

AYAAZ YASIN

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Education	PhD in Mechanical Engineering, University of Cincinnati, Cincinnati, OH	Fall 2024 - present
	MS in Aerospace Engineering, University of Cincinnati, Cincinnati, OH Thesis title: <i>Computational Modeling of Evaporation without Tuning Coefficients</i>	2024
	BS in Mechanical Engineering Technology, Minor in Mathematics, University of Cincinnati, Cincinnati, OH Senior project: <i>Aerodynamic Optimization of a Solar Car</i>	2022
Peer-Reviewed Publications	3. A multiscale CFD model of evaporating Hydrogen menisci: Incorporating subgrid thin-film dynamics and in situ accommodation coefficients <u>A. Yasin*</u> , S. Pakanati*, and K. Bellur *equal contribution Fuels	Under Review
	2. Computational modeling of evaporation without tuning coefficients <u>A. Yasin</u> and K. Bellur Applied Thermal Engineering	2025 10.1016/j.applthermaleng.2025.126807
	1. An investigation of phase change induced Marangoni-dominated flow patterns using the Constrained Vapor Bubble Data from ISS experiments U. Chakrabarti*, <u>A. Yasin*</u> , K. Bellur, and J. Allen *equal contribution Frontiers in Space Technologies - Microgravity	2023 10.3389/frspt.2023.1263496
Invited Talks	1. Liquid-vapor phase change in aerospace applications Seminar talk at the Dept of Aerospace Engineering, University of Cincinnati	11 Apr 2025
Conference Presentations	8. Multiscale Oscillations in Thin Liquid Films <u>A. Yasin</u> , U. Chakrabarti, and K. Bellur ASME International Mechanical Engineering Congress & Exposition, Memphis, TN	(poster) 16-20 Nov 2025
	7. Exploring two-dimensional flows in evaporating thin films: A step towards a dynamic model <u>A. Yasin</u> and K. Bellur 10th ASTFE Thermal and Fluids Engineering Conference, Washington, DC	09-12 Mar 2025
	6. Modeling of evaporation in cryogenic fuels without tuning coefficients <u>A. Yasin</u> and K. Bellur 35th NASA Thermal and Fluids Analysis Workshop, Cleveland, OH	26-30 Aug 2024
	5. Modeling evaporation without tuning coefficients <u>A. Yasin</u> and K. Bellur 51st Midwestern University Fluid Mechanics Retreat, Rochester, IN	12-14 Apr 2023
	4. A numerical study of coefficient-free kinetic evaporation modeling in liquid Hydrogen <u>A. Yasin</u> , and K. Bellur 76th American Physical Society Division of Fluid Dynamics Annual Meeting, Washington, DC	19-21 Nov 2023

3. **An investigation of Marangoni induced flow in Constrained Vapor Bubble ISS experiments**
A. Yasin, U. Chakrabarti, K. Bellur, and J. Allen 13-15 Mar 2023
50th Midwestern University Fluid Mechanics Retreat, Rochester, IN
2. **A CFD model of evaporation in liquid Hydrogen without the need for tuning coefficients** (poster)
A. Yasin, and K. Bellur 20-22 Nov 2022
75th American Physical Society Division of Fluid Dynamics Annual Meeting, Indianapolis, IN
1. **A solution to the 2022 AUVSI Student Unmanned Aerial Systems competition**
A. Yasin, R. Gilligan, D. Heitmeyer, and K. Cohen 23 Mar 2022
AIAA Region III Student Conference, Purdue University, West Lafayette, IN

Honors and Awards	Prof Kirti Ghia Fellowship	2025
	Awarded by the UC Dept of Mechanical Engineering for CFD-related research.	
	Excellence in Teaching Award – Honorable Mention	2024
	Awarded by the University of Cincinnati Graduate College	
	Travel Grant – American Physical Society	2023
	Funding to present at the Division of Fluid Dynamics annual conference.	
	Graduate Assistant Scholarship	2023, 2024
	Awarded by the UC Dept of Engineering and Computing Education	
	P&G Simulation Center Student Support Scholarship	2022
	Partial graduate funding	
	Graduate Incentive Scholarship	2022 - 2024
	Partial graduate funding by the UC Dept of Aerospace Engineering	
	Several conference travel awards	2022 - 2024
	Awarded by the UC Graduate College	
	Undergraduate Research Fellowship	2022
	Awarded by the UC Office of Research	
	Outstanding Senior Award	2022
	Awarded by the UC College of Engineering and Applied Science	
	UC Global Outreach Scholarship	2015
	Awarded by the University of Cincinnati	

Teaching Experience	As instructor of record	
	3. MET 4076: Applied Computational Methods (Lecture & Lab)	Spring 2025
	2. ENED 1120: Foundations of Engineering Design Thinking II	Spring 2024
	1. ENED 1100: Foundations of Engineering Design Thinking I	Spring 2023, Fall 2023
	As teaching assistant	
	2. ENED 1120: Foundations of Engineering Design Thinking II	Spring 2022
	1. ENED 1100: Foundations of Engineering Design Thinking I	Fall 2020, Fall 2021

Mentoring & Supervision	- Current students: Saaras Pakanati (undergraduate)
	- Served as mentor for students in the First-Year Engineering Program, 2023-2024.
	- Supervised a team of six undergraduate and two graduate teaching assistants, 2023-2024.

Professional Experience	Graduate Student and Research Assistant, 2022 - present UC Lab for Interfacial Dynamics, advised by Dr. Kishan Bellur Dept of Mechanical & Materials Engineering, University of Cincinnati - Investigation of phase change driven oscillations in liquid thin films. - Modeling acoustic propagation in the ISS Flow Boiling & Condensation Experiment. - Development of a tuning coefficient-free computational model of evaporation. - Computational investigation of phase change driven surface-flow phenomena in microgravity using data from ISS Constrained Vapor Bubble experiments.
	Instructor Spring 2025 Dept of Mechanical & Materials Engineering University of Cincinnati, Cincinnati, OH
	Instructor Fall 2023 - Spring 2024 Dept of Engineering & Computing Education University of Cincinnati, Cincinnati, OH
	Research Assistant, P&G Digital Accelerator Fall 2022 Dept of Mechanical Engineering, University of Cincinnati, Cincinnati, OH in collaboration with The Procter and Gamble Company. - Implementation of genetic algorithms for computing <i>arbitrarily oriented bounding boxes</i> .
	Student Worker, Ohio Innocence Project Summer 2022 University of Cincinnati, Cincinnati, OH
	Product Development Engineering Co-op Spring 2021 - Summer 2021 GMi Companies , Lebanon, OH
	Manufacturing Engineering Co-op Spring 2019, Fall 2019 Regal Beloit Corporation , Florence, KY
Computer Skills	Research and Development Intern Spring 2018 - Summer 2018 3D Paradise , New Delhi, India
	Engineering Intern Spring 2017 - Summer 2017 Shaperjet , New Delhi, India
	Programming: MATLAB, C, C++, Python, VBA, HTML, Bash, Git/GitHub, L ^A T _E X. Modeling: Ansys Fluent, OpenFOAM, SolidWorks, Star CCM+, Simcenter 3D, COMSOL Multiphysics, LabVIEW.
Extra-Curriculars	Hindustani classical music – Studying Tabla under Prof. James Feist at the UC College-Conservatory of Music since 2019. Performed at recitals and music conferences.
	Taekwondo – 4th Dan Kukkiwon black belt. Served as a junior instructor and president of the UC Taekwondo Club, 2020-2022.
	Amateur radio – Technician-class amateur radio operator, FCC callsign: KE8WUP. Volunteer radio operator for the Queen City Emergency Net.
	Volunteer interviewer for the 1947 Partition Archive . Conducted interviews of the eyewitnesses of the <i>Partition of India</i> , in India and Canada.