

Ashray Mohit

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Education

- 2023–Current **PhD, Mechanical Engineering**, University of Michigan, Ann Arbor.
- 2021–2023 : **Master of Science, Aerospace Engineering**, University of Michigan, Ann Arbor, *Cum Laude*.
- 2016–2020 : **Bachelor of Technology, Aerospace Engineering**, SRM Institute of Science & Technology, Chennai, *Summa Cum Laude*.

Publications

Journal Articles

10. Grawe, R., **Mohit, A.**, Capecelatro, J. (2026) An effect of turbulence and particle shape in adsorption for packed bed reactors. *Chemical Engineering Journal*. In preparation.
9. **Mohit, A.**, Wooldridge, M., Capecelatro, J. (2026) Comparison of the flamelet progress variable and thickened flame models for LES of turbulent combustion. *Combustion and Flame*. In preparation
8. Roy, C., *et al.* (2026) Turbulence model validation for the BeVERLI Hill: Part II — Field comparison. *AIAA Journal*. In preparation.
7. Roy, C., *et al.* (2026) Turbulence model validation for the BeVERLI Hill: Part I — Surface comparison. *AIAA Journal*. In preparation.
6. Grawe, R., **Mohit, A.**, Capecelatro, J. (2026) An open-source particle-resolved direct numerical simulation framework for adsorption in packed-bed reactors. *Computer Physics Communications*. In preparation.
5. Wooldridge, M., Stolzman, J.E., **Mohit, A.**, Capecelatro, J., So, you want to measure flare emissions? Challenges and opportunities for quantifying utility pipe flare performance. (2025) *Applications in Energy and Combustion Science*. 100448. DOI
4. **Mohit, A.**, Stolzman, J.E., Wooldridge, M., Capecelatro, J. (2026) Effect of nozzle geometry on combustion efficiency and blowout in non-assist flares. *Fuel*, 411, 137970. DOI
3. **Mohit, A.**, Stolzman, J.E., Wooldridge, M.S., Capecelatro, J. (2026) Impact of turbulence on combustion performance in non-assist waste gas flares. *Flow, Turbulence and Combustion*. 116, 6. DOI
2. Stolzman, J.E., **Mohit, A.**, Gutierrez, L., Long, J., Brysch, J., Capecelatro, J., Wooldridge, M. (2025). Effects of crosswind and shroud geometry on performance of low-flow, nonassisted flares. *Journal of the Air & Waste Management Association*, 1–21. DOI
1. Sarkar, M., Barad, S., **Mohit, A.**, Ganesan, M. (2022) Development of a novel autonomous space-debris collision-avoidance system for uncrewed spacecraft. *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, 236(14), 2940–2952. DOI

Conference Proceedings

8. **Mohit, A.**, Wooldridge, M., Capecelatro, J. (2026) Comparison of the flamelet progress variable and thickened flame models for LES of turbulent combustion *Central States Section of the Combustion Institute Spring Technical Meeting*, Combustion Institute.
7. Grawe, R., **Mohit, A.**, Capecelatro, J. (2025) The impact of turbulence on adsorption in packed-bed reactors. *AIChE Annual Meeting*.
6. **Mohit, A.**, Stolzman, J.E., Wooldridge, M., Capecelatro, J. (2025) Impact of crosswind turbulence on combustion performance in non-assist flares. *U.S. National Combustion Meeting*, Combustion Institute.
5. **Mohit, A.**, Stolzman, J.E., Wooldridge, M., Capecelatro, J. (2024) The impact of nozzle shape on mixing, combustion efficiency, and flame blowout velocity. *Bulletin of the American Physical Society*.
4. Stolzman, J., **Mohit, A.**, Capecelatro, J.E., Wooldridge, M. (2024) Non-assisted flare performance at low-flow (< 100 MSCFD) conditions. *American Flame Research Committee (AFRC) Meeting*.PDF
3. **Mohit, A.**, Stolzman, J.E., Wooldridge, M., Capecelatro, J. (2024) Effects of crosswind turbulence on the combustion efficiency of non-assist waste gas flares. *American Flame Research Committee (AFRC) Meeting*. PDF
2. Stolzman, J.E., **Mohit, A.**, Capecelatro, J., Wooldridge, M. (2024) New challenges in waste gas flaring in upstream oil and gas. *International Gas Union Conference Proceedings*. PDF
1. **Mohit, A.**, Stolzman, J.E., Wooldridge, M., Capecelatro, J. (2023) Optimizing nozzle designs to improve upstream turbulent mixing and downstream combustion efficiency in flares. *Bulletin of the American Physical Society*.

Experience

University of Michigan, Ann Arbor

Sept,2022 – **Graduate Student Research Assistant.**
present Numerical simulations of waste gas flares

Advisor : **Dr. Jesse Capecelatro**, Associate Professor, Department of Mechanical Engineering, University of Michigan ([Personal Web-page](#))

Co-Advisor : **Dr. Margaret Wooldridge**, Professor, Department of Mechanical Engineering, University of Michigan ([Personal Web-page](#))

Kyndryl, Bengaluru

June 2022 – **Data Science Intern.**
August 2022 Used unsupervised approaches to determine anomalies in a sample using OCR and OPENCV
Supervisor : **Dr. Sheela Sidappa**, Director, Data Science, Kyndrl India

IBM, Singapore

June 2018 – **Software Intern.**
July 2018 Optimized the Wattson AI chatbot testing interface for Electrolux by performing software stress testing
Supervisor : **Mr. Abhishek Kaul**, Associate Partner, Sustainability and Analytics, IBM Singapore

Fellowships & Awards

- 2026 **Richard and Eleanor Towner Prize for Outstanding Ph.D. Research** Mechanical Engineering Nominee
- 2024 **ACCESS Allocation**, Scale-resolved study for separated flow over a 3-D axisymmetric bump
- 2019 **Performace based Scholarship**, SRM Institue of Science & Technology, Chennai

2018 **Performace based Scholarship**, SRM Institue of Science & Technology, Chennai

2017 **Performace based Scholarship**, SRM Institue of Science & Technology, Chennai

Academic Achievements & Recognitions

2020 **Department of Aerospace Engineering - Second rank holder**, SRM Institue of Science & Technology, Chennai

Position of Responsibility

2022 **Board Member, Indian Student Association**, University of Michigan, Ann Arbor.

2018-2020 **Lead Technical Specialist**, Mindful Change, Chennai.

2018 **Aerodynamics Team Member**, Team 1.618, SRM Institute of Science and Technology. Chennai