ARTH-2025

National Conference on Advances in Reactor Thermal-Hydraulics (ARTH)

January 09-11, 2025

Venue

DAE Convention Centre
Anushaktinagar
Mumbai 400094

Organized By

CONTACT

Convener
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Organising Secretary
Dr. S.V. Prasad
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ABOUT THE CONFERENCE

Alarming & ever-growing environmental concerns are calling for decarbonization of energy sources. Not only India, but the whole world is exploring options for clean & reliable energy sources, with nuclear energy being a prominent candidate for clean, proven & sustainable resource. With its increasing role in energy mix of our country, nuclear reactor technology is poised for significant advancements to meet the requirements of enhanced safety, reliability, economy & shaping up the public perception. This entails variety of reactor configurations employing different fuel & coolant materials. Thermal-Hydraulics is the domain that primarily focuses on the heat removal in the reactor core by the coolant in addition to the evaluation of the thermal performance of various process and safety systems under normal operating, design basis accidents and severe plant conditions. Anticipated large expansion of nuclear energy and need for various reactor configurations require advancements in computational, analytical as well as experimental thermal-hydraulics.

This national conference aims to bring the domain experts from academia, research institutions and industries on a single platform to share the state-of-art approaches & identify the future challenges and gap areas to facilitate more collaborative interactions in this field.

ARTH-2025

CONFERENCE TOPICS

Fundamental Thermal-Hydraulics

- Fundamentals of Thermal-Hydraulic Phenomena
- Two-Phase Flow and Heat Transfer Modeling
- Critical Heat Flux (CHF) and DNB
- Subchannel Analysis in Reactor Core Thermal-Hydraulics
- Applications of CFD
- Natural Circulation and Passive System Modeling

Thermal-Hydraulic Modeling and Experiments

- Multi-Scale, Multiphysics and Coupled Thermal Hydraulics Simulation
- Boiling and Condensation Phenomena
- Turbulence Modeling
- Advances in Numerical Methods for Thermal Hydraulics
- Safety Analysis Code Development and V&V
- Separate-Effect and Integral-Effects Experiments and scaling Philosophy
- Advances in Measurement Techniques and flow visualization.
- Process equipment for heat transfer and fluid flow

Water-cooled & Fast Breeder Reactor Thermal Hydraulics

- Operation and Safety- BWR, PWR & VVER
- Operation and Safety – PHWRs
- Operation and Safety – FBTR & PFBRs
- Operation and Safety – Research Reactors
- Transient & Accident Analysis
- Severe Accidents Analysis, Mitigation and Management
- Containment Thermal-Hydraulics
- Regulatory requirements and operating experiences
- Safety Analysis using Best Estimate plus Uncertainty
- Fuel Safety and Acceptance criteria

Thermal Hydraulics and Safety of Advanced Reactor Systems & Special Topics

- Liquid Metal-Cooled Reactors, Gas-Cooled Reactors, Molten Salt Reactors, Supercritical Systems) and Mini/Micro-reactors
- Thermal-Hydraulics and Safety of SMRs
- Fusion technology
- Accelerator Driven Sub-critical Systems (ADS)

ARTH-2025

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ABSTRACT SUBMISSION

All Abstract submissions should conform to the format of the template available in the website https://sites.google.com/view/arth2025/

- Please use the editable template by copying and pasting or by writing freely into the template of ARTH-2025.
- The extended abstract of the Contributory papers, should not exceed TWO pages including figures and references. The references should follow the format in the template.
- There will be awards for the best poster presentations.

IMPORTANT DATES

Extended Abstract submission:

15th Nov, 2024 (extended to 30th Nov, 2024)

Review and Acceptance of Extended Abstract:

25th November, 2024 (extended to 6th Dec, 2024)

Registration

Up to 10th December, 2024

email: paper_arth@barc.gov.in

ARTH-2025

REGISTRATION

The participants of ARTH-2025 are requested to get registered in advance by writing to info_arth@barc.gov.in with subject line as "**Registration-ARTH 2025**".The e-mail shall include: Name of registered persons, Payment details (for non-DAE delegates) and Approval of competent authority (for DAE delegates).

REGISTRATION FEES & PAYMENT DETAILS

The registration fee can be paid by Electronic Money Transfer as per the following details:

Category	Per delegate (INR)
Students	2,000
Academic/Research Institutes	8,000
Industries*	25,000
DAE units**	NIL

Bank / NEFT Details

Bank Name: State Bank of India
Branch: BARC, Trombay, Mumbai-400085
Beneficiary Name: ARTH2025
A/C No: 00000043515046384
IFSC Code: SBIN0001268
MICR Code: 400002006

Registration fee covers conference proceedings, lunch, dinner and refreshments during the conference period, but does not cover travel and accommodation charges.

* Limited slots available

* Industry representatives will be provided with a 10 minute slot for presentation during the conference upon registration of 4 or more participants. If any industry registers 6 or more participants, 20 minute slot for presentation will be provided.

** DAE delegates need to register with approval of competent authority at their respective organization.

ARTH-2025

VENUE

DAE Convention Centre, Anushakti Nagar, Mumbai

DAE-Convention Centre is located close to the North Gate of BARC inside the Anushakti Nagar campus, which is the residential colony of the Department of Atomic Energy (DAE) located around 15-20 kms from the Airport and Railway stations. During January, the climate in Mumbai will be pleasant, temperature being close to 25 ^{0}C (max) to 18 ^{0}C (min).

ACCOMMODATION

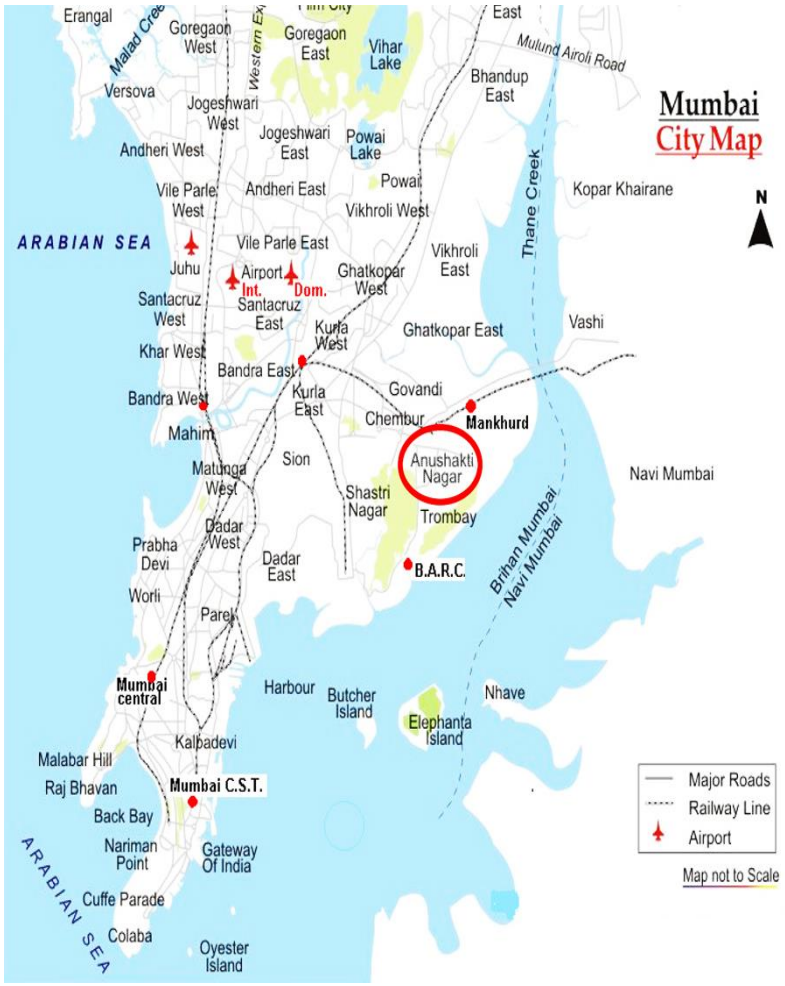
Limited number of accommodations are available on payment basis. Accommodation will be available on a first come first serve basis at campus guest houses. Registered participation who wish to avail accommodation should write to info_arth@barc.gov.in with "**Accommodation**" as the subject line and also mention the registration details in the body of the email.

TRAVEL ASSISTANCE

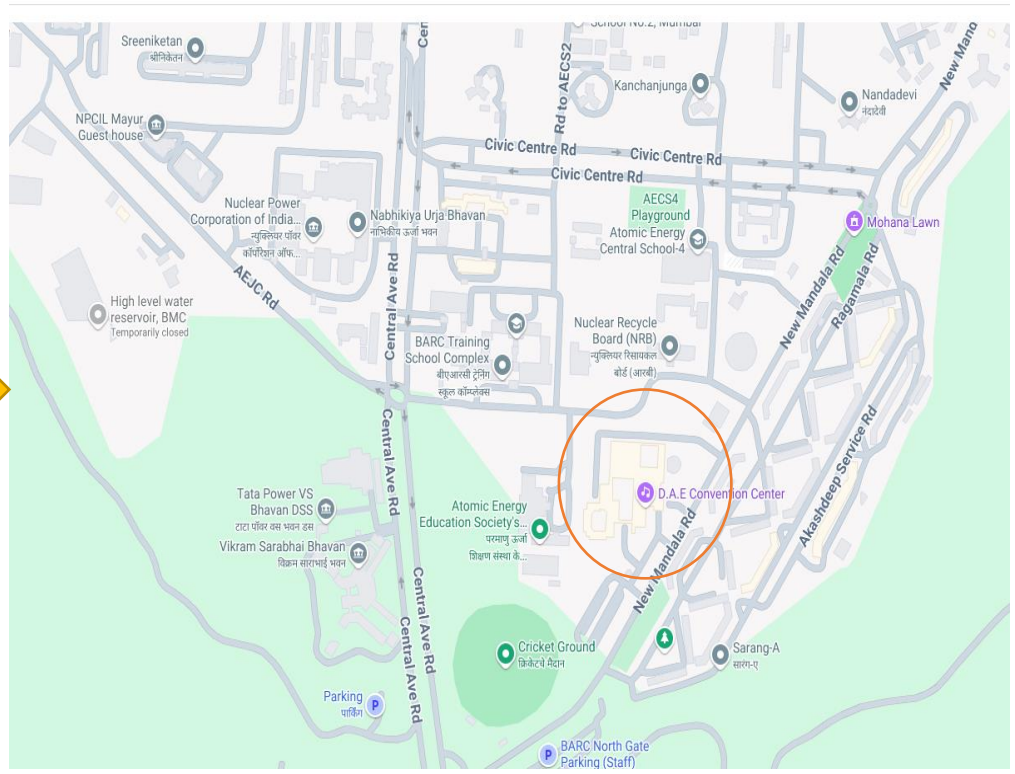
Participants of ARTH-2025 are requested to make their own travel arrangements.

ABOUT THE VENUE

Mumbai is situated on the west coast of the country and is popularly known as the financial capital of India. People coming to Mumbai by train can alight at Mumbai CST, Dadar, Kurla, Mumbai Central, Bandra or Panvel terminus. Those travelling by flight will alight either at domestic airport at Santacruz or at Chhatrapati Shivaji Maharaj International Airport, Sahar. The venue of the workshop & symposium is the DAE Convention Centre, Anushaktinagar. Anushaktinagar is the residential colony for scientists and engineers working in Department of Atomic Energy (DAE). It is located in the north east part of Mumbai and is surrounded by beautiful hills. All the railway stations are within 20km and the airports are less than 25 km from the venue. Those interested in travelling by local trains should alight at Mankhurd station on harbor line, which is about 2 km from the venue. Mumbai has pleasant climate during December to February with temperature range between 18 ºC to 25 ºC.



Anushaktinagar



DAE Convention Center in Anushaktinagar