b> <b>Mahapatra</b>	<b>1400 – 1415 Hrs.</b>	Jia-Meng Tian and Bin Chen	<b>23</b>	ESTIMATION OF SURFACE HEAT FLUX FOR TWO-DIMENSIONAL, MULTI-LAYER MEDIUMS BY SOLVING INVERSE HEAT CONDUCTION PROBLEMS
	<b>1415 – 1430 Hrs.</b>	Pradeep S Jakkareddy and Balaji C	<b>273</b>	THE COMBINED ARTIFICIAL NEURAL NETWORK - GENETIC ALGORITHM APPROACH TO DETERMINE THE SPATIALLY VARYING HEAT TRANSFER COEFFICIENT ON A DISCRETE STRIP HEAT SOURCES FLUSH MOUNTED IN A FLAT PLATE.
	<b>1430 – 1445 Hrs.</b>	Young Min Seo, Yong Gap Park and Man Yeong Ha	<b>162</b>	THE EFFECT OF FOUR INNER CYLINDER LOCATIONS WITH A RECTANGULAR ARRAY ON NATURAL CONVECTION IN A SQUARE ENCLASURE
	<b>1445 – 1500 Hrs.</b>	Heng Guo, Wen Zhou, Jian Chen, Zeng-Yao Li and Heping Li	<b>139</b>	NUMERICAL STUDY ON NON-LOCAL CHEMICAL- AND THERMODYNAMIC-EQUILIBRIUM EFFECTS IN AN ARGON ARC PLASMA
	<b>1500 – 1515 Hrs.</b>	Venkateswarlu S, Anil Sharma, Lydia G, Selvaraj P and Nashine B. K.	<b>213</b>	ASSESSMENT OF NATURAL CONVECTION IN LOWER PLENUM OF SFR WITH DIFFERENT POSSIBLE GEOMETRIC ARRANGEMENTS OF CORE CATCHER ASSEMBLY
	<b>1515 – 1530 Hrs.</b>			

**DAY – 2 (12TH DECEMBER, 2017, TUESDAY) : SESSION - 3**

**VENUE: ICSR HALL - 1**

**TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 3</b> <b>1600 – 1800 Hrs.</b> <b>Session Chair:</b> <b>Dr. Shamit Bakshi</b>	<b>1600 – 1615 Hrs.</b>	Gajanan Tatpatti, Viswanath K and N Sitaram	<b>62</b>	COMPUTATIONAL AND EXPERIMENTAL INVESTIGATIONS ON SEPARATION CONTROL OF LP TURBINE CASCADE BLADES USING GURNEY FLAPS
	<b>1615– 1630 Hrs.</b>	Koji Matsubara, Yuji Yamada, Sho Isojima and Mitsuho Nakakura	<b>64</b>	NUMERICAL SIMULATION OF ANNULUS THERMAL COLLECTOR FOR EXTERNAL FIRED GAS TURBINE
	<b>1630 – 1645 Hrs.</b>	Yudai Nishiyama and Kazuhiko Suga	<b>73</b>	LATTICE BOLTZMANN TURBULENT HEAT TRANSFER LES OF FLOWS OVER POROUS INTERFACES
	<b>1645 – 1700 Hrs.</b>	Muthu Kumaran S, Harish Alagani and Raghavan Vasudevan	<b>74</b>	NUMERICAL STUDY OF FLAME STRUCTURE, CARBON-MONOXIDE AND NITRIC-OXIDE EMISSION CHARACTERISTICS OF CONFINED LAMINAR CO-FLOW METHANE-AIR FLAMES
	<b>1700 – 1715 Hrs.</b>	En Tian, Ya-Ling He and Wen-Quan Tao	<b>75</b>	NUMERICAL STUDY OF ASH DEPOSITION ON PIN FINNED TUBE SURFACE
	<b>1715 – 1730 Hrs.</b>	Liu Fei, Zhou Wenjing and Wei Jinjia	<b>76</b>	COARSE-GRAINED MOLECULAR DYNAMICS SIMULATION FOR SURFACTANT AQUEOUS SOLUTION IN COUETTE FLOW
	<b>1730 – 1745 Hrs.</b>	Kawarpreet Singh, Menaka Ray and Malay Das	<b>80</b>	HEAT TRANSFER FOR PULSATILE FLOW THROUGH A CHANNEL WITH SYMMETRIC SUDDEN EXPANSION AND CONTRACTION IN THE PRESENCE OF MAGNETIC FIELD
	<b>1745 – 1800 Hrs.</b>	Zhao Ma, Ya-Ling He, Wei-Wei Yang and Bing-Ye Song	<b>81</b>	A GENERAL GRAPHICAL CRITERION FOR THE DESIGN AND CALIBRATION OF THERMOCLINE THERMAL ENERGY STORAGE

**VENUE: ICSR HALL - 2**

**TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 3</b> <b>1600 – 1800 Hrs.</b> <b>Dr. T. N. C. Anand</b>	<b>1600 – 1615 Hrs.</b>	Sagardeep Bhakta and Samarjeet Chanda	<b>174</b>	NUMERICAL PREDICTION AND EXPERIMENTAL VALIDATION OF EQUILIBRIUM SHAPES OF WALL BOUND DROPS
	<b>1615– 1630 Hrs.</b>	Takahiro Tsukahara, Shun Inoue, Suad Jakirlic and Yasuo Kawaguchi	<b>177</b>	REYNOLDS STRESS MODEL FOR DRAG-REDUCING VISCOELASTIC TURBULENT FLOW: A SIMPLE MODEL FOR NON-LINEAR TERM IN AVERAGED CONSTITUTIVE EQUATION
	<b>1630 – 1645 Hrs.</b>	K.A. Krishnaprasad, G. Vikram and Dr. K. Velusamy	<b>179</b>	ANALYSIS OF COOLANTS IN A NATURAL CONVECTION LOOP
	<b>1645 – 1700 Hrs.</b>	Yubing Li, Mo Yang and Yingnan Zou	<b>180</b>	AN ANALYSIS OF FIRE IN A SUBWAY USING COUPLED FIRE AND EVACUATION MODELLING TOOLS
	<b>1700 – 1715 Hrs.</b>	Akhil Dass D and Sateesh Gedupudi	<b>71</b>	1D SEMI-ANALYTICAL MODEL OF NATURAL CIRCULATION LOOP SUITABLE FOR CONSTANT TEMPERATURE BOUNDARY CONDITION
	<b>1715 – 1730 Hrs.</b>	Ranjit Singh and Trushar Gohil	<b>182</b>	EFFECT OF EXTERNAL MAGNETIC FIELD ON NATURAL CONVECTION IN A CUBE: A NUMERICAL ANALYSIS STUDY
	<b>1730 – 1745 Hrs.</b>	Nagaharika Ponakala, Rajendrakumar.M, Velusamy.K and Yagneshsharma.N	<b>190</b>	THERMAL HYDRAULIC INVESTIGATION OF INTERMEDIATE HEAT EXCHANGER OF COMMERCIAL FAST BREEDER REACTOR
	<b>1745 – 1800 Hrs.</b>	S Vishnu Prasad, Balu G, Gopal Krishna V and K Muraleedharan Nair	<b>192</b>	FLOW INDUCED OSCILLATIONS WHEN HIGH SPEED FLOW PAST A ROUND CAVITY

**VENUE: ICSR HALL - 3**
**TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 3</b> <b>1600 – 1800 Hrs.</b> <b>Session Chair:</b> <b>Dr. Arul Prakash</b>	<b>1600 – 1615 Hrs.</b>	Peng Guo, Jin-Rong Shen, Lu Wang, Liang-Bi Wang and Hui-Juan Wang	<b>57</b>	NUMERICAL STUDY ON THE FLOW AND HEAT TRANSFER CHARACTERISTICS OF RECTANGULAR DUCT WITH TRIANGULAR VORTEX GENERATORS MOUNTED ON THREE SIDE WALLS
	<b>1615– 1630 Hrs.</b>	Pramod Jadhav, Srinivas Miriyala, Kishalay Mitra and Raja Banerjee	<b>104</b>	UNCERTAINTY ESTIMATIONS IN EXTERNAL FLOW USING COMPUTATIONAL FLUID DYNAMICS (CFD)
	<b>1630 – 1645 Hrs.</b>	Suraj Garad, Shaswat Saincher and Jyotirmay Banerjee	<b>270</b>	NUMERICAL INVESTIGATIONS ON HYDRODYNAMIC EFFICIENCY OF OSCILLATING WATER COLUMN
	<b>1645 – 1700 Hrs.</b>	Ye Wang, Xintong Xia, Wenting Hu, Yi Wang and Liangbi Wang	<b>271</b>	APPLICATION OF POD REDUCED-ORDER MODEL TO THE STUDY OF PLATE-TUBE HEAT EXCHANGER
	<b>1700 – 1715 Hrs.</b>	Shatrughan Jaiswal and Madhusudhana Gavara	<b>272</b>	EFFECT OF ASPECT RATIO ON NATURAL CONVECTION IN WATER FILLED TOP COOLED CAVITY NEAR DENSITY MAXIMUM
	<b>1715 – 1730 Hrs.</b>	John K Arjun, Yukinori Kametani and Yosuke Hasegawa	<b>278</b>	ORIGIN OF DISSIMILARITY BETWEEN MOMENTUM AND HEAT TRANSPORT IN A TURBULENT CHANNEL FLOW
	<b>1730 – 1745 Hrs.</b>	Toshio Tagawa and Kewei Song	<b>284</b>	SPIN-UP FROM REST OF A LIQUID-METAL WITH DEFORMABLE FREE-SURFACE IN THE PRESENCE OF A UNIFORM AXIAL MAGNETIC FIELD
	<b>1745 – 1800 Hrs.</b>	Syed Anwer, Hamid Hassan Khan, Sanjeev Sanghi and Nadeem Hasan	<b>256</b>	DNS OF MARGINALLY TURBULENT FLOW IN A SQUARE DUCT.

**VENUE: ICSR HALL - 4**
**TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>12.12.2017</b> <b>Tuesday</b> <b>Session – 3</b> <b>1600 – 1800 Hrs.</b> <b>Session Chair:</b> <b>Prof. C. Balaji</b>	<b>1600 – 1615 Hrs.</b>	Liang-Chen Wang, Lu Wang and Liang-Bi Wang	<b>92</b>	THE NUMERICAL INVESTIGATION THE MECHANISM OF THERMAL RESISTANCE APPEARED IN CaCO <sub>3</sub> FOULING PROCESS ON THE TUBE WALL
	<b>1615– 1630 Hrs.</b>	Senthilkumar Raman and Heuy Dong Kim	<b>194</b>	NUMERICAL ANALYSIS OF THE SUPERCRITICAL CO <sub>2</sub> FLOWS WITH REAL GAS EFFECTS FROM A NOVEL TECHNIQUE
	<b>1630 – 1645 Hrs.</b>	Arun Babu T and Santhosh Ks	<b>259</b>	HEAT TRANSFER FROM A RIB ROUGHNED SURFACE
	<b>1645 – 1700 Hrs.</b>	Koji Fukudome, Takahiro Tsukahara and Yoshifumi Ogami	<b>263</b>	HEAT AND MOMENTUM TRANSFER OF THE TURBULENT STRIPES IN PLANE COUETTE FLOWS FOR TRANSITIONAL REGION
	<b>1700 – 1715 Hrs.</b>	Jayachandran S and K. S. Reddy	<b>268</b>	INVESTIGATIONS ON PERFORMANCE OF DOUBLE SPIRAL BASED LIQUID COOLANT PLATES OF SQUARE GUARDED HOT PLATE APPARATUS FOR THERMAL CONDUCTIVITY MEASUREMENTS
	<b>1715 – 1730 Hrs.</b>	Srihari Vikram T and K. S. Reddy	<b>269</b>	NUMERICAL INVESTIGATIONS ON HEAT LOSSES FROM SOLAR ELLIPTICAL HYPERBOLIC COLLECTOR WITH SURFACE RECEIVER
	<b>1730 – 1745 Hrs.</b>	Partha Sarathy Uppala, Balaji Chakravarthy, Sundararajan Thirumalachari and Velusamy Karupanna	<b>239</b>	NUMERICAL MODELING OF SAFETY GRADE DECAY HEAT REMOVAL SYSTEM AND VALIDATION
	<b>1745 – 1800 Hrs.</b>	Mangarjuna Rao P, Velusamy K and Selvaraj P	<b>255</b>	FIRE HAZARD ANALYSIS OF PFBR COMPARTMENTS BY CONTAINMENT APPROACH



**DAY – 3 (13TH DECEMBER, 2017, WEDNESDAY) : SESSION - 1**

**VENUE: ICSR AUDITORIUM TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>13.12.2017</b> <b>Wednesday</b> <b>Session – 1</b> <b>1115 – 1300 Hrs.</b> <b>Session Chair:</b> <b>Dr. Dhiman Chatterjee</b>	<b>1115 – 1130 Hrs.</b>	Amit Kumar Chauhan and K Velusamy	<b>82</b>	CFD INVESTIGATION OF TEMPERATURE DISTRIBUTION IN MAIN VESSEL OF SODIUM COOLED FAST REACTOR
	<b>1130 – 1145 Hrs.</b>	Bian Qingfei, Dai Renkun, Wang Qiuwang and Zeng Min	<b>88</b>	INVESTIGATION ON THE EVOLUTION PROCESSES AND GRAVITY EFFECTS FOR DIFFERENT MELT POOL MODELS BASED ON A DEVELOPED MULTIPHASE METHOD
	<b>1145 – 1200 Hrs.</b>	Minghua Huang, Peng He, Le Lei, Lei Chen and Wenquan Tao	<b>118</b>	A NOVEL SOLAR CHIMNEY AND PHOTOVOLTAIC HYBRID POWER GENERATION SYSTEM
	<b>1200 – 1215 Hrs.</b>	Xiaojuan Wang and Wenquan Tao	<b>130</b>	NUMERICAL VALIDATION OF THE IDENTITY BETWEEN TWO EXPRESSIONS OF MINIMUM PRINCIPLE OF ENTRANSY
	<b>1215 – 1230 Hrs.</b>	He Peng, Ma Binbin and Tao Wen-Quan	<b>131</b>	NUMERICAL STUDY OF LITHIUM-ION BATTERIES HEAT MANAGEMENT BASED ON THERMAL ELECTRONIC COUPLED MODEL
	<b>1230 – 1245 Hrs.</b>	Yi-Yu Peng, Wei You and Zeng-Yao Li	<b>148</b>	MONTE CARLO MODELING OF EXPANSION AND DEPOSITION OF CE ATOMIC VAPOR
	<b>1245 – 1300 Hrs.</b>	Jun Guo and Zhiguo Qu	<b>195</b>	MOLDING THE HEAT FLOW BY A THERMAL CLOAK

**VENUE: ICSR HALL - 1 TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>13.12.2017</b> <b>Wednesday</b> <b>Session – 1</b> <b>1115 – 1300 Hrs.</b> <b>Session Chair:</b> <b>Dr. Balaji Srinivasan</b>	<b>1115 – 1130 Hrs.</b>	Hemant Naik and Shaligram Tiwari	<b>193</b>	COMBINED EFFECT OF RECTANGULAR AND DELTA WINGLET TYPE VORTEX GENERATORS ON THERMAL PERFORMANCE OF FIN-TUBE HEAT EXCHANGERS
	<b>1130 – 1145 Hrs.</b>	Yusuke Kuwata and Yasuo Kawaguchi	<b>199</b>	STATISTICAL DISCUSSIONS ON TURBULENCE AROUND RANDOMLY DISTRIBUTED SEMI-SPHERES
	<b>1145 – 1200 Hrs.</b>	Madhan Raj Harikrishnan, Muralikrishnan Arulkumar, Praveenkumar Jayakumar, Ramprasath Veerapandian	<b>201</b>	COMPUTATIONAL INVESTIGATION OF DRAG REDUCTION BY MEANS OF TWO-DIMENSIONAL ROUGHNESS ON THE SUCTION SURFACE OF AN AIRFOIL
	<b>1200 – 1215 Hrs.</b>	Vidyasagar R, Sampath Kumar Chinige, Kameswarara Anupindi and Arvind Pattamatta	<b>207</b>	UNSTEADY MIXED CONVECTION PAST A CIRCULAR CYLINDER USING GHOST FLUID- CASCADED LATTICE BOLTZMANN METHOD(GF-CLBM)
	<b>1215 – 1230 Hrs.</b>	Vijaya Kumar Gopala Krishna Moorthy, Stephan Kelm, K Arul Prakash and Hans-Josef Allelein	<b>219</b>	CFD MODELLING OF BUOYANCY DRIVEN FLOWS IN ENCLOSURES: RELEVANT TO NUCLEAR REACTOR SAFETY
	<b>1230 – 1245 Hrs.</b>	Arjun Jayakumar and Annamalai Mani	<b>225</b>	COMPUTATIONAL ANALYSIS OF HIGH POROSITY ALUMINUM FOAM FOR HEAT AND MASS TRANSFER ENHANCEMENT IN FALLING FILM EVAPORATOR
	<b>1245 – 1300 Hrs.</b>	Basil Issac and Anjan Sarkar	<b>227</b>	A COMPREHENSIVE LAYOUT OF TWO DIMENSIONAL THERMAL NETWORK MODEL FOR TIM WITH PULSED HEAT SOURCE



**DAY – 3 (13TH DECEMBER, 2017, WEDNESDAY) : SESSION - 2**

**VENUE: ICSR AUDITORIUM TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>13.12.2017 Wednesday Session – 2 1400 – 1600 Hrs. Session Chair: Dr. Mallikarjuna J M</b>	1400 – 1415 Hrs.	Xuejiao Chen, Lei Hou and Shiyao Li	83	MOLECULAR DYNAMICS SIMULATION OF ELECTRIC FIELD EFFECTS ON THE THERMODYNAMICS PROPERTIES AND MICROSTRUCTURE OF PARAFFIN
	1415– 1430 Hrs.	Prasanth P Nair, Abhilash Suryan and Heuy Dong Kim	87	NUMERICAL ANALYSIS OF FLOW CHARACTERISTICS IN AN ANNULAR CONICAL PLUG NOZZLE WITH TRUNCATION
	1430 – 1445 Hrs.	Johny George, Abhilash Suryan and Heuy Dong Kim	89	NUMERICAL STUDY OF FLOW THROUGH PLANAR DOUBLE DIVERGENT NOZZLE
	1445 – 1500 Hrs.	Amsha S, Abhilash Suryan and Dileep K N	90	COMPUTATIONAL STUDY OF COMBUSTION IN A SCRAMJET ENGINE
	1500 – 1515 Hrs.	Dileep Nair and Partha Ghoshdastidar	181	A COMPUTATIONAL STUDY OF SYNTHETIC AIR JET AIDED COOLING OF AN LED STREET LIGHTING LUMINAIRE
	1515 – 1530 Hrs.	Ge Chen and Zhiguo Qu	198	NUMERICAL STUDY ON THE PERFORMANCE DEGRADATION OF CRYOGENIC LOOP HEAT PIPES WITH SOLIDIFIED IMPURITIES
	1530 – 1545 Hrs.	Jianfei Zhang, Long Jia and Wenquan Tao	215	PARAMETRIC OPTIMIZATION OF LONGITUDINAL VORTEX GENERATORS IN A RECTANGULAR MICROCHANNEL FOR HEAT TRANSFER ENHANCEMENT
	1545 – 1600 Hrs.	Rongtang Liu, Yu Wang, Ming Liu and Junjie Yan	221	NUMERICAL SIMULATION OF EROSION DISTRIBUTIONS AND PARTICLE TRAJECTORIES IN DIFFUSERS FOR GAS-SOLID FLOW

**VENUE: ICSR HALL - 1 TRACK: COMPUTATIONAL HEAT TRANSFER AND FLUID DYNAMICS**

Date, Day, Session and Session Chair	Timing	Author(s)	Paper No.	Title
<b>13.12.2017 Wednesday Session – 2 1400 – 1600 Hrs. Session Chair: Dr. Pallab Sinha Mahapatra</b>	1400 – 1415 Hrs.	Tashefa Salam, Kajal Mishra, Nandhini Raghunathan and Sitaram Nekkanti	228	IMPROVED GURNEY FLAP CONFIGURATION FOR AIRFOIL AERODYNAMICS
	1415– 1430 Hrs.	Chuang-Yao Zhao, Ying-Jie Zhong and Wen-Quan Tao	230	NUMERICAL STUDY ON FALLING FILM HEAT TRANSFER OF NANOFLUID OUTSIDE A SINGLE HORIZONTAL TUBE
	1430 – 1445 Hrs.	Aditya Madabhushi and Santanu Ghosh	232	COMPARATIVE ASSESSMENT OF TWO ALL-SPEED FLOW ALGORITHMS USING EXPLICIT TIME MARCHING
	1445 – 1500 Hrs.	Shaik Sharmas Vali and T.P.Ashok Babu	237	ANALYTICAL COMPUTATION OF THERMODYNAMIC PERFORMANCE AND FLAMMABILITY OF VARIOUS REFRIGERANT MIXTURES AS SUBSTITUTES TO R22
	1500 – 1515 Hrs.	Hirofumi Hattori, Kenji Tsutsui, Masahiro Kuroki, Takashi Tomida, Kosuke Narukawa, Tomoya Houra and Masato	240	TURBULENT HEAT TRANSFER MODEL WITH MULTI-TIME SCALES FOR PREDICTIONS OF TURBULENT HEAT TRANSFER AND MIXING PHENOMENA IN COMPLEX FLOWS
	1515 – 1530 Hrs.	Jinu H, Aashamz Pdarsen and Santhosh Ks	257	FLOW PATTERN AND HEAT TRANSFER CHARACTERISTICS OF FLOW PAST MULTIPLE CYLINDERS
	1530 – 1545 Hrs.	Jintu K James, Heuy Dong Kim and Kexin Wu	205	SHOCK WAVE OSCILLATIONS IN THE SUPERSONIC FLOW THROUGH A CONSTANT AREA DUCT
	1545 – 1600 Hrs.	Rohit Sankaran Iyer, Dong Hyeon Kim and Heuy Dong Kim	204	PREDICTION OF THE ENTRY COMPRESSION WAVES FORMED BY A HIGH-SPEED TRAIN ENTERING TUNNEL