

Sadegh Dabiri, PhD

PhD 2009, University of California, Irvine, Mechanical and Aerospace Engineering. Thesis: Effects of Cavitation on High-Pressure Atomization

MS 2005, University of California, Irvine, Mechanical and Aerospace Engineering.

BS 2003, Sharif University of Technology, Tehran, Iran, Mechanical Engineering

Academic Experience: Purdue University

- Assistant Professor, Agricultural and Biological Engineering, 2016 – present. Full time.
- Visiting Assistant Professor, Agricultural and Biological Engineering, 2014 – 2016. Full time.

Other Universities:

- Research Assistant Professor, University of Notre Dame, 2011 – 2014. Full time.
- Postdoctoral Associate, Massachusetts Institute of Technology, 2009 – 2010. Full time.
- Graduate Research Assistant, University of California, Irvine. 2005 – 2009. Full time.

Certifications:

Professional Organizations: American Physical Society; American Society of Mechanical Engineers; American Society of Agricultural and Biological Engineers; Sigma Gamma Tau Aerospace Honor Society; Golden Key International Honor Society

Honors and Awards:

- Graduate Dean's Dissertation Fellowship, UC Irvine, 2009.
- AIAA Martin Summerfield Graduate Award for Studies in Propellants and Combustion, June, 2008.
- Participant scholarship and travel grant, Pan American Advanced Study Institute on “Interfacial Fluid Dynamics”, Mar del Plata, Argentina, August, 2007.
- Member of Golden Key International Honor Society.
- UCI fellowship, Mechanical and Aerospace Engineering Department, University of California, Irvine, 2004-2006.
- 1st Place and also winner of the Technical Innovation Award at 16th AAI robot competition and exhibition held by Association for the Advancement of Artificial Intelligence, Edmonton, Canada, 2002.
- 3rd place and recipient of Gold medal in 30th International Physics Olympiad, among 300 students from 62 nations, Padua, Italy, 1999.
- Recipient of Presidential Award as a member of National Physics Olympiad, Iran, 1999.

Service Activities (past five years):

Internal: Graduate committee; ABET committee; ASABE Robotics team mentor; capstone technical mentor (four projects); Women in Engineering workshop (July 2016, July 2018); College Marshal, spring 2015 commencement

External: Reviewer for Journal of Fluid Mechanics, Physics of Fluids, ASME Journal of Fluids Engineering, Atomization and Sprays, and Journal of Computational Physics; Qualifying exam committee, Notre Dame; Session Chair, ILASS (2009); Session Chair Division of Fluid Dynamics

(American Physical Society), 2012-2015; Co-founder of Bonyan Danesh Pajouhan, non-profit student foundation for applied research in science and engineering, Tehran, founded 2000.

Peer Reviewed Journal Publications (past five years):

1. Y.G. Shah, A. Vacca, S. Dabiri, E. Frosina, "A fast lumped parameter approach for the prediction of both aeration and cavitation in Gerotor pumps", *Meccanica*, 53 (1-2), 175-191, 2018.
2. P. Bhuvankar, S. Dabiri, "Impact of a single bubble rising near a wall on the wall-to-liquid heat flux," *International of Heat and Mass Transfer*, 116, 445-457, 2018.
3. H. Xia, J. Lu, S. Dabiri, G. Tryggvason, "Fully Resolved Numerical Simulations of Fused Deposition Modeling. Part I - Fluid Flow", *Rapid Prototyping Journal*, 24 (2), 2018.
4. A.H. Raffiee, S. Dabiri, A.M. Ardekani, "Elasto-inertial migration of deformable capsules in a microchannel," *Biomicrofluidics*, 11, 064113, 2017.
5. A.H. Raffiee, S. Dabiri, A.M. Ardekani, "Deformation and buckling of microcapsules in a viscoelastic matrix," *Physical Review E*, Phys. Rev. E 96, article no. 032603, 2017.
6. S. K. Kim, S. Dabiri, "Transient dynamics of eccentric double emulsion droplets in a simple shear flow", *Physical Review Fluids*, 2 (10), 104305, 2017.
7. M. Jafari, S. Dabiri, M. Farhadi, K. Sedighi, "Effects of a three-lobe swirl generator on the thermal and flow fields in a heat exchanging tube: an experimental and numerical approach," *Energy Conversion and Management*, 148, 1358-1371, 2017.
8. S. Wang, T. Guo, S. Dabiri, P.P. Vlachos, A.M. Ardekani, "Effect of surfactant on bubble collisions on a free surface," *Physical Review Fluids*, 2, 043601, 2017.
9. M. Bayareh, S. Dabiri, A.M. Ardekani, "Interaction between two drops ascending in a linearly stratified fluid," *European Journal of Mechanics-B/Fluid*, 60, 127-136, 2016.
10. S. Dabiri, P. Bhuvankar "Scaling law for bubbles rising near vertical walls," *Physics of Fluids*, 28 (6), 062101, 2016.
11. S. Dabiri, A. Doostmohammadi, M. Bayareh, A.M. Ardekani "Numerical simulation of the buoyant rise of a suspension of drops in a linearly stratified fluid," *International Journal of Multiphase Flow*, 69, 8-17, 2015.
12. S. Dabiri, G. Tryggvason, "Heat transfer in turbulent bubbly channel flows," *Chemical Engineering Science*, 122, 106-113, 2015.
13. Doostmohammadi, S. Dabiri, A.M. Ardekani "A numerical study of the dynamics of a particle settling at moderate Reynolds numbers in a linearly stratified fluid," *Journal of Fluid Mechanics*, 750, 5-32, 2014.
14. M. Bayareh, A. Doostmohammadi, S. Dabiri, A.M. Ardekani, "On the rising motion of a drop in stratified fluids," *Physics of Fluids*, 25 (10), article no. 103302, 2013.
15. S. Dabiri, J. Lu, G. Tryggvason, "Transition between regimes of a vertical channel bubbly upflow due to bubble deformability," *Physics of Fluids*, 25 (10), article no. 102110, 2013.
16. G. Tryggvason, S. Dabiri, B. Aboulhasanzadeh, J. Lu, "Multiscale considerations in DNS of multiphase flows," *Physics of Fluids*, 25 (3), article no. 031302, 2013.

Professional Development Activities:

- Attended "Celebration of Teaching Excellence" workshop FA 2016
- Attended "Effective Teaching Workshop" by Rebecca Brent & Richard Felder SP 2015
- Purdue's Center for Instructional Excellence classroom video consultation SP 2015