

Amir A. Pahlavan

CONTACT INFORMATION

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PROFESSIONAL PREPARATION

University of Tehran,
B.S., Mechanical Engineering, 2008.

University of Illinois at Urbana-Champaign,
M.S., Theoretical & Applied Mechanics, 2010,
Advisors: David Saintillan & Jonathan B. Freund.

Massachusetts Institute of Technology,
Ph.D., Mechanical Engineering, 2018,
Major: Soft Matter, Minor: Statistical Physics,
Advisors: Ruben Juanes & Gareth H. McKinley.
PhD Committee: Mehran Kardar & Peko Hosoi & Luis Cueto-Felgueroso.

Princeton University,
Postdoctoral Researcher, Mechanical & Aerospace Engineering, 2018–June 2021,
Mentor: Howard A. Stone.

APPOINTMENTS

Yale University,
Assistant Professor, Mechanical Engineering & Materials Science, July, 2021–present.
Affiliate Faculty, Integrated Graduate Program in Physical and Engineering Biology, 2021-present.
Affiliate Faculty, Wu Tsai Institute, 2022-present.

SELECTED PUBLICATIONS

(h-index: 20)

(Under Review)

1. H. Liu, Z. Chen, **A. A. Pahlavan***, "Colloidal shadows reveal hidden solute transport", 2026.
2. Y. Li, M. Alipour, **A. A. Pahlavan***, "Cross-streamline diffusiophoretic migration in Taylor-dispersed channel flow", 2026.

(Published)

1. A. Rajput, **A. A. Pahlavan***, "Fluidic hysterons and memory in flow networks" (*Physical Review X*), 2026, (in press, arXiv link).
2. Z. Chen, **A. A. Pahlavan***, "Biofilm Density Regulates Diffusiophoretic Colloid Delivery", (*Soft Matter, Emerging Investigator Series*), 2026.
3. A. Pujari, **A. A. Pahlavan***, "Diffusiophoretic dispersion of a colloidal blob in porous media", *Journal of Fluid Mechanics*, 2026.
4. Y. Li, M. Alipour, **A. A. Pahlavan***, "Solute dispersion enhances the phoretic removal of colloids from dead-end pores", *Journal of Fluid Mechanics*, 2026.
5. M. Alipour, Y. Li, H. Liu, **A. A. Pahlavan***, "Diffusiophoretic transport of colloids in porous media", *Science Advances*, 2026.
6. **A. A. Pahlavan***, M. Murrell*, "Active Wetting: Statics and Dynamics", *Annual Reviews of Condensed Matter Physics*, *Invited Review*, 2026.
7. H. Liu, **A. A. Pahlavan***, "Diffusioosmotic reversal of colloidal focusing direction in a microfluidic T-junction", *Physical Review Letters*, 2025.
8. Y. Qiu, L. Cueto-Felgueroso, **A. A. Pahlavan**, B. K. Primkulov, and R. Juanes, "Phase-field modeling of two-phase displacement in a capillary tube", *Physical Review Fluids*, 2025.

9. Dongqi Li, Zhibing Yang, Renjun Zhang, **A. A. Pahlavan**, Ran Hu, Yi-Feng Chen, “Interfacial patterns of stretching suspension”, *Physical Review Fluids*, 2025.
10. **A. A. Pahlavan***, “The Soil Plastisphere: The Nexus of Microplastics, Bacteria, and Biofilms”, *InterPore Journal*, Invited Commentary, 2024.
11. S. McBride, S. Atis, **A. A. Pahlavan**, K. Varanasi, “Crystal Patterning from Aqueous Solutions via Solutal Instabilities”, *ACS Applied Materials & Interfaces*, 2024.
12. M. S. Yousafzai, S. Amiri, Z. G. Sun, **A. A. Pahlavan***, M. Murrell*, “Tissue Confinement Induces Retrograde Convective Cellular Flows”, *Journal of the Royal Society Interface*, 2024.
13. D. Li, Z. Yang, **A. A. Pahlavan**, R. Zhang, R. Hu, and Y-F. Chen, “Stability transition in gap expansion-driven interfacial flow”, *Physical Review Letters*, 2024.
14. P. R. Kaneelil, J. P. de Souza , G. Turk , **A. A. Pahlavan**, H. A. Stone, “Triboelectrically mediated self-assembly, trapping, and control of drops at an interface”, *Soft Matter*, 2024.
15. J. L. Wilson, **A. A. Pahlavan**, M. A/ Erinin, C. Duprat, L. Deike, H. A. Stone, “Aerodynamic interactions of drops on parallel fibres”, *Nature Physics*, 19, 1667–1672 (2023).
16. J. L. Wilson, **A. A. Pahlavan**, “How drops of liquid move along parallel fibres in a perpendicular airflow”, *Nature Physics*, 19 (11), 1565-1566 (2023).
17. Y. Qiu, K. Xu, **A. A. Pahlavan**, R. Juanes, “Wetting transition and fluid trapping in a microfluidic fracture”, *Proceedings of the National Academy of Sciences*, 120 (22) e2303515120 (2023).
18. Y. Li, Y. Chen, Y. Li, H. A. Stone, **A. A. Pahlavan***, and S. Granick, “Volatile Droplets on Water are Sculpted by Vigorous Marangoni-Driven Subphase Flow”, *Langmuir*, (2023).
19. B. K. Primkulov, **A. A. Pahlavan**, L. Cueto-Felgueroso, R. Juanes, “Motion of a viscous slug on heterogeneous surfaces: crossover from stick-slip to steady sliding”, *Journal of Fluid Mechanics*, 973, A2, (2023).
20. L. Yang, **A. A. Pahlavan**, H. A. Stone, C. D. Bain, “Evaporation of alcohol droplets on surfaces in moist air”, *Proceedings of the National Academy of Sciences*, 120 (38), (2023).
21. Y. Li , **A. A. Pahlavan*** , Y. Chen , S. Liu , Y. Li , H. A Stone, S. Granick, “Oil-on-Water Droplets Faceted and Stabilized by Vortex Halos in the Subphase”, *Proceedings of the National Academy of Sciences*, 120 (4) e2214657120, (2023).
22. M. A. Herrada, A. Ponce-Torres, P. R. Kaneelil, **A. A. Pahlavan**, H. A. Stone, and J. M. Montanero, “Effect of a soluble surfactant on the linear stability of two-phase flows in a finite-length channel”, *Physical Review Fluids*, 7, 114003, (2022).
23. P. R. Kaneelil, **A. A. Pahlavan**, N. Xue, and H. A. Stone, “Three-dimensional self-similarity of coalescing viscous drops in the thin-film regime”, *Physical Review Letters*, 129, 144501, (2022).
24. P. R. Kaneelil, **A. A. Pahlavan**, M. A. Herrada, K. LeRoy, K. Stengel, S. Warner, A. M. Galea, and H. A. Stone, “Symmetry breaking of a parallel two-phase flow in a finite length channel”, *Physical Review Fluids*, 7, 033904, (2022).
25. B. K. Primkulov, **A. A. Pahlavan**, X. Fu, B. Zhao, C. W. MacMinn, R. Juanes, “Wettability and Lenormand’s diagram”, *Journal of Fluid Mechanics*, 923, A34, (2021).
26. P. de Anna, **A. A. Pahlavan**, Y. Yawata, R. Stocker, R. Juanes, “Chemotaxis under flow disorder shapes microbial dispersion in porous media”, *Nature Physics*, 17, 68-73, (2021).
27. **A. A. Pahlavan**, L. Yang, C. D. Bain, H. A. Stone, “Evaporation of Binary-Mixture Liquid Droplets: The Formation of Picoliter Pancakelike Shapes ”, *Physical Review Letters*, **127** 024501 (2021). ♣ (Editors’ Suggestion)

28. F. Yang, **A. A. Pahlavan**, S. Mendez, M. Abkarian, H. A. Stone, “Towards improved social distancing guidelines: Space and time dependence of virus transmission from speech-driven aerosol transport between two individuals”, *Physical Review Fluids (Rapid Communication)*, 5, 122501(R), 2020. ♣ (Editors’ Suggestion)
29. N.B. Lu, **A. A. Pahlavan**, C.A. Browne, D.B. Amchin, H.A. Stone, and S.S. Datta, “Forced Imbibition in Stratified Porous Media”, *Physical Review Applied*, 14, 054009, (2020).
30. B. K. Primkulov, J. Y. Y. Chui, **A. A. Pahlavan**, C. W. MacMinn, R. Juanes, “Characterizing Dissipation in Fluid-Fluid Displacement Using Constant-Rate Spontaneous Imbibition”, *Physical Review Letters*, 125, 174503, (2020).
31. C. Kurzthaler, L. Zhu, **A. A. Pahlavan**, H. A. Stone, “Particle motion nearby rough surfaces”, *Physical Review Fluids (Rapid Communication)*, 5, 082101(R), (2020).
32. B. K. Primkulov, **A. A. Pahlavan**, L. Bourouiba, J. W. M. Bush, R. Juanes, “Spin coating of capillary tubes”, *Journal of Fluid Mechanics*, 886, A30, (2020).
33. **A. A. Pahlavan**, H. A. Stone, G. H. McKinley, R. Juanes, “Restoring universality to the pinchoff of a bubble”, *Proceedings of National Academy of Sciences*, **116** 28 (2019).
♣ (Featured as Research Highlights by PNAS)
34. B. K. Primkulov, **A. A. Pahlavan**, X. Fu, B. Zhao, C. MacMinn, R. Juanes, “Signatures of fluid-fluid displacement in porous media: wettability, invasion events, patterns, and pressures”, *Journal of Fluid Mechanics Rapids*, 875, R4, 2019.
35. **A. A. Pahlavan**, L. Cueto-Felgueroso, A. E. Hosoi, G. H. McKinley, R. Juanes, “Thin films in partial wetting: stability, dewetting, and coarsening”, *Journal of Fluid Mechanics*, **845** 642 (2018).
36. B. Zhao, **A. A. Pahlavan**, L. Cueto-Felgueroso, R. Juanes, “Forced wetting transition and pinch off in a capillary tube”, *Physical Review Letters*, **120** 084501 (2018).
37. **A. A. Pahlavan**, L. Cueto-Felgueroso, G. H. McKinley, & R. Juanes, “Thin films in partial wetting: internal selection of contact line dynamics”, *Physical Review Letters*, **115** 034502 (2015).
♣ (Featured in “Research Highlights” as “Physics Focus” article by APS)
38. B. Ezhilan, **A. A. Pahlavan**, & D. Saintillan, “Chaotic dynamics and oxygen transport in thin films of aerotactic bacteria”, *Physics of Fluids*, **24** 091701 (2012).
39. **A. A. Pahlavan** & J. B. Freund, “Effect of solid properties on slip at fluid–solid interfaces”, *Physical Review E*, **83** 021602 (2011).
40. **A. A. Pahlavan** & D. Saintillan, “Instability regimes in flowing suspensions of swimming micro-organisms”, *Physics of Fluids*, **23** 011901 (2011).

PATENTS

- PR Kaneelil, HA Stone, **A. A. Pahlavan**, JP de Souza, G Turk, “Controlling and manipulating floating droplets”, US Patent App. 19/048,265, 2025.

INVITED TALKS (SINCE 2021)

- Syracuse University Physics Colloquium, October 2026 (upcoming).
- Society of Engineering Science (SES) Annual Meeting session on Soft Hydraulics, October 2026 (upcoming).
- University of Pennsylvania, Mechanical Engineering and Applied Mechanics, September 2026 (upcoming).
- University of Pennsylvania, Condensed and Living Matter, September 2026.
- Monash University, Mechanical Engineering, August 2026.
- Monash University, Chemical Engineering, August 2026.
- RMIT University, Chemical Engineering, August 2026.
- Gordon Research Conference (GRC) Granular Matter, June 2026.
- InterPore Conference session on Pore-Scale Physics and Modeling, May 2026.
- APS Global Physics Summit session on Interfacial Transport and Pattern Formation, March 2026.

- Kavli Institute for Theoretical Physics, Soft Earth Geophysics Conference, January 2026.
- American Geophysical Union session on Mixing, Reaction, and Microbial Processes, Dec 2025.
- Levich Institute, City College of New York, Oct 2025.
- Physical Math Seminar, MIT, Dec 2024.
- SAFL Seminar, University of Minnesota, Nov 2024.
- Banff (BIRS) Workshop on Non-Newtonian Flows in Porous Media, July 2024.
- Yale University Chemical and Environmental Engineering Department, April 2024.
- Tufts University Mechanical Engineering Colloquium, March 2024.
- APS March meeting session on Phase Separation in Active Matter, March 2024.
- Soft Materials Structures and Devices, Mechanical Engineering, MIT, Feb 2024.
- Civil and Environmental Engineering, University of Southern California, Nov 2023.
- Physics Colloquium, Wesleyan University, Nov 2023.
- Fluid Seminar, Brown University, Oct 2023.
- Porous Media Tea Time Talks, Online, Sep 2023.
- Physics Colloquium, Clark University, April 2023.
- 23rd Annual Greater Boston Area Statistical Mechanics Meeting held in UMass-Amherst, October 2022.
- UCSD Fluid Mechanics Seminar Series, May 2021.
- Continuum Mechanics and Industrial Mathematics group at the University of Strathclyde, March 2021.

GROUP
PRESENTATIONS
(SINCE 2021)

- **A. A. Pahlavan**, Y. Li, M. Alipour, A. Pujari, H. Liu, “Diffusiophoretic transport of a colloidal blob in porous media” (invited talk), *InterPore Annual Meeting*, May 2026.
- **A. A. Pahlavan**, “From Colloidal Diffusiophoresis to Bacterial Chemotaxis in Complex Environments” (invited talk), *APS Global Physics Summit*, March 2026.
- A. S. Rajput, **A. A. Pahlavan**, “Programmable Bistability of Wall-Anchored Elastic Fibers in Microfluidics”, *APS Global Physics Summit*, March 2026.
- **A. A. Pahlavan**, “Bacterial chemotaxis in porous media” (invited talk), *AGU Fall Meeting*, December 2025.
- Y. Li, M. Alipour, **A. A. Pahlavan**, “Diffusiophoretic Effects on Particle Dispersion in 2D Channel Flow”, *APS DFD Meeting*, November 2025.
- H. Liu, Z. Chen, **A. A. Pahlavan**, “Transport of colloids around solute-releasing hydrogel posts”, *APS DFD Meeting*, November 2025.
- M. Alipour, **A. A. Pahlavan**, “Breakup and coalescence dynamics of oil drops in vortical flows”, *APS DFD Meeting*, November 2025.
- A. S. Rajput, **A. A. Pahlavan**, “Programmable flow in nonlinear bistable channels”, *APS DFD Meeting*, November 2025.
- Z. Shamsi, J. Hoggarth, **A. A. Pahlavan**, B. K. Primkulov, “Coupling Electroosmotic and Pressure-Driven Flow in Porous Media for Enhanced Mixing”, *APS DFD Meeting*, November 2025.
- **A. A. Pahlavan**, “Chemical gradients shape the transport of colloids and bacteria in complex flows”, *21st Northeastern Granular Materials Workshop*, June 2025.
- Z. Shamsi, **A. A. Pahlavan**, B. K. Primkulov, “Enhanced Mixing in Porous Media Through Electroosmotic Flow”, *InterPore Annual Meeting*, May 2025.
- M. Alipour, H. Liu, Y. Li, **A. A. Pahlavan**, “Diffusiophoretic transport of colloids in porous media”, *InterPore Annual Meeting*, May 2025.

- H. Liu, **A. A. Pahlavan**, “Colloidal transport mediated by calcium carbonate crystal”, *APS Global Physics Summit*, March 2025.
- M. Alipour, **A. A. Pahlavan**, “Active particles in turbulent waters”, *APS Global Physics Summit*, March 2025.
- **A. A. Pahlavan**, A. Ganesh, M. Alipour, “Bacterial chemotaxis in crowded environments”, *APS Global Physics Summit*, March 2025.
- A. S. Rajput, **A. A. Pahlavan**, “Soft elastic fibers in confined flows”, *APS Global Physics Summit*, March 2025.
- Z. Chen, **A. A. Pahlavan**, “Biofilm growth in confinement”, *APS Global Physics Summit*, March 2025.
- **A. A. Pahlavan**, A. Ganesh, M. Alipour, “Bacterial chemotaxis and dispersion in porous media”, *AGU Fall Meeting*, December 2024.
- Z. Yang, D. Li, **A. A. Pahlavan**, R. Zhang, R. Hu, Y. Chen, “Pattern transition of two-phase flow in fractures: effect of time-dependent aperture and fluid rheology”, *AGU Fall Meeting*, December 2024.
- B. K. Primkulov, R. Villamor Lora, **A. A. Pahlavan**, “Brownian Particle Diffusion in Heterogeneous Porous Media: Interplay of Electroosmotic and Pressure-Driven Flows”, *AGU Fall Meeting*, December 2024.
- **A. A. Pahlavan**, “Flow disorder and solute gradients shape the dispersion of colloids in porous media”, *AGU Fall Meeting*, December 2024.
- H. Liu, Z. Chen, **A. A. Pahlavan**, “Flow of colloids around a solute-releasing hydrogel”, *APS DFD Meeting*, November 2024.
- A. Pujari, **A. A. Pahlavan**, “Diffusiophoretic dispersion of a colloidal blob in 2D porous media”, *APS DFD Meeting*, November 2024.
- Y. Li, M. Alipour, **A. A. Pahlavan**, “Diffusiophoretic transport of colloids in 2D porous media”, *APS DFD Meeting*, November 2024.
- **A. A. Pahlavan**, A. Ganesh, M. Alipour, “Bacterial chemotaxis and dispersion in crowded environments”, *APS DFD Meeting*, November 2024.
- M. Alipour, **A. A. Pahlavan**, “Diffusiophoretic dispersion of microplastics in oceanic surface flows”, *APS DFD Meeting*, November 2024.
- A. S. Rajput, **A. A. Pahlavan**, “Flow around an anchored soft hair”, *APS DFD Meeting*, November 2024.
- A. Ganesh, M. Alipour, **A. A. Pahlavan**, “Flow-mediated bacterial swimming near curved surfaces”, *APS DFD Meeting*, November 2024.
- Y. Qiu, B. K. Primkulov, **A. A. Pahlavan**, R. Juanes, “Interface shape and wetting transition during fluid-fluid displacement in a capillary tube: laboratory experiments and bifurcation analysis”, *APS DFD Meeting*, November 2024.
- Z. Chen, Y. Li, **A. A. Pahlavan**, “Motility and nutrient availability modulate biofilm formation in confinement”, *APS DFD Meeting*, November 2024.
- L. Morad, M. Alipour, **A. A. Pahlavan**, “How do oceanic currents influence the dynamics of ice floes?”, *APS DFD Meeting*, November 2024.

- M. Alipour, L. Morad, **A. A. Pahlavan**, “Chaotic Voyage of Colloids Through Salty Waters”, *APS DFD Meeting, Gallery of Fluid Motion*, November 2024.
- M. Alipour, **A. A. Pahlavan**, “Diffusiophoretic Transport of Colloids in Porous Media”, *AIChE Annual Meeting*, October 2024.
- X. Ma, **A. A. Pahlavan**, “Crack Patterns in Drying Binary-Mixture Suspensions”, *AIChE Annual Meeting*, October 2024.
- **A. A. Pahlavan**, Z. Chen, “Biofilm formation in confined environments” (invited talk), *APS March Meeting*, March 2024.
- M. Alipour, **A. A. Pahlavan**, “Phoretic Migration of Colloids in Cellular Flows”, *APS March Meeting*, March 2024.
- P. R. Kaneelil, P. de Souza, **A. A. Pahlavan**, H. A. Stone, “Self-assembly and control of water drops at an oil-air interface”, *APS March Meeting*, March 2024.
- H. Liu, Z. Chen, **A. A. Pahlavan**, “Steering Colloids across Solute-releasing Hydrogel arrays”, *APS March Meeting*, March 2024.
- Z. Chen, **A. A. Pahlavan**, “Phoretic Delivery of Colloids to Biofilms in Complex Environments”, *APS March Meeting*, March 2024.
- A. Ganesh, **A. A. Pahlavan**, “Chemotactic response of bacteria to nutrient plumes in heterogeneous flow fields”, *APS March Meeting*, March 2024.
- **A. A. Pahlavan**, M. Alipour, “Diffusiophoretic transport of colloids across disordered media”, *AGU Fall Meeting*, December 2023.
- Y. Qiu, B. K. Primkulov, **A. A. Pahlavan**, L. Cueto-Felgueroso, R. Juanes, “Two-phase displacement in capillary tubes: wetting transition and interface evolution”, *AGU Fall Meeting*, December 2023.
- H. Liu, M. Alipour, **A. A. Pahlavan**, “Reaction-mediated phoretic transport of colloids in microfluidic channels”, *APS DFD Meeting*, November 2023.
- R. Juanes, Y. Qiu, K. Xu, **A. A. Pahlavan**, “Wetting transition and fluid trapping in a microfluidic fracture”, *APS DFD Meeting*, November 2023.
- A. Ganesh, K. V. Meléndez, Z. Chen, **A. A. Pahlavan**, “Chemotactic response of bacteria to ephemeral nutrient gradients”, *APS DFD Meeting*, November 2023.
- P. R. Kaneelil, P. de Souza, **A. A. Pahlavan**, H. A. Stone, “Self-assembly and control of water drops at an interface”, *APS DFD Meeting*, November 2023.
- M. Alipour, Y. Li, H. Liu, **A. A. Pahlavan**, “Phoretic transport of emulsions through disordered media”, *APS DFD Meeting*, November 2023.
- S. McBride, S. Atis, **A. A. Pahlavan**, K. K. Varanasi, “Solutal instabilities for patterning during evaporation”, *APS DFD Meeting*, November 2023.
- Z. Chen, M. Alipour, **A. A. Pahlavan**, “Phoretic Transport of Colloids through Solute-loaded Hydrogel Lattices”, *APS DFD Meeting*, November 2023.
- A. Pujari, H. Liu, M. Alipour, **A. A. Pahlavan**, “Disorder-mediated diffusiophoretic transport of colloids”, *APS DFD Meeting*, November 2023.
- H. Liu, **A. A. Pahlavan**, “Steering colloids using solute gradients and flow”, *APS March Meeting*, March 2023.

- X. Ma, **A. A. Pahlavan**, “Crack patterns in drying binary-mixture suspensions”, *APS March Meeting*, March 2023.
- M. Alipour, H. Liu, A. Pujari, **A. A. Pahlavan**, “Diffusiophoretic transport and dispersion of colloids across complex landscapes”, *APS March Meeting*, March 2023.
- Y. Qiu, L. Cueto-Felgueroso, B. K. Primkulov, **A. A. Pahlavan**, R. Juanes, “Wettability effects on fluid-fluid displacement in a capillary tube: phase-field modeling and experiment” (meeting program), *APS March Meeting*, March 2023.
- Y. Qiu, L. Cueto-Felgueroso, B. K. Primkulov, **A. A. Pahlavan**, R. Juanes, “Wettability effects on fluid-fluid displacement in a capillary tube: phase-field modeling and experiment”, *AGU Fall Meeting*, December 2022.
- M. Alipour, H. Liu, **A. A. Pahlavan**, “Diffusiophoretic transport of colloids in periodic porous media”, *APS DFD Meeting*, November 2022.
- X. Ma, **A. A. Pahlavan**, “Crack patterns in drying suspensions of binary fluid mixture”, *APS DFD Meeting*, November 2022.
- H. Liu, **A. A. Pahlavan**, “Diffusiophoretic focusing of colloids in a microfluidic T-junction”, *APS DFD Meeting*, November 2022.
- B. K. Primkulov, **A. A. Pahlavan**, L. Cueto-Felgueroso, R. Juanes, “Contact lines in partial wetting: transition from stick-slip to steady sliding”, *APS March Meeting*, March 2022.
- **A. A. Pahlavan**, S. Shim, N. Abbasi, J. Nunes, H. A. Stone, “Solute-mediated transport of colloids in disordered media”, *APS March Meeting*, March 2022.
- Y. Qiu, K. Xu, **A. A. Pahlavan**, L. Cueto-Felgueroso, R. Juanes, “Forced imbibition in a Hele-Shaw cell with a textured surface”, *APS March Meeting*, March 2022.
- B. Primkulov, **A. A. Pahlavan**, X. Fu, B. Zhao, C. MacMinn, R. Juanes, “Wettability axis in Lenormands phase diagram”, *AGU Fall Meeting*, December 2021.
- P. R. Kaneelil, **A. A. Pahlavan**, N. Xue, H. A. Stone, “Coalescence of viscous drops”, *APS DFD Meeting*, November 2021.
- J. L. Wilson, **A. A. Pahlavan**, M. A. Erinin, L. Deike, H. A. Stone, “Drops on Parallel Fibers in a Crosswind”, *APS DFD Meeting*, November 2021.
- **A. A. Pahlavan**, L. Yang, C. D. Bain, H. A. Stone, “Evaporation of alcohol droplets in humid environments”, *APS DFD Meeting*, November 2021.

SYNERGISTIC ACTIVITIES & SERVICE

TEACHING AT YALE

- Fall 2025: MENG 4475 (Instructor)– (Undergraduate-Fluid Mechanics and Thermodynamics Laboratory); 16 students.
- Spring 2024: MENG 363 (Instructor)– (Undergraduate-Fluid Mechanics and Thermodynamics Laboratory); 30 students.
- Fall 2024: ENAS 776 (Instructor)– (Undergraduate/Graduate-Fluid Mechanics of Natural Phenomena); 17 students.
- Spring 2024: MENG 363 (Instructor)– (Undergraduate-Fluid Mechanics and Thermodynamics Laboratory); 22 students.
- Fall 2023: ENAS 776 (Instructor)– (Undergraduate/Graduate-Fluid Mechanics of Natural Phenomena); 10 students.
- Spring 2023: MENG 363 (Instructor)– (Undergraduate-Fluid Mechanics and Thermodynamics Laboratory); 27 students.
- Spring 2022: MENG 389 (Instructor)– (Undergraduate-Level Fluid and Thermal Energy Science);

17 students.

MENTORING AT YALE

- Haoyu Liu, MEMS PhD student, Sep 2021-present.
- Hobart Chen, MEMS PhD student, Sep 2022-present.
- Aditya Pujari, MEMS PhD student, Sep 2022-present.
- Yiran Li, MEMS PhD student, Sep 2023-present.
- Abhineet Rajput, MEMS PhD student, Sep 2023-present.
- Mobin Alipour, MEMS Postdoc (PhD Tu Wien), Feb 2022-present.
- Akash Ganesh, MEMS Postdoc (PhD Universite Paris Saclay), March 2023-Dec 2024 (Current Position: Microfluidics Engineer at REEgen Inc.).
- Xiaolei Ma, MEMS Postdoc (PhD Emory University), March 2022-2023 (Current Position: Senior Research Scientist at Henkel).
- Gavi Welbel, MEMS Undergraduate, Co-Advisor for Capstone Project, Sep 2022-2023.
- Yiran Li, Undergraduate Visiting Student from Tsinghua University, Aug 2022-Jan 2023.
- Pauline Moulliard, Visiting Graduate Student from UC Louvain, July-Aug 2022.
- Youri Marchal, Visiting Graduate Student from UC Louvain, July-Aug 2022.
- Emily Kang, Visiting REU Student from Amherst College, July-Aug 2022.
- Tanzila Alam, Yale Chemical Engineering Undergraduate Student, March-May 2022.

PHD COMMITTEES AT YALE

- Devon Finlay, Yale Physics PhD student, Advisor: Corey O'Hern.
- Zahra Shamsi, Yale MEMS PhD student, Advisor: Bauyrzhan Primkulov.
- Marshall McCraw, Yale MEMS PhD student, Advisor: Corey O'Hern.
- Stephanie Woodman, Yale MEMS PhD student, Advisor: Rebecca Kramer-Bottiglio.
- Yitong Zheng, Yale MEMS PhD student, Advisor: Corey O'Hern.
- Shivnag Sista, Yale Physics PhD student, Advisor: Corey O'Hern.
- Medha Goyal, Yale MEMS PhD student, Advisor: Rebecca Kramer-Bottiglio.
- Abinish Dutta, Yale MEMS PhD student, Advisor: Jan Schroers.
- Sorosh Amiri, Yale MEMS PhD student, Advisor: Michael Murrell.
- Lam Vo, Yale QBio PhD student, Advisor: Thierry Emonet.
- Anjiabei Wang, Yale MEMS PhD student, Advisor: Ben Machta.

SERVICE AT YALE

- Organizer, Soft Fluid Living Matter (SoFLivMat) Coffee Hour Weekly Seminar Series, 2022-present.
- MEMS Graduate Admission Committee, 2021 and 2022.
- MEMS Junior Faculty Search, 2022 and 2023.
- Faculty Advisor, Yale Undergraduate Aerospace Association (YUAA), 2022-present.

OUTREACH ACTIVITIES

- Yale Pathways to Science for Public High School Students, since 2021.
- New Haven Science Fair Family Night for Public Elementary School Students, Spring 2023.
- Open Labs at Yale for Public Elementary School Students (Virtual), Spring 2022.

CHAIR/CO-CHAIR OF SCIENTIFIC MEETINGS

- APS March Meeting, Invited Session on Emergent Dynamics in Nonlinear Flow Networks, 2026.
- APS March Meeting, Focus Session on Soft and Living Matter in Complex Environments, 2026.
- APS March Meeting, Invited Session on Active Taxis in Dynamic Environments, 2025.
- APS March Meeting, Focus Session on Soft and Living Matter in Complex Environments, 2025.
- APS March Meeting, Focus Session on Soft and Living Matter in Geophysical Flows, 2024.
- APS DFD Meeting, Focus Session on Transport Phenomena in Active Biological Networks, 2022.
- Gordon Research Seminar on Flow in Permeable Media, 2022.

- APS March Meeting, Focus Session on Transport in Heterogeneous Environments, 2022.

GRANT PROPOSAL REVIEWER

- DFG, German Research Foundation — Physics and Chemistry, 2023-present.
- Dutch Research Council (NWO) — Domain Applied and Engineering Sciences (AES), 2022-present.
- NSF Chemical Bioengineering Environmental and Transport Systems, 2022-present.
- Department of Energy, Basic Energy Sciences, 2022-present.
- ACS PRF Grant Program, 2021-present.
- Swiss National Science Foundation, Div. Mathematics, Physical and Engineering Sciences, 2020-present.
- National Science Foundation, Div. Earth Sciences, 2020-present.

REFeree FOR JOURNALS

Proceedings of National Academy of Sciences, Nature Communications, Physical Review Letters, Science Advances, Physical Review X, Physical Review Applied, Physical Review Fluids, Journal of Fluid Mechanics, Soft Matter, Physics of Fluids, ACS Applied Materials & Interfaces, Physical Review E, Applied Physics Letters.

TEACHING AT PRINCETON

- Fall 2019, Graduate-Classical Papers in Fluid Mechanics, 11 students.

AWARDS & HONORS

- American Chemical Society Petroleum Research Fund Doctoral New Investigator Award, 2022.
- NSF CAREER award, CBET PMP, 2025.