

# PHD SPOT ADMISSIONS 2025 BROCHURE



INDIAN INSTITUTE OF  
TECHNOLOGY KANPUR

AEROSPACE  
ENGINEERING



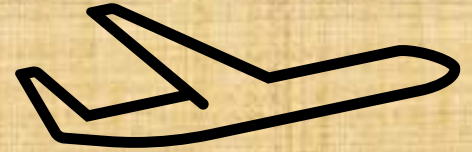
# PhD Spot admissions

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- ≧ We warmly invite you to apply to the PhD program (July 2025) at the Dept. of Aerospace Engineering, Indian Institute of Technology Kanpur
- ≧ Interviews will be conducted on your campus or online for eligible students
- ≧ Scholarships of INR 37,000 for the first two years and thereafter, INR 42,000 per month for another three years
- ≧ Register your interest here by Feb. 10:

<https://forms.office.com/r/tDmUBCUWm9>

≧ Further details: <https://iitk.ac.in/aero/phd-program>



[Resister](#)  
[here](#)



# Eligibility

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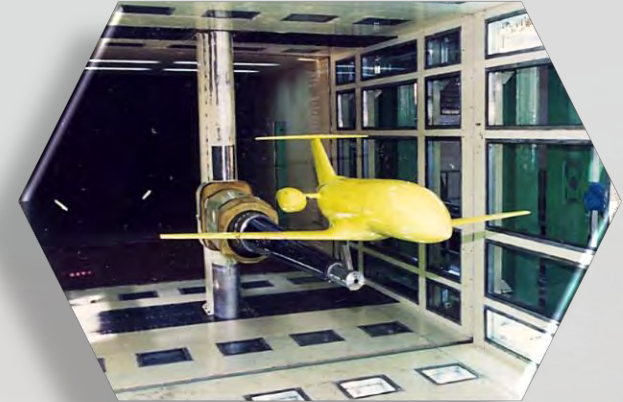
Student should be

- ✓ From a CFTI, including IITs, NITs, IIITs, IISERs, *etc.*, see full list here: <https://www.education.gov.in/technical-education-1>
- ✓ Either 4th year B. Tech. with CGPA > 7.5
- ✓ (or) 2nd year M. Tech. CFTIs with CGPA > 8
- ✓ All Engineering departments including Aero., Mech., Electrical & Civil Engineering
- No GATE score required

# About the Department



The department houses a one-of-a-kind Flight Lab with three single-engine airplanes, a motored glider and a 1000 m runway



Established in 1964, the Department of Aerospace Engineering at IITK is one of the prominent centers for advanced flight research



The National Wind Tunnel Facility at IITK is one of the few large-scale wind tunnels in all of India (test section: 2.25m x 3m x 8.75 m)

# Information

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4

NIRF 2024  
Engineering  
Ranking

5

NIRF 2024  
Overall Ranking

101

QS 2024 Subject  
Ranking

33

Faculty members

400+

Journal  
publications in  
past 5 years

60+

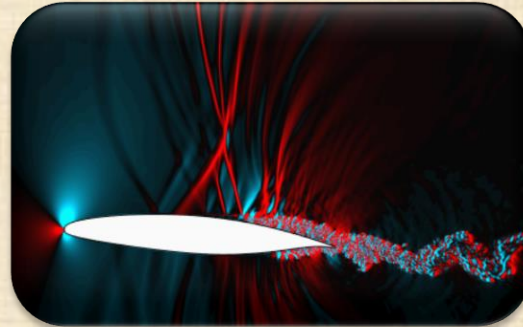
Ongoing  
sponsored projects

# Research groups

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**Flight Dynamics  
& Control**



**Aerodynamics**



**Propulsion**

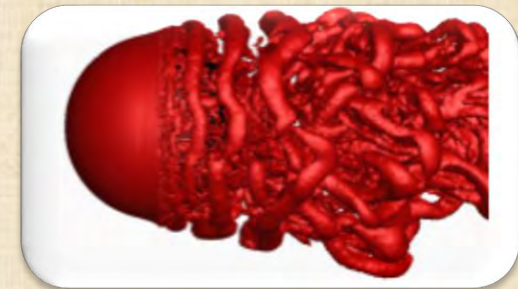


**Structures, Structural  
Dynamics &  
Aeroelasticity**

Four major research groups (Aerodynamics, Flight mechanics & Control, Propulsion, and Structures, Structural Dynamics & Aeroelasticity) and two Interdisciplinary Specializations (Aero-Thermodynamics & Thermal Sciences and Computational Mechanics)



**Aero-Thermodynamics  
& Thermal Sciences**



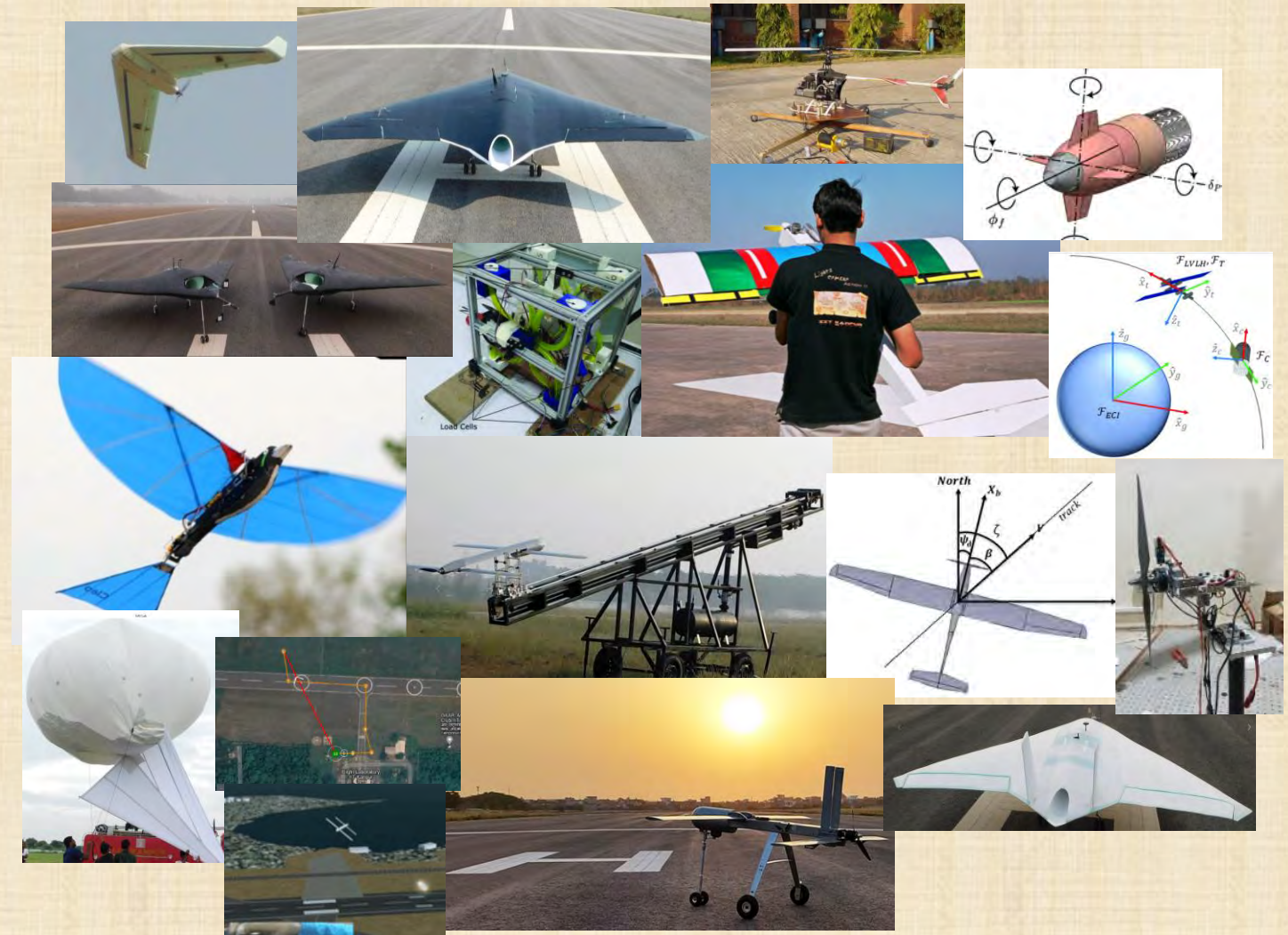
**Computational  
Mechanics**



# Research Areas

## Flight Mechanics & Control

- Design & Control
- Missile Guidance & Control
- Flight Testing
- Instrumentation & Parameter Estimation
- Unmanned & Autonomous Air Vehicle
- Space Dynamics



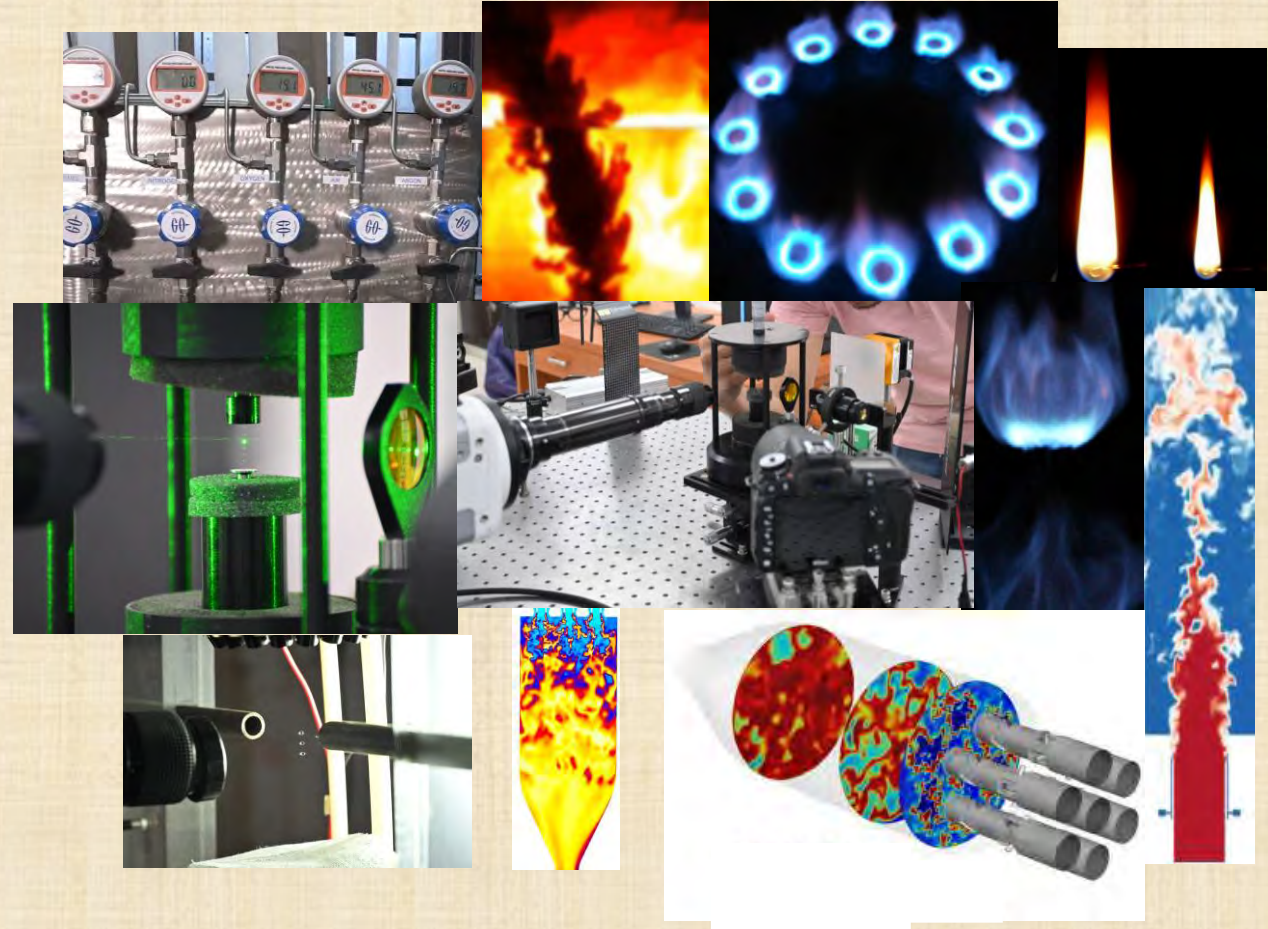


# Research Areas

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## Propulsion

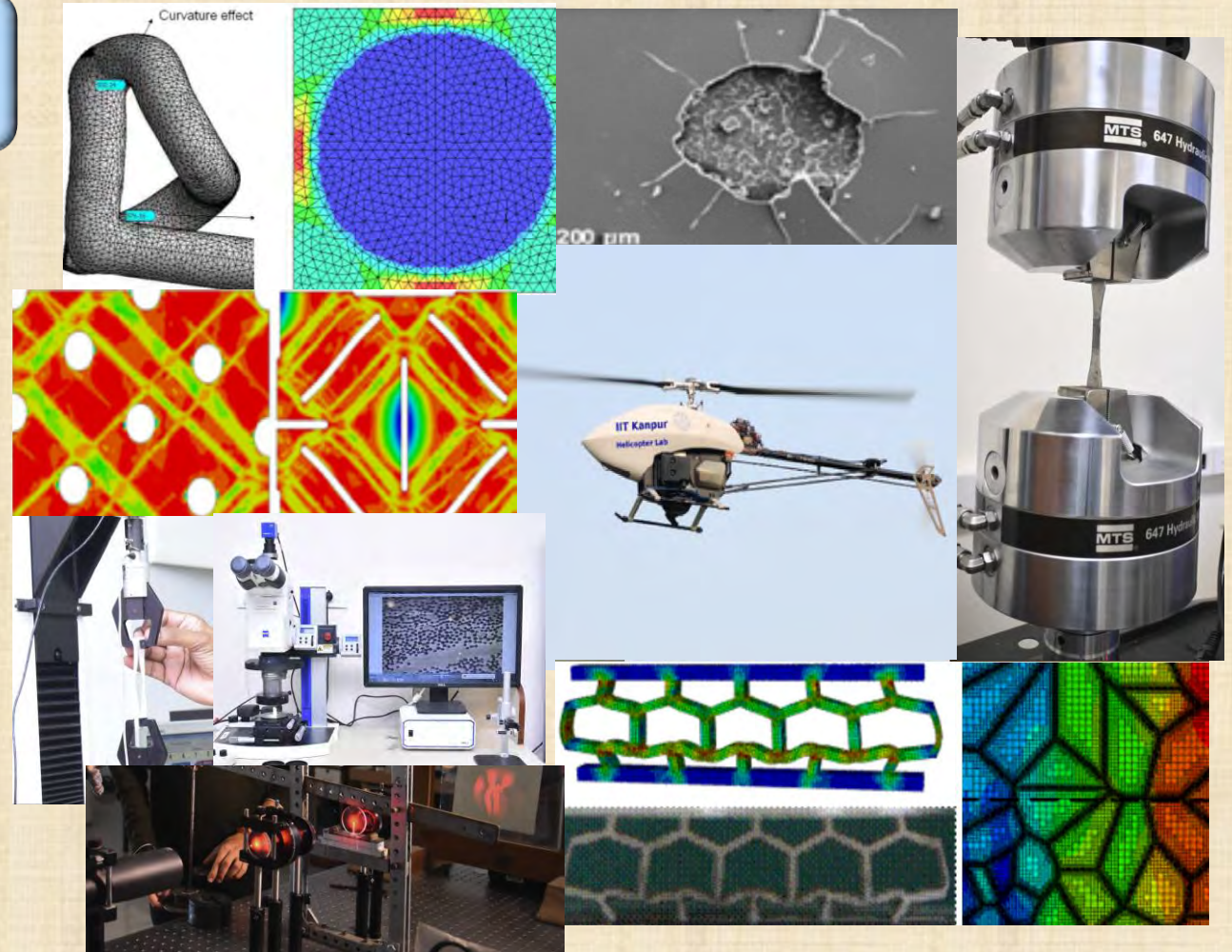
- Experimental Combustion
- Computational Combustion
- Emissions
- Intake Aerodynamics
- Internal Flow Control (Active & Passive)
- Flow Diagnostics
- Turbo machinery
- Thrust vectoring
- Electric propulsion
- Liquid atomization and spray combustion



# Research Areas

## Structures, Structural Dynamics & Aeroelasticity

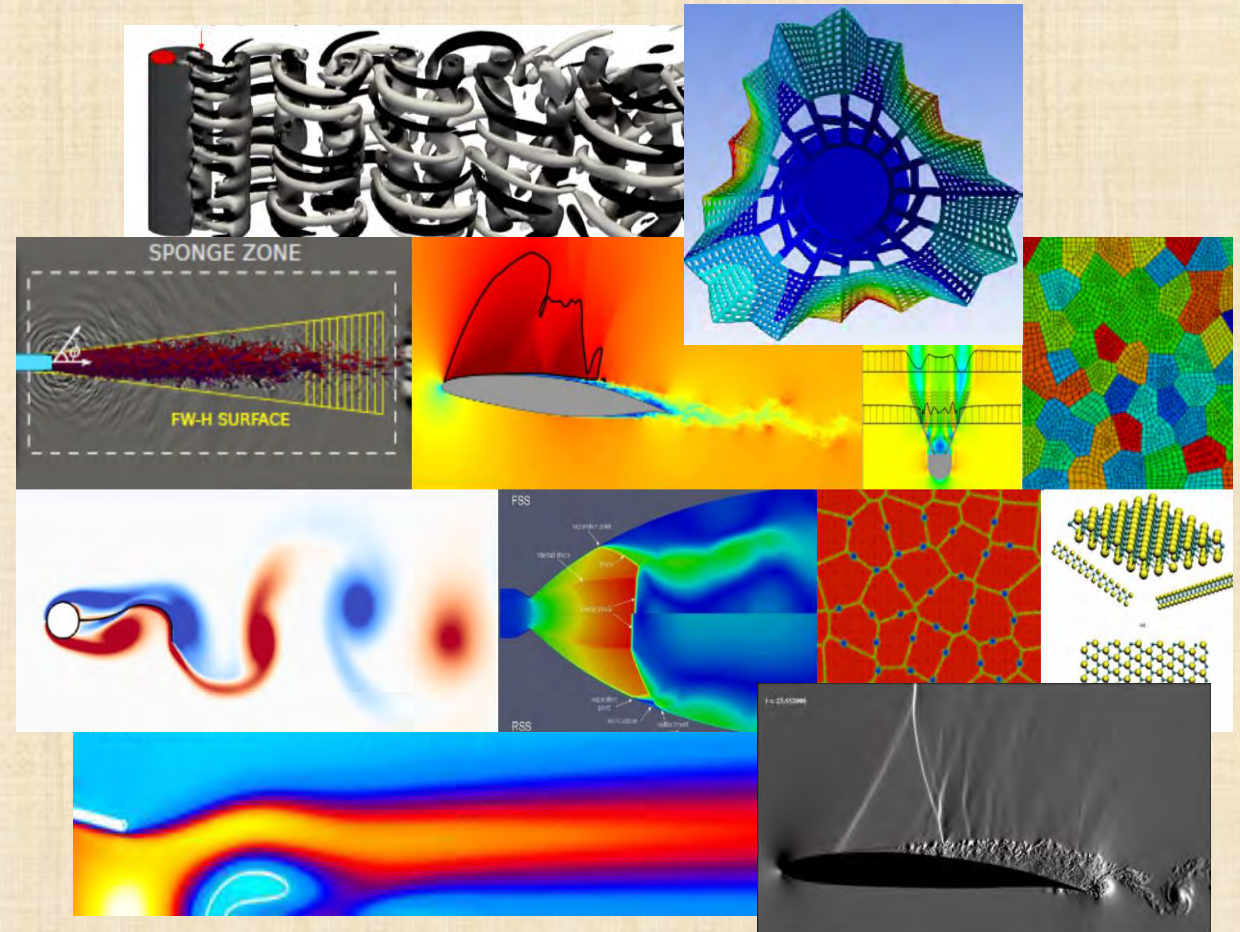
- Material Characterization
- Composite Materials and Smart Structures
- Structural Dynamics and Stochastic Modeling
- Aeroelasticity
- Helicopter Theory (Dynamics & Aerodynamics)
- Structural Design & Optimization
- Damage Modeling
- Design and Dynamics of Autonomous Micro and Mini Air Vehicles



# Research Areas

## Computational Mechanics

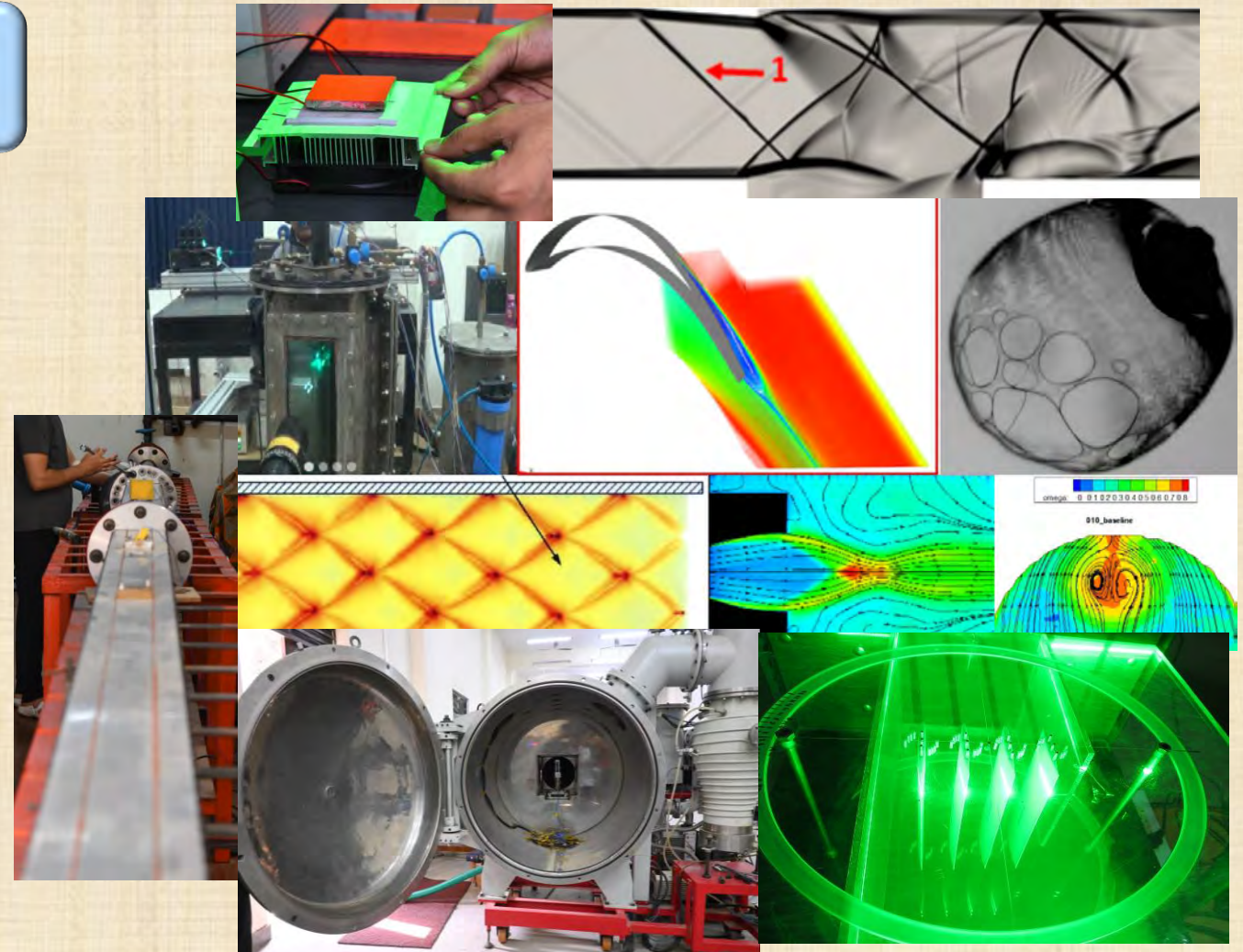
- Computational material modeling
- Machine learning and AI
- Reduced-order models
- Multi-functional composites
- Metamaterials
- Plasticity, fatigue, fracture
- Uncertainty quantification
- Optimization and inverse models
- Fluid-Structure interactions
- Computational fluid dynamics
- Finite Element Method (FEM)
- Theoretical and computational aeroacoustics (CAA)
- Wave mechanics



# Research Areas

## Aero-Thermodynamics and Thermal Sciences

- High Speed Flows
- Turbomachinery
- Acoustics and Noise
- Multiphase Flows
- Heat Transfer
- Fire Dynamics
- Detonation & Explosions



*Thank you  
& hope you  
begin your  
exciting  
research  
journey  
@AE, IITK*



## **CONTACT**



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***REGISTER***

