



VIT-AP
UNIVERSITY

66th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM) (Virtual International Conference)

December 3–5, 2021

Organised by
The School of Mechanical Engineering
&
The School of Advanced Sciences
VIT-AP University
Amaravati, Andhra Pradesh, India

About ISTAM

The Indian Society of Theoretical and Applied Mechanics (ISTAM) was established in 1955 with Indian Institute of Technology Kharagpur as its headquarters. ISTAM was formed by the think-tanks of post independent India to provide a common platform for scientists, technologists, and engineers to share their insights on the developments in the field of Mechanics and discuss their individual or group research projects. Apart from functioning as a repository of academic knowledge, ISTAM also focuses on resolving the challenges of a developing society to enable better living conditions. In the annual ISTAM congress, five memorial lectures are delivered in honor of Prof. B.R. Seth, Prof. P.L. Bhatnagar, Prof. B. Karunesh, Prof. A.S. Gupta, and Prof. G.I Taylor by eminent scholars from across the globe. Also, numerous invited lectures are organized to discuss the recent trends in Mechanics. The annual conferences of the Society have been held at various IITs, RECs, NITs, Universities, Engineering colleges and other reputed research establishments in different parts of the country. It has always attracted many national and international research scholars. The Society promotes inter-disciplinary research in Basic Sciences and Applied Mechanics and encourages young scientists with awards and appreciation. Papers submitted for the conference are peer reviewed and published in the form of e-proceedings. Further, abstracts of papers that are presented in the Congress are published in our Souvenir volume.

The 66th Congress of ISTAM (an international conference) will be held in virtual mode at VIT-AP University, Amaravati, Andhra Pradesh, India. Further details can be obtained from the website: <https://istam.iitkgp.ac.in/> (Please use Google Chrome and choose the advanced option and accept)

ISTAM Office Contact: istam@maths.iitkgp.ac.in

ISTAM President

Prof G Radhakrishnamacharya

Professor of Mathematics

Indian Institute of Information Technology Design & Manufacturing, Kurnool
Kurnool – 518 007, Andhra Pradesh, Email: grk.nitw@yahoo.com

ISTAM Secretary

Dr. Dipak Kumar Maiti

Professor, Department of Aerospace Engineering,
Indian Institute of Technology Kharagpur – 721302.
Email: dkmaiti@aero.iitkgp.ac.in

ISTAM Treasurer

Dr. T. Raja Sekhar

Associate Professor, Department of Mathematics,
Indian Institute of Technology Kharagpur – 721302.
Email: trajasekhar@maths.iitkgp.ac.in

About VIT-AP University

VIT-AP offers several avenues to explore your interests and identify core competencies through its flexible courses and a unique teaching-learning experience. The institute's curriculum focuses on practical learning and providing holistic education and growth. With state-of-the-art facilities, continuous assessments, a student-oriented mentoring scheme, extracurricular activities, several international collaborations, placement opportunities and much more, VIT-AP ensures that students are informed, inspired, and engaged at the institute.

Consistently ranked among the top educational institutes in the country, the VIT group of institutions have a proud tradition of pursuing knowledge and excellence. In a similar vein, the leadership at VIT-AP demonstrates a dynamic blend of academic initiative and industry partnership with a vision of creating one of the finest academic destinations in the world. With several years of educational, industrial, and administrative experience, VIT-AP is helmed by Dr. G. Viswanathan, Chancellor, founder of VIT group of institutions; along with the core group comprising Dr. Sekar Viswanathan, Vice-President; Dr. Sandhya Pentareddy, Executive Director; Dr. S. V. Kota Reddy, Vice-Chancellor; and Dr. C.L.V. Sivakumar, Registrar

For further details of VIT-AP University visit the official website: <https://vitap.ac.in/>

About Organizing Schools

The School of Mechanical Engineering (SMEC) is one of the premier schools of VIT-AP which has a dedicated team of highly qualified faculty members holding Ph.D. from elite institutes across the world. The School is well known not only for teaching and training the best minds of this country but also for its research contributions in areas such as Additive Manufacturing, Advance Manufacturing & Material Characterization, Computational Mechanics, Fluid Dynamics, Biomedicine, Thermal science, Design, Robotics, IC engines, Tribology, Colloidal suspensions, and Dispersion. Our labs have state-of-the-art facilities to carry projects for the development of technologies. The UG students are also encouraged to engage in projects with faculty members for higher studies in leading universities in the USA, Europe, and Asia. Further details of School of Mechanical Engineering can be obtained from the website: <http://vitap.ac.in/school-of-mechanical-engineering/>

The School of Advanced Sciences (SAS) is one of the premier schools of VIT-AP and it houses the Departments of Mathematics, Physics, and Chemistry. Our school aims at providing a solid foundation in natural Sciences by training the graduate, postgraduate, and PhD students in recent scientific and technological developments. Deploying the technique of project-based learning (PBL), we teach our students to think critically and encourage them to question, explore, and research across various disciplines of sciences. We aspire to be a valuable contributor towards the nation's growth and development by producing highly skilled professionals and charismatic leaders. We believe that our quality of education and research will foster ethical and professional standards in students and hone their logical-thinking and problem-solving skills which are essential to counteract the professional challenges of today and the future. Further details of School of Advanced Sciences can be obtained from the website: <http://vitap.ac.in/school-of-advanced-sciences/>



Conference Topics

The Annual Congress provides a forum for presentation of research papers in the following areas.

Fluid Mechanics

- FM1 Aerospace Dynamics
- FM2 Aerospace Propulsion
- FM3 Atmospheric Sciences and Oceanography
- FM4 Biomechanics
- FM5 Boundary Layers
- FM6 Compressible Flow
- FM7 Computational Fluid Dynamics
- FM8 Drops, Bubbles and Multiphase Flows
- FM9 Experimental methods in Fluid Dynamics
- FM10 Flow Through Porous Media
- FM11 Geophysical & Environmental Fluid Dynamics
- FM12 Low-Reynolds number Flow
- FM13 Mathematical Modelling
- FM14 Statical Mechanics

Solid Mechanics

- SM1 Aerospace Structures
- SM2 Computational Solid Mechanics
- SM3 Control Structures
- SM4 Elasticity
- SM5 Experimental Method in Solid Mechanics
- SM6 Fracture and Crack
- SM7 Mechanics of Composites
- SM8 Viscoelasticity and creep
- SM9 Robotics and Control

Organising Committee

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Co-Chief Patron	
Dr. Sekar Viswanathan	Vice-President, VIT.
Patron	
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Dr. K M Mehta	Director Sponsored Research, VIT-AP University.
Dr. S. Srinivas	Sr. Professor, School of Advanced Sciences (SAS), VIT-AP University.
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Submission

All papers must be written in English.

Paper/Abstract Submission

Participants intending to present a paper in the Congress should upload (electronically) a three-page extended abstract consisting of the research aim, brief literature survey, problem formulation, solution methodology and significant conclusions (in the format specified below). Based on the reviewer's recommendation, a communication will be sent to the participant. Once the extended abstract is accepted for presentation, the participant is required to submit electronically either the brief abstract (limited to 300 words) or the full paper (limited to eight pages) in case the participant wishes to publish it in the e-proceedings of the Congress, which is subject to the peer review process.

The link for submission is <https://istam.iitkgp.ac.in/#1/pages/register>

Abstract Format

The extended abstract should be neatly typed in MS Word and in 12 point, Times New Roman font, and prepared as per the format given below

Heading: 66th CONGRESS OF ISTAM

Section Code: Title of the Paper

Author 1, Author 2*

* Affiliation, * Affiliation (*: Corresponding author)

E-mail: mandatory for the Corresponding author.

Paper Format

The manuscript should be submitted in MS Word in 12 point, Times New Roman font and in one and half line spacing with single column only. The paper should contain title, author(s) name, affiliation, address, abstract (limited to 300 words), Introduction, Formulation, Methodology (Theory or Experiment), Results, Conclusions and References. Regarding citation, author [xx] format should be used for citations and for references: P. T. Brady, M. Hermann and J. M. Lopez, "Confined Thermo-capillary Motion of a Three- Dimensional Deformable Drop, Physics of Fluids, 23, 1 12, (2018). Tables and figures must be imported into the text while preparing the manuscript. Authors are requested to adhere to the format that is available in the ISTAM website under the authors' instruction section. The paper should not exceed eight pages including figures, tables, and references. In case of multiple authors, all the authors will be given participation certificate only if they individually register and attend the Congress. Otherwise, only the presenting author will be given the certificate.

Young Scientist Award

Three medals, one each, in the sections: 1. Fluid Mechanics, 2. Solid Mechanics, and 3. Experimental Techniques or Computational Methods will be awarded to researchers of age 30 years or below for presenting outstanding research work at the Congress. The work should be done independently by the researcher with no co-author(s). The author who would like to be considered for the "Young Scientist" award is requested to mention it on the top of the Abstract by writing "PAPER FOR THE YOUNG SCIENTIST AWARD" and check the tick mark on "YOUNG SCIENTIST AWARD" while you are submitting it on the website. The award paper must be presented personally by the author during the Award Session of the Congress. The Award Session for medals will be held only if sufficient numbers of papers are received in each category. Apart from the medal, the registration fees of the awardees will be waived off in the following Congress.

Registration Procedure

Those participants whose extended abstracts are recommended for presentation will go for online registration. The link for submission of abstract is <https://istam.iitkgp.ac.in/#1/pages/register>

Registration is complete only when the registration fee details are filled in the online registration form and the soft copy of the abstract is uploaded. A signed copy of the online registration form should be sent by e-mail. The registration fee can be paid either by a Demand Draft or bank transfer, please see below for bank details. The abstract or paper will be considered for presentation on realizing the registration fee.

Registration fee can be paid through online fund transfer / Demand Draft drawn in favour of ISTAM payable at State Bank of India (SBI), Kharagpur (Branch 0202). One may transfer the money through online to ISTAM's account using the following details:

Registration Fee:

A Student Delegates	INR. 500
B Life Members	INR. 1,000
C Delegates from Educational Institutes and R & D Organizations	INR. 1,500
D Academic Institution in Group (Up to three delegates)	INR. 3,500
E Delegates from Industry	INR. 2,500
F Industries in Group (Up to three delegates)	INR. 6,000
G Delegates from Abroad	USD. 100
H SAARC & BRICS countries (Students Only)	INR. 3,000 or USD 50

About Andhra Pradesh and Tourist Attractions

Andhra Pradesh, the seventh largest state of India is situated on the Deccan plateau. The state is bordered by the Bay of Bengal on the east. Andhra Pradesh, India is known for its glorious past. The ancient temples, monuments, forts, palaces, old markets are the testimony to its rich history, culture, and architecture. There are many sacred pilgrimage shrines in Andhra Pradesh of which Tirumala and Puttaparthi are visited by millions of devotees from all over the world. Andhra Pradesh is blessed with breathtaking natural beauty. Surrounded by misty hills, dense forests, undulating mountains, silvery cascades, and shimmering rivers. Andhra Pradesh is home to many famous hill stations, wildlife sanctuaries, national parks and virgin beaches.



Account Name: ISTAM Account Number: **10224336294**

Bank: **State Bank of India (SBI), IIT Kharagpur, Kharagpur-721302, India.**

MICR code: **721002103-002135-10**

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NEFT (IFSC) Code: **SBIN0000202.**

Note*: Delegates name must be incorporated in the bank transaction.

Transaction number should send to Convener through email after completion of transactions.

ISTAM Office Contact Details

Phone: +91-3222-281666(O)

Office In-charge: 09475965781(M)-(Mr. Rana Nandi)

Fax: (Attn. ISTAM): +91-3222-2822278, 255303, 255239

Email: istam@maths.iitkgp.ac.in

Website: <http://istam.iitkgp.ac.in>

Important Dates

Last Date of Abstract Submission	31st August 2021
Notification of Acceptance	15th September 2021
Full Length Paper Submission (Not mandatory)	30th September 2021
Last Date of Payment of Registration Fee	31st October 2021
Conference Dates	3rd Dec to 5th Dec 2021