

ALVA'S INSTITUTE OF ENGINEERING  
AND TECHNOLOGY, MOODBIDRI



**KUMOMOTO UNIVERSITY MOU**

**Activity Report**

**2023-24**

PARTICIPATION AND PUBLICATION PROGRAM

**ONE DAY NATIONAL WORKSHOP  
ON  
"NANOFLUIDS IN HEAT TRANSFER AND ENERGY SYSTEMS"  
REPORT IN BRIEF**

The Department of Mechanical Engineering at AIET organized a one-day workshop focused on the application of nanofluids in heat transfer and energy systems. The program commenced promptly at 9:30 AM on 4th January 2024 with a prayer by the Dhvani team of AIET, Mijar, setting a contemplative tone for the day's events.



**Dignitaries on the dias during Workshop**

The inaugural ceremony was graced by esteemed dignitaries, including **Dr. Shuichi Torii**, a distinguished Professor from Kumamoto University, Japan, renowned for his expertise in nanofluids. Dr. Torii was joined by **Dr. Ranjeet Kumar Sahu**, Assistant Professor, **Dr. Peter Fernandes** (Principal, AIET, Mijar), **Dr. Dattatreya** (Dean of Planning), **Dr. Divakara Shetty** (Dean of Academics), and **Dr. G. B. Vaggar** (Department Incharge – HOD). Prof. Kiran CH expressively introduced the esteemed Chief Guest, Prof. Torii, to the audience.

The master of ceremony for the event was Mr. Akshar, a final-year student, who skillfully guided the proceedings of the formal function. Dr. Shuichi Torii, in his keynote address, illuminated the significance of nanofluids, sharing invaluable insights into the extensive research conducted at Kumamoto University, Japan. He emphasized the vital role of nanofluids in enhancing heat transfer efficiency and their potential applications in energy systems.



**Presentation of Bouquet to Prof. Shuichi Torii by Principal Dr. Peter Fernandes**



**Address by Principal Dr. Peter Fernandes**



Dr. Peter Fernandes, the Principal of AIET, delivered an insightful talk emphasizing the significance of such workshops in bridging academic theory with practical applications. He lauded the initiative taken by the Department of Mechanical Engineering and encouraged students to actively engage in such forums for holistic learning and practical exposure.



#### Talk by Prof. Shuichi Torii

Dr. Torii, in his keynote address, illuminated the significance of nano fluids, sharing invaluable insights into the extensive research conducted at Kumamoto University, Japan. He emphasized the vital role of nano fluids in enhancing heat transfer efficiency and their potential applications in energy systems.

Following a sumptuous lunch, **Dr. Ranjeet Kumar Sahu** took the stage, shedding light on the extensive research endeavors undertaken at NITK Surathkal. Dr. Sahu expounded upon a single- step approach for the production of nano fluids and their myriad applications in engineering systems. The session was marked by detailed explanations and illustrative examples, engaging the audience thoroughly.

Following a sumptuous lunch, **Dr. Ranjeet Kumar Sahu** took the stage, shedding light on the extensive research endeavors undertaken at NITK Surathkal. Dr. Sahu expounded upon a single- step approach for the production of nanofluids and their myriad applications in engineering systems. The session was marked by detailed explanations and illustrative examples, engaging the audience thoroughly.

The culminating segment of the workshop featured a vibrant question-and-answer session. Students seized the opportunity to seek clarification on various aspects from the distinguished resource persons. The interactive session saw an enthusiastic exchange of ideas, with students benefiting immensely from the insights shared by the experts.



**Talk by Dr. Ranjeet Kumar Sahu**

The day-long workshop on nanofluids proved to be an enriching experience, offering a comprehensive understanding of their applications in heat transfer and energy systems. The event concluded with a sense of enlightenment and inspiration, fostering a zeal for further exploration and research in this cutting-edge field.

Overall, the workshop served as a platform for academic discourse, fostering a deeper understanding of nanofluids and their promising role in revolutionizing heat transfer and energy systems.





**Group Photo of Workshop participants**



**Group Photo of Workshop faculty participants**

A handwritten signature in green ink, appearing to be "Raj", is positioned above the printed name of the Principal.

**PRINCIPAL**

**Alva's Institute of Engg. & Technology,  
Mijar, MOODSIDRI - 574 225, D.K.**



**Chief Patron**  
Dr. M Mohan Alva  
Chairman, AEF, Moodbidri

**Patron**  
Mr. Vivek Alva  
Managing Trustee, AIET, Mijar  
Dr. Peter Fernandes  
Principal, AIET, Mijar

**Convener**  
Dr. Sanyamym  
HOD, Dept of Mechanical Engg

**Co-ordinator**  
Dr. G B Vaggar  
Sr. Associate Professor  
Incharge HOD  
Dept of Mechanical Engg  
Prof. Kumar Swamy M C  
Sr. Assistant Professor  
Dept of Mechanical Engg

**Organizing Committee**  
Prof. Virendra Kumboli  
Prof. Sharath Chandra prabhu  
Prof. Hemant Suvarna  
Prof. Suresh PS  
Prof. Karan CH  
Prof. Pramod V B  
Prof. Ganesh M R  
Prof. Praveen KC  
Prof. Sriniwasa CS  
Prof. Deepak Kothari  
Prof. Pramod K N

#### ABOUT THE INSTITUTE

Alva's Institute of Engineering and Technology (AIET) is a premier Engineering Institute of Alva's Education Foundation established in the year 2008. AIET College is found adjacent to Moodbidri Mangalore National Road which is 24 Kms from Mangalore International airport. AIET College has modern state of the art infrastructural facilities that embrace spacious college rooms, well equipped laboratories, well stocked with hostels, canteen, transportation facility, library, Wifi etc. In short, each fashionable convenience has been provided to make sure that students learn in a setting that stimulates thinking and builds confidence to satisfy the challenges of tomorrow. Alva's Education Foundation is functioning on a singular method of mapping the Aspirations of the Engineering students together with skilled counselors. Here we map trade aspirations, build focus teams then would be self-addressed by trade consultants throughout the course to boost their core information and supply clarity.

#### COURSES OFFERED

- Mechanical Engineering
- Civil Engineering
- Computer Science & Engineering
- Electronics Communication Engineering
- Information Science & Engineering
- Master of Business Administration
- Computer Science and Design
- Computer Science & Engineering (IoT & Cyber security)
- Computer Science & Engineering (Data Science)
- Agriculture Engineering
- Artificial Intelligence and Machine Learning



**ALVA'S**  
Education Foundation  
"Moulding a better tomorrow"  
NAAC A Grade Accredited



**One Day National Workshop  
on Nano Fluids: Applications  
for Heat Transfer and  
Energy Systems  
on  
04<sup>th</sup> January 2024**

*Organized by*  
**Department of Mechanical Engineering**  
Alva's Institute of Engineering & Technology,  
Shobhavana Campus, Mijar,  
Moodbidri - 574225  
Mangalore Dist., Karnataka, India.  
Website: [www.aiet.org.in](http://www.aiet.org.in)  
Venue: MBA Seminar Hall

#### ABOUT THE DEPARTMENT

The Mechanical Engineering Department is running Undergraduate course (B.E.) in Mechanical Engineering with an intake of 60 students and Post Graduate course (M.Tech) in Thermal power engineering with an intake of 18 students.

Department vision is to develop Quality Mechanical Engineers to meet the ever growing and ever-changing needs of the economy. To strive hard in Educating students with best knowledge and latest skills to ensure competitive edge in the current standard. The Department is committed to provide high quality technical education at under graduate and post graduate level by means of state of art curriculum with best teaching-learning process. Dedicated to continuously develop the overall personality of the students through comprehensive scheme to co-curricular and extracurricular activities.

#### ABOUT WORKSHOP

The objective of the workshop is to introduce the participants to the emerging trends in the areas of Nano fluids.

#### Highlights:

- To expose faculty, scholars and students to the recent developments in nanofluids.
- Exposure of nanofluids in heat transfer and energy systems.
- Discussion on Thermal properties of nanofluids.
- Interactive lecture sessions.
- Career guidance by experts.
- Certificate will be issued to the participants by the

#### RESOURCE PERSONS

**Dr. Shuichi Torii**  
Professor and Head,  
Department of Mechanical  
System Engineering  
Kyushu University - Japan  
(Former Assistant Director  
College of Cross-Culture &  
Multidisciplinary Studies,  
Kyushu University - Japan)



**Dr. Ranjeet Kumar Sahu**  
Professor  
Dept. of Mechanical Engg.  
NITK Surathkal, Mangalore



#### ELIGIBILITY FOR PARTICIPATION

Program is open to all student's research scholars industrialists and teaching faculty from technical, Sciences institutes in the Department of Mechanical: Production Manufacturing, Material science, Physics/ Chemistry, Nano Technology and related disciplines

#### REGISTRATION FEE

Rs. 300/- for students, Rs. 600/- for research scholars, faculty from academic institutions and industrialists.

#### ACCOMMODATION

Limited accommodation can be provided to outstation participants on shared basis in the hostel on prior request. There is nominal charge for boarding and lodging.

#### HOW TO REGISTER

Registration form is available in the brochure or can be downloaded from the College website. The completed form should be sent to the following address. Also scanned copy of the form and DD may be forwarded to the mail ID given below:

**Workshop on  
Nano Fluids: Applications for Heat  
Transfer and Energy Systems**  
Department of Mechanical Engineering  
Alva's Institute of Engineering & Technology  
Mijar, Moodbidri - 574225, Karnataka

#### Workshop coordinators

**Dr. G B Vaggar**  
[gvaggar7@aiet.org.in](mailto:gvaggar7@aiet.org.in)  
9980498703

**Prof. Kumar swamy MC**  
[mcswamy@aiet.org.in](mailto:mcswamy@aiet.org.in)  
974140490

#### IMPORTANT DATES

Last date for receiving application  
**25 December 2023**  
Last date for confirmation of Participation  
**27 December 2023**

#### ONE DAY NATIONAL WORKSHOP

#### ON

#### NANO FLUIDS

#### APPLICATIONS FOR

#### HEAT TRANSFER AND

#### ENERGY SYSTEMS

#### 04<sup>th</sup> January 2024

#### Registration form



1. Name :  
2. Designation :  
3. Qualification :  
(Degree, Specialization)  
4. Experience :  
5. Institution :  
6. Whether the college is affiliated  
to VTU : Yes / No

7. Address for communication  
Phone: \_\_\_\_\_  
Mobile: \_\_\_\_\_  
Email id  
(compulsory): \_\_\_\_\_

#### 8. Payment Details:

Account no: 2764201000115  
Account Name: Alva's institute of Engineering & Technology  
IFSC Code: CNRB0010128  
Branch: Moodbidri  
Signature of the applicant

#### SPONSORSHIP CERTIFICATE

Mr./Mr. Dr./  
Prof. \_\_\_\_\_  
is a bonafide teacher of our college. He/she is  
sponsored to attend One day workshop on  
"NANO FLUIDS: APPLICATIONS FOR  
HEAT TRANSFER AND ENERGY  
SYSTEMS on 04 January 2024."

Date: \_\_\_\_\_  
Signature of the Principal

## Workshop Brochure



## **ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY**

Department of Mechanical Engineering & Department of physical education  
Shobhavan campus,mijar-574225

### **INVITES**

YOU TO

## **One Day National Workshop on Nano Fluids: Applications for Heat Transfer and Energy Systems**

04th January 2024  
Venue: MBA Seminar Hall  
Time: 9:45 am

### RESOURCE PERSONS

**Dr. Shuichi Torii**

Professor and Head,  
Department of Mechanical System Engineering  
Kumamoto University –Japan (Former Assistant Director  
College of Cross-Culture & Multidisciplinary Studies,  
Kumamoto University –Japan)

**Dr. Ranjeet Kumar Sahu**

Professor  
Dept. of Mechanical Engg.  
NITK Surathkal , Mangalore

### Chief Patron

**Dr. M Mohan Alva**

Chairman,AEF,Moodbidri

### Patron

**Mr.Vivek Alva**

Managing Trustee,AIET,Mijar

**&**

**Dr.Peter Fernandes**

Principal,AIET,Mijar

### Convener

**Dr.Satyanaryan**

HOD,Dept.of Mechanical Engg

### Workshop coordinators

**Dr.G B Vaggar**

Associate Professor (Incharge HOD)  
Dept.of Mechanical Engg

**Prof.Kumar Swamy M C**

Sr.Assistant Professor  
Dept.of Mechanical Engg



**The sample copy of Workshop Certificate**



**Report on Collaborative Research Between**  
**Alva's Institute of Engineering and Technology, India**  
**and**  
**Kumamoto University, Japan**

**Dr. Satyanarayan**, Professor and Head, Dept. of Mechanical Engineering, Alva's Institute of Engineering and Technology (AIET) visited to Kumamoto University, Japan on then invitation from Dr. Kazuyuki Hokamoto, Professor in the Department of Institute of Industrial Nanomaterials (IINA), Kumamoto University, Japan for collaborative research work.

**Dr. Satyanarayan** was actively involved in the Research collaboration project on "*Explosive welding of low melting point alloys under various experimental conditions and characterization of their interfacial microstructures*" from 1<sup>st</sup> November 2023 to 31<sup>st</sup> March 2024.

He has visited different research laboratories and interacted with Professors and Students in Kumamoto University, Japan for the benefits of exchange program between AIET and KU.

He also actively participated in 354<sup>th</sup> Plastic Processing Symposium on "*Current status and prospects of extreme material creation and processing technology*" - The world of processing using impact, ultra-high speed, and ultra-high pressure organized by the Department of Institute of Industrial Nanomaterials (IINA), Kumamoto University, Japan.

He has published a book chapter in collaboration between AIET and KU. The details of the book chapter is as follows

Kambeyanda Rahul Machaiah, **Satyanarayan**, Shigeru Tanaka Daisuke Inao and K. Hokamoto "*Underwater Explosive Welding of Tin and Nickel Plates and Characterization of Their Interfaces*" Book : Advanced Joining Technologies, (Taylor & Francis, CRC Press), 1st Edition, 13 March 2024, eBook ISBN9781003327769, Pub. Location: Boca Raton, <https://doi.org/10.1201/9781003327769>





Dr. Satyanarayan at the main building of Kumamoto University (KU) and with UG and PG students of KU in research laboratory



Dr. Satyanarayan with **Dr. Shuichi Torii**, Professor & Asst. Director (Former), and **Dr. (Mrs) Mitsuyo Kishida**, Professor and Vice-Director, Global Joint Education Center for Science and Technology (GJEC), Kumamoto University






Dr. Satyanarayan with Dr. Kazuyuki Hokamoto, Professor, Dept. of ME/IINa, and Dr. G. Anandha babu, Researcher, International Research Organization for Advanced Science and Technology (IROAST), Kumamoto University



Dr. Satyanarayan with the organizers and participants of 354<sup>th</sup> Plastic Processing Symposium at Kumamoto University, Japan

  
 PRINCIPAL  
 Alva's Institute of Engg. & Technology,  
 Mijar, MOODIBIDRI - 574 225, D.K