

5th International Conference on Applications of Fluid Dynamics - ICAFD 2020 An Online Conference December 13-15, 2020

Official e-mail id

icafd2k20@gmail.com

Organizers

The School of Mechanical Engineering, VIT-AP University, India in collaboration with University of Johannesburg, South Africa.

Theme

Recent Trends in Applied Mathematics and Mechanical Engineering

Objective

ICAFD 2020 aims to establish a premier International forum that brings together the Scientists, Engineers and Industrial experts to present the latest achievements and innovations in the areas of Applied Mathematics and Mechanics to discuss path-breaking developments and challenges, in order to select potential directions for the future. The major objective of the conference is to promote scientific and educational activities towards the advancement of common man's life by improving the theory and practice of various disciplines of Applied Mathematics and Mechanics. The conference includes a keynote address and invited talks by eminent invited speakers around the world, and oral presentation by researchers and practitioners to discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Fluid Dynamics.

ICAFD

ICAFD 2020 at VIT-AP University is 5th in continuation following the first ICAFD 2012 in University of Botswana, Second ICAFD 2014 in S V University, Tirupati, 3rd ICAFD 2016 in IIT (ISM) Dhanbad and 4th ICAFD 2018 at VIT Vellore.

Target Audience

Research Scholars, Faculty, Scientists and Industrial experts.

About us

About VIT-AP University, Amaravati

VIT-AP University founded under the eminent guidance of Founder and Chancellor Dr. G Viswanathan has emerged as one of the promising and prominent academic institutes of India. Despite being a quite young institute, the excellent and unique quality of teaching-learning, research and innovations shows the aspiration of the institute to become a global leader. VIT-AP attracts students from almost all the states of India because of its academic excellence. VIT-AP has introduced many innovations in the academic process including FFCS (Fully Flexible Credit System), PBL (Project Based Learning), fully digitized academic portals that assist students in equipping themselves for the 2020 futuristic. Hackathons / Makeathons are part of curriculum exercise which kindle the interest and curiosity of the students. The University comprises of six prominent schools namely School of Computer Science & Engineering, School of Electronics Engineering, School of Mechanical Engineering, School of Sciences & Languages, School of Business and School of Law which houses around 150 faculty members dedicated to fulfil the needs of various engineering departments. Almost all the faculty members are doctorates and are actively involved in research activities in addition to the regular teaching activities.

About School of Mechanical Engineering

The School of Mechanical Engineering is amongst the premier schools of VIT-AP having a dedicated team of highly qualified faculty members holding Ph.D. from elite institutes across the globe to teach and train the best minds of this country. Simultaneously the major frontier research areas of the school include Thermal science, Manufacturing and Design. Fluid Dynamics has gained a focussed attention by a dedicated team of researchers including faculty members and research scholars. Besides this, a highly qualified and experienced team of faculty members and research scholars from the Department of Mathematics make significant contributions to the domain of Fluid Dynamics.

List of Foreign Speakers

- Prof. R. Panneer Selvam**, University of Arkansas, USA
- Prof. K. Vajravelu**, University of Central Florida, USA
- Dr. Ashwin Vaidya**, Mont Clair State University, USA.
- Prof. J. Prakash**, University of Johannesburg, SA
- Dr. Kannan Sundaravadivelu**, IHPC, A*STAR, Singapore.
- Dr. Sivasankaran Sivanandam**, King Abdulaziz University, Kingdom of Saudi Arabia,
- Prof. O. D. Makinde**, Stellenbosch University, South Africa
- Dr. Zailan Bin Siri**, Institute of Mathematical Sciences, University of Malaya, MALAYSIA
- Dr. Santo Banerjee**, University Putra Malaysia, Malaysia
- Dr. P. Nagarani**, The University of West Indies, Jamaica
- Prof. Daniel J. Mashao**, University of Johannesburg.
- Prof. Tien-Chien Jen**, University of Johannesburg.
- Prof. Ebrahim Momoniat**, University of Johannesburg.
- Prof. Tshilidzi Marwala**, University of Johannesburg
- Prof. Edward Lungu**, Botswana International University of Science & Technology
- Dr. Abhishek Agarwal**, University of Botswana

List of Indian Speakers

- Prof. P. Kandaswamy**, Bharathiar University, Coimbatore
- Prof. P.V.S.N. Murthy**, IIT Kharagpur
- Prof. Pradeep G. Siddheshwar**, Christ (Deemed to be University), Bangalore
- Prof. A. Senthil Kumar**, VIT Vellore
- Dr. P. Srinivasa Rao**, Indian School of Mines, Dhanbad.
- Dr. Harish N Dixit**, IIT Hyderabad
- Dr. Amitab Bhattacharya**, IIT Delhi
- Dr. Girish Kumar Rajan**, IIT Tirupati
- Dr. Ashok Misra**, Centurion University of Technology and Management, Orissa
- Dr. Vishnu Narayan Mishra**, Indira Gandhi National Tribal University, Madhya Pradesh

Manuscript Submission and Publication Process

Submit the manuscript through the following Google Form:

<https://bit.ly/3g4tJDI>

Manuscript Submission Format: **Authors Choice (Initially, the author can submit the manuscript in any format)**

Notification of Acceptance for Oral Presentation: **October 01, 2020**

Along with the Notification of Oral Presentation, Authors will be intimated to format their manuscripts in the appropriate Journal / Book Series / Proceedings format.

All the manuscripts accepted for Oral Presentation will be published in (Scopus indexed) Conference Proceedings (after the submission of the revised manuscripts as per the suggestions of the reviewers). If any additional amount is to be paid for publication in the proceedings, it will be notified to the author(s). It may be noted that the **Similarity Index should be below 20%**.

Topics

Interest areas of the conference include but are not limited to

- Mathematical Modelling, Scientific Computing and Algorithms
- Biomathematics and Fluid Dynamics
- Thermal Engineering and Chemical Engineering
- Design Engineering and Chemical Engineering
- Industrial Engineering

Mathematical Modelling, Scientific Computing and Algorithms

- Mathematical Physics, Mathematical Chemistry
- Theoretical Mechanics
- Dynamical Systems
- Disease Model, Decision Sciences
- Mineral and Energy Resources
- Optimal Control and Simulations
- Stochastic models
- Complexity, Approximation
- Error Analysis and Interval Analysis
- Time-Frequency Localization
- Stochastic Differential Equations
- Difference Equations and Recurrence Relations
- Decomposition and Reconstruction Algorithms
- Multigrid Methods
- Fixed Point Theories,
- Phase-Space Analysis

Registration

National

Student/Research Scholars: **Rs.1000/-**
Academia participants: **Rs.1200/-**
Industrial participants: **Rs.3000/-**

International

Student/Research Scholars: **USD 100**
Academia participants: **USD 125**
Industrial participants: **USD 150**

Link for ICAFD-2020 Conference payment gateway

<http://vtop1.vitap.ac.in:8080/icafd/Conferenceinitial>

Important dates

| | |
|---|-------------------------|
| Beginning of Submission of Abstract/extended Abstract | 20 July, 2020 |
| Notification of acceptance | 01 Oct, 2020 |
| Last date for the Full length paper | 01 Nov, 2020 |
| Last date for the conference Registration | 25 Nov, 2020 |
| Conference dates | 13 -15 Dec, 2020 |

Awards

The conference will have the Best Paper Award in following areas, which will be announced and bestowed at the conference closing session.

- Applied Mathematics
- Mechanics

These awards recognize the best conference papers presented in ICAFD 2020. Best Paper Awards will be presented to authors whose work represents ground-breaking research in their respective areas. By recognizing these select papers for their ingenuity and importance, ICAFD 2018 highlights some of the theoretical and experimental innovations that are likely to shape the future of Applied Mathematics and Mechanics. The author of an awarded paper, and co-author if any, will be entitled to a signed and stamped official award certificate.

Selection Criteria

During the paper submission, the interested candidates need to specify that the manuscript is submitted for ICAFD 2020 Best Paper Award. The decision criterion will consider both the paper quality and the oral presentation quality. Papers selected as candidates for best paper award will be exclusively presented on December 13, 2020 during 16:00 to 18:00. The awards will be conferred to the author(s) of a paper presented at the conference, selected by the ICAFD 2020 Best Paper Award Committee.

Eligibility (for award session papers)

Presenting author age should be below 32 as on 13-12-2020.

Presenting author should be the first author

Maximum number of authors' is Two

Two recommendation letters from the experts should be submitted

Host institute author/co-author publications will not be considered

ICAFD-2020 Committee

Patron

Dr. G. Viswanathan
Chancellor, VIT

Co – Patrons

Mr. G. V. Selvam
Vice President, VIT

Prof. D. Subhakar

Vice Chancellor, VIT-AP

Chair Person Prof. Pankaj Balakrishna Tambe

Co-Chair Prof. S. Srinivas

Convenor Prof. S. Srinivas

Co-Convenor Dr. Dillip Kumar Mohanty

Organizing Secretaries Dr. Amit Kumar

Dr. Satyanarayana Badeti

Organizing Secretary UJ Prof. J. Prakash (UJ, South Africa)

Joint Secretaries Dr. V. Ramakrishna Reddy

Mr. S. Karthikeyan

National Advisory Committee

Prof. P.V.S.N. Murthy

Department of Mathematics,
IIT Kharagpur

Prof. Y.V.S.S. Raju

Department of Mathematics,
IIT Madras

Dr. Harish N Dixit

Mechanical & Aerospace Engineering,
IIT Hyderabad

Dr. Amitab Bhattacharya

Department of Mechanical Engineering
IIT Delhi

Dr. Girish Kumar Rajan

Department of Mechanical Engineering
IIT Tirupati

Prof. J.V. Ramana Murthy

Department of Mathematics
NIT Warangal

Dr. A.S.V. Ravikanth

Department of Mathematics,
NIT, Kurukshetra

Dr. Ragoju Ravi

Department of Applied Sciences,
NIT, Goa

Dr. Om P. Suthar

Department of Mathematics
MNIT, Jaipur

Prof. M. Kothandapani

Department of Science & Humanities,
University College of Engineering,
Arni, Tamil Nadu.

Dr. Jignesh Thaker

Mechanical Engineering Department,
Adani Institute of Infrastructure Engineering,
Adani Institute of Education and Research,
Ahmedabad

Dr. Anish K. John

Department of Mechanical Engineering,
Government Engineering College,
Thiruvananthapuram.

Dr. K. Jayaraj

Department of Mechanical Engineering,
Government of Engineering college
Barton Hill,
Thiruvananthapuram.

Prof R. Muthuraj

Department of Mathematics,
PSNA College of Engineering & Technology,
Dindigul, Tamilnadu

Prof. V.R.K. Murthy

Department of Science & Humanities
Vignn's Foundation for Science, Technology & Research
Guntur, Andhra Pradesh

Dr. B. Rushi Kumar

Department of Mathematics
VIT Vellore

Dr. Vishnu Narayan Mishra

Department of Mathematics
Indira Gandhi National Tribal University, Madhya Pradesh

International Advisory Committee

Prof. R. Panneer Selvam

James T.Womble Professor of Computational
Mechanics and Nanotechnology Modelling,
Department of Civil Engineering,
Bell4019, University of Arkansas,
Fayetteville, AR72710.

Prof. Kuppalapalle Vajravelu

Professor of Mathematics
Professor of Mechanical, Materials and Aerospace Engineering
University of Central Florida,
Orlando, Florida 32816 - 1364, USA

Dr. Rama S.R. Gorla

Professor of Mechanical Engineering,
Cleveland state University,
2121 Euclid Avenue, SH 243
Cleveland, OH 44115-221

Prof. Khoo Boo Cheong

Department of Mechanical Engineering,
National University of Singapore, Singapore

Dr. Ashwin Vaidya

Chairperson and Associate Professor
Department of Mathematics
Joint Appointment - Department of Physics and Astronomy
Montclair State University, USA.

Dr. Sivasankaran Sivanandam

King Abdulaziz University,
Jedda 21589, Kingdom of Saudi Arabia

Dr. Kannan Sundaravadivelu

Institute of High performance Computing,
Agency for Science, Technology and Research,
Singapore

Dr. Poo Balan Ganesan

Department of Mechanical Engineering,
Faculty of Engineering,
University of Malaya

Dr. Kohilvani Naganthran

Department of Mathematical Science,
Faculty of Science and Technology,
Universiti Kebangsaan Malaysia,
436000 UKM Bangi,
Selangor, Malaysia

Dr. Santo Banerjee

Institute for Mathematical Research,
University Putra Malaysia, Malaysia.

Prof. O. D. Makinde

Faculty of Military Science,
Stellenbosch University, South Africa

Dr. Abhishek Agarwal

Faculty of Engineering and Technology
University of Botswana, Botswana

Dr. Zailan Siri

Institute of Mathematical Sciences
University of Malaya
50603 Kuala Lumpur
MALAYSIA

Dr. Dhananjay Yadav

Department of Mathematical and Physical Sciences,
University of Nizwa,
Nizwa, Oman

Dr. G. Sreedhara Rao

Head, Department of Mathematics & Statistics,
University of the West Indies,
St. Augustine, Trinidad and Tobago

Dr. P. Nagarani

Head, Department of Mathematics,
The University of West Indies,
Mona Campus, Jamaica

Prof. Daniel J. Mashao

Executive Dean, FEBE,
University of Johannesburg, South Africa

Prof. Tien-Chien Jen

Department of Mechanical Engineering, FEBE
University of Johannesburg, South Africa

Prof. Ebrahim Momoniat,

Department of Mathematics,
University of Johannesburg, South Africa

Prof. Edward Lungu

Dean, Faculty of Science
Botswana International University of Science & Technology
Botswana