AJMIRA NAGESWARA RAO

Assistant Professor, IIEST, Shibpur, WB

ajmira@aero.iiests.ac.in
ajmira.aero@faculty.iiests.ac.in

EDUCATION

PhD | ***Aerospace Engineering*** 2013 – 2021
Indian Institute of Technology Kanpur, India
Thesis: Impact of the Nozzle Geometry on Flow Field and Acoustics

CPI: 8.0/10

M.Tech | ***Aerospace Engineering*** 2008 – 2010
Indian Institute of Technology Kanpur, India
Thesis: Mixing promoting efficiency of three different tab geometries

B.Tech | ***Aeronautical Engineering*** 2004 – 2008
JNTU hyderabad, India

RESEARCH EXPERIENCE

Research Establishment Officer 2022 – 2023
Department of Aerospace Engineering, High Speed Aerodynamics Lab IIT Kanpur, India

Senior Research Fellow 2021 – 2022
Department of Aerospace Engineering, Flow-control and Jet Acoustic Laboratory IIT Kanpur, India

Project Scientist 2021
Department of Aerospace Engineering, Flow-control and Jet Acoustic Laboratory IIT Kanpur, India

Senior Project Associate 2012 – 2013
Department of Aerospace Engineering, Aero Propulsion Laboratory IIT Kanpur, India

Project Associate 2012
Department of Aerospace Engineering, National Wind tunnel Facility IIT Kanpur, India

VOCATIONAL EXPERIENCE

Tutor 2017
Course: Thermodynamics (duration: 4 months), IIT Kanpur U.P, India

Tutor 2016
Course: Thermodynamics (duration: 4 months), IIT Kanpur U.P, India

Teaching Experience

Assistant Professor 2023 (Sep) - till now
Department of Aerospace and Applied Mechanics Engineering IIEST Shibpur, Howrah, India

Senior Lecturer 2010 - 2012
Department of Aerospace Engineering BBDNITM, Lucknow, India

- Mentored undergraduate students with B.Tech final year project, have been involved with the teaching activities

Courses handling at IIEST Shibpur

Thermodynamics [AE 2204]

Engineering Drawing [AM 1271]

Low Speed and High Speed Aerodynamics Laboratory [AE3271]

Fluid Dynamics Lab [AM 2171]

Aircraft Design and Flight Training [AM 3273]

Aircraft Navigation [AM 3104]

Technical Competence

Proficient	CATIA, MATLAB
Intermediate	FLUENT, ICEM, AUTOCAD
Beginner	OPENFOAM

References

Dr. Abhijit Kushari
Professor
Department of Aerospace Engineering
IIT Kanpur, India 208016
Email: akushari@iitk.ac.in

Dr. Alakesh Chandra Mandal
Assoc. Professor
Department of Aerospace Engineering
IIT Kanpur, India 208016
Email: alakeshm@iitk.ac.in

Dr. Mohammed Ibrahim Sugarno
Assoc. Professor
Department of Aerospace Engineering
IIT Kanpur, India 208016
Email: ibrahim@iitk.ac.in

Dr. Rakesh Mathpal
Assoc. Professor
Department of Aerospace Engineering
IIT Kanpur, India 208016
Email: rkm@iitk.ac.in

PUBLICATIONS

Journals

- **A.Nageswara Rao**[a], Vignesh, and Arun K Perumal " Use of Fluidic Injection in Suppressing screech tone" (Manuscript Under preparation).
- **A. Nageswara Rao**[a], Booma Devi, Tapo Mugdha Mandal, A. Kushari. "Numerical Simulations on IR signature of three nozzle configurations". (Manuscript Under preparation).
- **A. Nageswara Rao**[a], Talluri Vamsi Krishna, S K Karthick, and Mohammed Ibrahim Sugrno "Unsteady dynamics and aeroacoustics of a compressible wall jet", Physics of Fluids (Under review).
- **A. Nageswara Rao**[a], T. Nilavarasan, and Abhijit Kushari "Flow and acoustic characteristics of a serpentine nozzle with aft-deck, International Journal of Aeronautical and Space Sciences" https://doi.org/10.1007/s42405-025-00977-9
- T. Nilavarasan, and **A. Nageswara Rao**[a] "Spectral proper orthogonal decomposition of vortex-shedding dynamics in bluff body wakes, Physics of Fluids, https://doi.org/10.1063/5.0269424.
- **A. Nageswara Rao**[a], Talluri Vamsi Krishna, Bhardwaj, Mohammed Ibrahim Sugrno" Nature of unsteadiness in sonic compressible wall jets. (Manuscript Under preparation).
- **A.Nageswara Rao**, and Abhijit Kushari. "Nature of unsteady and acoustic behavior in an elliptic sonic jet with aft-deck" Physics of Fluids, 35, 086104. DOI: 10.1063/5.0159735
- **A.Nageswara Rao**[a], Talluri Vamsi Krishna, and Bhardwaj, Mohammed Ibrahim Sugrno " Effect of Plate Distance on Steady and Unsteady Characteristics of Impinging Rectangular Jet" Journal of Spacecraft and Rockets.
- Aqib Khan, **A.Nageswara Rao**[a], Trishank Baghel, Rakesh Kumar, Arun Kumar Perumal. "Parametric study and empirical scaling of a Mach 1.5 jet manipulation by steady fluidic injection." Physics of Fluids, 34, 036107 (2022).
- **A.Nageswara Rao**, Abhijit Kushari and A C Mandal. "Screech characteristics of Underexpanded Elliptic jet." Physics of Fluids, 32, 2020. DOI: 10.1063/5.00101086
- **A.Nageswara Rao** and Abhijit Kushari. "Underexpanded Supersonic jets from Elliptical Nozzle with Aft Deck." Journal of Propulsion and Power 36, no.1 (2019):1-15
- **A.Nageswara Rao**, Abhijit Kushari and Gaurav Kunal Jaiswal. "Effect of Nozzle Geometry on Flow field for High Subsonic Jets." Journal of Propulsion and Power 34, no.6(2018): 1596-1608.