



**FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)<sup>®</sup>**



International Conference on  
**"Advances in Applied Mathematics,  
Materials Science and Nanotechnology  
for Engineering and Industrial Applications"**

**January 7-9<sup>th</sup> 2016**

Organized by  
**Department of Science & Humanities**  
Federal Institute of Science and Technology (FISAT)<sup>®</sup>  
Hormis Nagar, Angamaly, Kerala, India

Conference E-mail: [icammn@fisat.ac.in](mailto:icammn@fisat.ac.in), Phone (Office): +91 484 2725282,  
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## Welcome to FISAT

Federal Institute of Science and Technology (FISAT)<sup>®</sup> is an engineering college established in 2002 and run by the Federal Bank Officers Association Educational Society (FBOAES), approved by AICTE and affiliated to Mahatma Gandhi University, Kottayam and Kerala Technological University, Thiruvananthapuram. FISAT offers six B.Tech, six M.Tech, two MCA and MBA programs with present student strength of 3000/year. FISAT shows excellence in academics, research activities as well as curricular and co-curricular activities. FISAT has now emerged as one of the most sought after engineering colleges in the state and is ranked high. FISAT cordially invites you.

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Prof. Sabu Thomas, Mahatma Gandhi University, Kottayam  
Prof. Sunil K Narayanankutty, Cochin University of Science and Technology, Cochin  
Prof. Thomas Kurian, Cochin University of Science and Technology, Cochin  
Prof. Prof. Joby Joseph, Indian Institute of Technology, Delhi  
Prof. Nandakumar Kalarikkal, Mahatma Gandhi University, Kottayam  
Prof. Arup Ranjan Bhattacharya, Indian Institute of Technology, Bombay  
Prof. Veena Choudhary, Indian Institute of Technology, Delhi  
Dr. Suresh Nair K.R., Nest Group, India  
Dr. Anoop Anand, DRDO, Pune  
Dr. Rajeev Kini, IISER, Thiruvananthapuram

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Mr. Pankaj Kumar G, Mr. Arun S,

## Local Organizing Chair (Convenor)

Dr. Ajalesh B Nair,  
Department of Science & Humanities  
Federal Institute of Science and Technology  
Hormis Nagar, Angamaly, Kerala, India - 683 577  
Conference E-mail: bnajalesh@fisat.ac.in  
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## Main Speakers

Alain Dufresne, Grenoble Institute of Technology, France  
Anoop Anand, Defense Research and Development Organization, Pune  
Afeesh R., Chonbuk National University, S. Korea  
Anand Kulkarni, Michigan Technological University, USA  
Bruce E Seely, Michigan Technological University, USA  
Bharmini Nayar, Morgan State University, USA  
Chen Jingsheng, National University of Singapore, Singapore  
Deepthy Menon, Amrita Institute of Medical Sciences, India  
Dusan Galusek, Alexander Dubcek University of Trencin, Slovakia  
Eva Majkova, Slovak Academy of Sciences, Slovakia  
Harish N. S. Krishnamoorthy, Nanyang Technological University, Singapore  
Jayalakshmi. S, Cochin University of Science and Technology, India  
Jithin Jose, Fujifilm Visual Sonics, Amsterdam  
Joby Joseph, Indian Institute of Technology, Delhi, India  
Jose Ignacio Velasco, Polytechnic University of Catalonia, Spain  
Jyothish Kumar, Cochin University of Science and Technology, India  
Krishnamoorthy A, Cochin University of Science and Technology, India  
Manoj Changat, University of Kerala, Trivandrum, India

Masanori Kikuchi, National Institute for Materials Science, Japan  
Murukeshan Vadakkemathom, Nanyang Technological University, Singapore  
Nandakumar kalarikkal, Mahatma Gandhi University, Kottayam, India  
Narayanan N, Indian institute of Technology, Madras, India  
Prasanth R Krishna, Rice University, USA  
Praveen Cherian Ashok, St. Andrews University, UK  
Rani Joseph, Cochin University of Science and Technology, India  
Ravindra Pandey, Michigan Technological University, USA  
S. P Sharma, Indian institute of Technology, Roorkee, India  
Sabu Thomas, Mahatma Gandhi University, Kottayam, India  
Satyananda Panda, National Institute of Technology, Calicut, India  
Songmin Shang, Hong Kong Polytechnic University, Hong Kong  
Suresh Nair. K.R, NEST Group, India  
Suresh Valiyaveetil, National University of Singapore, Singapore  
Thirvikraman T, Kannur University, India  
Toyoko Imae, National Taiwan University of Science and Technology, Taiwan  
V. P. N Nampoori, Cochin University of Science and Technology, India  
Wenxiu Que, Xi'an Jiaotong University, China  
Yonghong Tan, Shanghai Normal University, Shanghai, China



## Theme and Objectives

The Conference IC- AMMN 2K16 aims at addressing the recent advances and challenges in Mathematical Methods, Materials Science and Nanotechnology pertinent to Engineering and Technology. No doubt, the advances in these disciplines play the cardinal role in realizing a world decorated with comforts of life but dominated by a rich scientific culture to nurture a green, pollution free and healthy living ambience. The most recent innovations, ideas, trends, major challenges encountered and solutions adopted in these disciplines can be addressed in an interactive way at the conference with productive and visionary outcomes.

The Conference envisages to provide opportunities for exchanging of ideas and fruitful interactions for scientists, academicians, industrialists and researchers across the world promoting meaningful collaborative research. Unlike the conventional practice of holding academic discourse with discipline exclusiveness, the proposed Conference is expected to expound inter-disciplinary and multidisciplinary intellectual expositions. A meaningful confluence of academia and industry is envisaged as well.


Latest trends in the frontier areas of modern mathematics such as stochastic modeling, graph theory, time series analysis, differential equations, non-dynamical systems, fuzzy logic, ergodic theory, optimization techniques, fractal geometry, data analytics etc. are expected to be presented at the Conference.

The recent advances and challenges in Materials Science and Nanotechnology with special emphasis on applications in the engineering scenario will be addressed in the Conference. The prime themes include the current trends in fibre optic sensor technology and fibre optic communications, photonic materials and their technological applications, recent developments in nanophotonics and bio-nanophotonics, the current scenario on solar power generation and storage and the recent developments in display devices and solid state lighting technology. Besides, the Conference intends to pay special attention to natural polymers, biomaterials, biopolymers and their blends, composites, IPNS and gels from macro to nanoscales and their applications in automotive, civil, aerospace, computer and marine engineering and to strengthen the research and development collaborations.

Experts of international repute and delegates from across the world are expected to participate in this three-day international conference.

## Conference Topics

### Applied Mathematics:



- Mathematical Modeling
- Graph Theory and Combinatorics
- Wavelet Analysis
- Fuzzy Logic and Control
- Operator Theory and Applications
- Application of Time Series Analysis in Modeling
- Application of Topology in Physical Science
- Coding and cryptography
- Differential Equations and its engineering applications
- Ergodic Theory
- Game Theory

### Materials Science and Nanotechnology:



- Materials for Optoelectronic applications with special reference to solar cells and LEDs
- Photonic materials, devices and applications
- Materials for Non destructive testing technology
- Applications of Optical imaging and imaging with digital signal processing
- Optical fiber communication and sensor technology
- Applications of Metamaterials
- Nanomaterials for Bio-nanoelectronics, mechanical devices and therapeutic applications
- Carbon based nanostructures for energy harvesting and storage applications
- Biodegradable polymers and Green composites
- Tyre Technology, Rheology of polymers
- Functional nanocomposites and coatings
- Advances in polymer and hybrid material technology
- Polymers for textile and packaging applications
- Modeling and simulation of advanced polymers

## Call for papers

Authors are requested to send abstracts (One page) along with the duly filled registration forms to the Convener before **20<sup>th</sup> August 2015**. The abstract will be peer reviewed and authors will be informed of the acceptance of the paper. We strongly encourage submission of abstract by e-mail. Full text of the accepted papers in the prescribed form be uploaded on or before **15<sup>th</sup> October 2015** using the easychair format.

### Language

English is the official language of the conference. No translation facility is available.

### Manuscript Format

Manuscripts should be in camera-ready form and should not exceed four typed pages. Manuscripts should contain a short running title with name of authors and their affiliations, brief introduction, experimental, results and discussions, conclusions and references. Figures and tables are to be interposed in the text with captions. Authors are requested to prepare the manuscript in MS Word using Arial Font (12 size) and 1.5 line spacing in the main text.

### Poster dimensions

The dimension of the poster is vertical height 120 cm and horizontal width 80 cm. The poster will be placed vertically.

### Not allowed

USB, Pen Drive, Memory Stick etc. are not allowed due to virus problems. At the time of presentation all delegates are requested to bring presentation material on CD.



**Important Dates:**

Conference - 7, 8 & 9<sup>th</sup> of January 2016  
 Date of submission of abstracts- 20<sup>th</sup> August 2015  
 Date of submission of full paper- 15<sup>th</sup> October 2015  
 Date of notification of acceptance-15<sup>th</sup> November 2015

**Venue**

**Federal Institute of Science and Technology (FISAT)<sup>®</sup>**

The conference will be held in Seminar hall, Federal Institute of Science and Technology (FISAT). Kochi International Airport is the nearest airport, just 8 km from FISAT. Angamaly (7 km) and Aluva (20 km) are the nearest Railway stations. FISAT, Hormis Nagar, Angamaly is connected by public transport system with important towns in Kerala including Cochin, Trissur, Palaghat, Thiruvananthapuram, Kottayam etc.

**Registration**

The Conference registration fee may be sent in favour of: Convener, IC-AMMN 2K16, Department of Science & Humanities, Hormis Nagar, Angamaly, -683 577, Kerala, India.

Full address of sending person should be included during the money transfer.

Account No :17140100025704

SWIFT Code : FDRLINBBIBD

IFSC Code : FDRL0001714

Payable at Federal bank Ltd., Hormis Nagar, Mookkannoor, Angamaly, Kerala, india.Pin Code: 683 577

(If you have any more doubts during the money transfer, please contact to:hnr@federalbank.co.in, +91 484 2615158, Fax : +91 484 2725250)

Official website : www.federalbank.com

**Registration Fee**

Category	Registration Fee till 20th Nov. 2015	Registration Fee after 20th Nov.2015/on SPOT
<b>Foreign Delegates</b>		
Delegates	Euro 500	Euro 600
Students	Euro 300	Euro 400
Accompanying person	Euro 200	Euro 300
<b>Indian Delegates</b>		
Industry	Rs. 5000/-	Rs. 5750/-
Delegates from Academic & Research Institute	Rs. 3000/-	Rs. 3500/-
Students	Rs. 1500/-	Rs. 1750/-

**Accommodation**

www.suryahotels.com, www.geebepalace.com, www.eghplanet.com

**For the delegates we offer the following**

- ✓ Free accommodation will be arranged for single lady participants in the FISAT campus hostels
- ✓ Accommodation on payment can be arranged on request for male delegates/family
- ✓ Conference materials, lunch, dinner and refreshments for three days
- ✓ Special conference banquet, Entry to the traditional cultural programs of Kerala
- ✓ Exciting sight seeing trips to the historical monuments in Kerala, "The God's Own Country"

**Registration Form**

Name :  
 Sex : Status : Indian / Foreign  
 Category : Student / Industry / Academic / R & D  
 Designation :  
 Department :  
 Institution :  
 Town / City :  
 Country :  
 Phone (Mob.) :  
 Email :

I / we shall be attending the conference : Yes / No

I / We shall be presenting a paper (Oral / Poster) : Yes / No

If yes, Title of the Paper :

Registration fee enclosed : Yes / No

Amount : DD No :

Accommodation required : Yes / No

(Hotels/ Guest house/ Youth hostel/ Ladies hostel)(Vegetarian /Non-vegetarian)

(Please strike out whichever is not applicable)

Photo copies of registration forms are also accepted,

Registration can be done via email to the convener : icammn@fisat.ac.in

**Local Attractions in Kerala, "The God's own country"**



**Route Map**



**Climate of Kerala in January**

Temperature -82°F 28°C  
 Low Temperature -73°F 23°C  
 High Temperature -90°F 32°C  
 Sunshine Hours - 9hrs  
 Chance of Sunny Day - 62%

**All Correspondance to**

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