

AYAAZ YASIN

Cincinnati, Ohio

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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	Accepted
	2. Computational modeling of evaporation without tuning coefficients <u>A. Yasin</u> and K. Bellur Applied Thermal Engineering	2025 10.1016/j.aplthermaleng.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. Modeling Multiscale Oscillations in Thin Liquid Films <u>A. Yasin</u> , U. Chakrabarti, and K. Bellur 11th ASTFE Thermal and Fluids Engineering Conference, Tempe, AZ	09-12 Mar 2026
	7. Stability and Contact Line Dynamics of Evaporating Thin Liquid Films A. Sarchami, S. Pakanati, T. Enam, <u>A. Yasin</u> and K. Bellur 11th ASTFE Thermal and Fluids Engineering Conference, Tempe, AZ	09-12 Mar 2026
	6. 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
	5. 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
	4. 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**
A. Yasin 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**
A. Yasin, 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
50th Midwestern University Fluid Mechanics Retreat, Rochester, IN
13-15 Mar 2023
2. **A CFD model of evaporation in liquid Hydrogen without the need for tuning coefficients**
A. Yasin, and K. Bellur
75th American Physical Society Division of Fluid Dynamics Annual Meeting, Indianapolis, IN
(poster)
20-22 Nov 2022
1. **A solution to the 2022 AUVSI Student Unmanned Aerial Systems competition**
A. Yasin, R. Gilligan, D. Heitmeyer, and K. Cohen
AIAA Region III Student Conference, Purdue University, West Lafayette, IN
23 Mar 2022

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

Teaching Experience	As instructor of record	
	4. MET 5036L: Thermal Environmental Systems & Heat Transfer Lab	Spring 2026
	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, Spring 2026
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		
 Research and Development Intern		Spring 2018 - Summer 2018
3D Paradise , New Delhi, India		
 Engineering Intern		Spring 2017 - Summer 2017
Shaperjet , New Delhi, India		
 Computer Skills	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.	