

Shreyas Mandre
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Education

12/2006 Ph.D. Mathematics, The University of British Columbia
12/2002 M.S. Mechanical Engineering, Northwestern University
8/2000 B.Tech. Mechanical Engineering, Indian Institute of Technology Bombay

Professional Appointments

9/2006-8/2009 Lecturer in Applied Mathematics, School of Engineering and Applied Sciences, Harvard University
9/2009-8/2010 Research Associate, School of Engineering and Applied Sciences, Harvard University
9/2010- Assistant Professor, School of Engineering, Brown University

Positions and Awards

Sep 2013 - Aug 2017 Human Frontier Science Program Young Investigator Award.
Aug 2013 Simons visitor, National Centre for Biological Sciences,
Tata Institute of Fundamental Research, Bangalore.
Dec 2009 Harvard University Certificate of Teaching Excellence
May 2010 Harvard University Certificate of Teaching Excellence
Jun 2001 Geophysical Fluid Dynamics Fellowship,
Woods Hole Oceanographic Institution.

Publications

Book chapters

1. Venkadesan, M., Bandi, M. M., **Mandre, S.**, “Biological feet: Evolution, mechanics and applications (Ch 7.1)”. In: *Bioinspired Legged Locomotion: Models, Concepts, Control and Applications* (ed. M. Sharbafi and A. Seyfarth). Butterworth-Heinemann, 2017, p. 450.
2. Rust, A. C., **Mandre, S.**, Balmforth, N. J., “The feasibility of generating low-frequency volcano seismicity by flow through a deformable channel”. In: *Fluid motion in volcanic conduits: A source of seismic and acoustic signals*. Ed. by S. J. Lane and J. S. Gilbert. 2007, pp. 45–63.

Journal articles under review

1. Yawar, A., Korpas, L., Lugo-Bolanos, M., **Mandre, S.**, Venkadesan, M., “Contribution of the transverse arch to foot stiffness in humans”. *under review* 2017. arXiv: 1706.04610 [physics.bio-ph].

2. Miller, M. J., Cardona, J., Block, L., Kondo, K., Lee, M., Manning, M., Scherl, I., Simeski, F., Spaulding, A., Su, Y., Ellerby, D., Sudderth, E., Lewis, K., Kidd, J., Hubbard, W., Pham, H. T., Derecktor, T., Winckler, S., Fawzi, A., Franck, J., Breuer, K., **Mandre, S.**, “Results of 2kW hydrokinetic turbine tests in the Cape Cod Canal”. *under review* 2017.
3. Akella, V. S., Singh, D. K., **Mandre, S.**, Bandi, M. M., “Dynamics of a camphoric acid boat at the air-water interface”. *under review* 2017. arXiv: 1701.06775 [physics.flu-dyn].
4. Venkadesan, M., Dias, M., Singh, D., Bandi, M. M., **Mandre, S.**, “Stiffness of the human foot and evolution of the transverse arch”. *under revision* 2016. arXiv: 1705.10371 [physics.bio-ph].
5. **Mandre, S.**, Mangan, N. M., “Framework and limits on power density in wind and hydrokinetic device arrays using systematic flow manipulation”. *under review* 2017. arXiv: 1601.05462 [physics.flu-dyn].
6. Carlson, A., **Mandre, S.**, Mahadevan, L., “Elastohydrodynamics of contact in adherent sheets”. *under revision* 2015. arXiv: 1508.06234 [physics.flu-dyn].

Journal articles

1. Sane, A., **Mandre, S.**, Kim, I., “Surface tension of flowing soap films”. *Journal of Fluid Mechanics* 2018, (in press). arXiv: 1711.07602 [physics.flu-dyn].
2. Bandi, M. M., Akella, V. S., Singh, D. K., Singh, R. S., **Mandre, S.**, “Hydrodynamic signatures of stationary Marangoni-driven surfactant transport”. *Physical Review Letters* 2017, 119, p. 264501.
3. **Mandre, S.** “Axisymmetric spreading of a surfactant from a point force”. *Journal of Fluid Mechanics* 2017, 832, pp. 777–792.
4. Kim, I., **Mandre, S.**, “Marangoni elasticity of flowing soap films”. *Physical Review Fluids* 2017, 2.8, p. 082001.
5. Mukherjee, A., **Mandre, S.**, Mahadevan, L., “Controllable biomimetic birdsong”. *Journal of the Royal Society Interface* 2017, 14, p. 20170002.
6. Kim, D., Strom, B., **Mandre, S.**, Breuer, K., “Energy harvesting performance and flow structure of an oscillating hydrofoil with finite span”. *Journal of Fluids and Structures* 2017, 70, pp. 314–326.
7. Nguyen, K., Yu, N., Bandi, M. M., Venkadesan, M., **Mandre, S.**, “Curvature-induced stiffening of a fish fin”. *Journal of The Royal Society Interface* 2017, 14, p. 20170247.
8. Singh, R., Bandi, M., Mahadevan, A., **Mandre, S.**, “Linear stability analysis for monami in a submerged seagrass bed”. *Journal of Fluid Mechanics* 2016, 786, R1.
9. Kaplan, C. N., Wu, N., **Mandre, S.**, Aizenberg, J., Mahadevan, L., “Dynamics of evaporative colloidal patterning”. *Physics of Fluids* 2015, 27.9, p. 092105.
10. He, A., Nguyen, K., **Mandre, S.**, “Capillary interactions between nearby interfacial objects”. *Europhysics Lett.* 2013, 102.3, p. 38001.
11. **Mandre, S.**, Brenner, M. P., “The mechanism of a splash on a dry solid surface”. *Journal of Fluid Mechanics* 2012, 690, p. 148.
12. Wei, Z., **Mandre, S.**, Mahadevan, L., “The branch with the furthest reach”. *Europhysics Letters* 2012, 97, p. 14005.
13. Kolinski, J. M., Rubinstein, S. M., **Mandre, S.**, Brenner, M. P., Weitz, D. A., Mahadevan, L., “Skating on a film of air: drops impacting on a surface”. *Physical Review Letters* 2012, 108.7, p. 074503.
14. **Mandre, S.**, Mahadevan, L., “A generalized theory of viscous and inviscid flutter”. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Science* 2010, 466.2113, pp. 141–156.
15. Mani, M., **Mandre, S.**, Brenner, M. P., “Events before droplet splashing on a solid surface”. *Journal of Fluid Mechanics* 2010, 647, pp. 163–185.

16. **Mandre, S.**, Mani, M., Brenner, M. P., “Precursors to Splashing of Liquid Droplets on a Solid Surface”. *Physical Review Letters* 2009, 102.13, p. 134502.
17. Bird, J. C., **Mandre, S.**, Stone, H. A., “Short-Time Dynamics of Partial Wetting”. *Physical Review Letters* 2008, 100.23, p. 234501.
18. Balmforth, N. J., Ghadge, S. A., Kettapun, A., **Mandre, S. D.**, “Bounds on double-diffusive convection”. *Journal of Fluid Mechanics* 2006, 569.1, pp. 29–50.
19. Chen, X. P., **Mandre, S.**, Feng, J. J., “Partial coalescence between a drop and a liquid-liquid interface”. *Physics of Fluids* 2006, 18.5, Art:051705.
20. Chen, X. P., **Mandre, S.**, Feng, J. J., “An experimental study of the coalescence between a drop and an interface in Newtonian and polymeric liquids”. *Physics of Fluids* 2006, 18.9, Art:092103.
21. Balmforth, N. J., **Mandre, S.**, “Dynamics of roll waves”. *Journal of Fluid Mechanics* 2004, 514, pp. 1–33.
22. Lichter, S., Roxin, A., **Mandre, S.**, “Mechanisms for Liquid Slip at Solid Surfaces”. *Physical Review Letters* 2004, 93.8, p. 86001.
23. Ghosal, S., **Mandre, S.**, “A simple model illustrating the role of turbulence on phytoplankton blooms”. *Journal of Mathematical Biology* 2003, 46.4, pp. 333–346.

Peer-reviewed conference abstracts

1. Mangan, N. M., **Mandre, S.**, “Optimal distribution of riverine turbines in a linear array with systematic flow manipulation”. In: *Proceedings of the 24th International Congress of Theoretical and Applied Mechanics*. 2016.
2. Cardona, J. L., Miller, M. J., Derektor, T., Winckler, S., Volkman, K., Medina, A., Cowles, S., Lorick, R., Breuer, K. S., **Mandre, S.**, “Field-testing of a 1kW Oscillating Hydrofoil Energy Harvesting System”. In: *Proceedings of the 4th Marine Energy Technology Symposium*. 2016.
3. **Mandre, S.**, Mangan, N. M., Derektor, T., Winckler, S., “A comparison of hydrokinetic turbines forming a vertical fence along the length of a river or tidal channel with a conventional rectangular turbine array”. In: *Proceedings of the 4th Marine Energy Technology Symposium*. 2016.

Patent applications

1. Mahesh Maruthi Bandi, Madhusudhan Venkadesan, Shreyas Dilip Mandre, System and method for obtaining force based on photoelasticity, WO 2015186356 A1, 2015.
2. Shreyas Mandre, Kenneth Breuer, Benjamin Strom, Michael Miller, Jennifer Franck, Daegyoun Kim, Kinetic energy harvesting using cyber-physical systems, US20140203558 A1 and WO2014113809 A1, 2014.

Invited seminars

1. S. Mandre, *Spreading driven by Marangoni stresses from a point source of surfactant*, International Conference on Mathematical Analysis of Continuum Mechanics, Okinawa Institute of Science and Technology Graduate University, Okinawa Japan, 2017.
2. S. Mandre, *The transverse arch of human foot*, Workshop on Form and Deformation in Solid and Fluid Mechanics, Isaac Newton Institute for Mathematical Sciences, Cambridge UK, 2017.
3. S. Mandre, *Spreading driven by Marangoni stresses from a point source of surfactant*, Making a Splash - Droplets, Jets and Other Singularities, Institute for Computational and Experimental Research in Mathematics, Brown University, Providence RI, 2017.

4. S. Mandre, *Systematic flow manipulation for hydrokinetic energy conversion*, Department of Mathematics, The University of British Columbia, BC Canada, 2017.
5. S. Mandre, *Functional interpretation for transverse arches of human foot*, Institute of Applied Mathematics - Pacific Institute of Mathematical Sciences Distinguished Alumni Colloquium, The University of British Columbia, BC Canada, 2017.
6. S. Mandre, M. Venkadesan, M. M. Bandi, *The structure, function, and evolution of the human foot*, Geophysical Fluid Dynamics Summer School, Woods Hole Oceanographic Institution, Woods Hole MA, 2016.
7. S. Mandre, *Flow optimization for unconventional approaches to hydrokinetic energy conversion*, Department of Mechanical Engineering, Yale University, New Haven CT, 2016.
8. S. Mandre, *Flow optimization for unconventional approaches to hydrokinetic energy conversion*, Graduate School of Oceanography, University of Rhode Island, Narragansett RI, 2016.
9. S. Mandre, *Flow optimization for unconventional approaches to hydrokinetic energy conversion*, Courant Institute of Mathematical Sciences, New York University, New York NY, 2016.
10. S. Mandre, *Flow optimization for unconventional approaches to hydrokinetic energy conversion*, School of Engineering and Applied Sciences, Harvard University, Cambridge MA, 2016.
11. S. Mandre, Andong He, Khoi Nguyen, Michael Miller, *Capillary attraction between nearby objects floating on a liquid interface*, Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge MA, 2013.
12. S. Mandre, Andong He, Khoi Nguyen, Michael Miller, *Capillary attraction between nearby objects floating on a liquid interface*, Department of Mechanical Engineering, University of Massachusetts, Dartmouth MA, 2013.
13. S. Mandre, Andong He, Khoi Nguyen, Michael Miller, *Capillary attraction between nearby objects floating on a liquid interface*, Department of Mechanical Engineering, Tufts University, Somerville MA, 2013.
14. S. Mandre, Anja Slim, Xinjun Guo, *Dissolution driven convection for carbon dioxide sequestration: the stability problem* Department of Mathematics, Princeton University, Princeton, 2013.
15. S. Mandre, Anja Slim, Xinjun Guo, *Dissolution driven convection for carbon dioxide sequestration: the stability problem* Department of Geology and Geophysics, Yale University, New Haven, 2013.
16. S. Mandre, Andong He, Khoi Nguyen, Michael Miller, *Capillary attraction between nearby objects floating on a liquid interface*, National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bangalore, India, 2013.
17. S. Mandre, *Waving of marine grass due to tidal currents*, Okinawa Institute of Technology Graduate University, Okinawa, Japan, 2013.
18. S. Mandre, Anja Slim, Xinjun Guo, *Dissolution driven convection for carbon dioxide sequestration: the stability problem* Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, 2013.
19. S. Mandre, Anja Slim, Xinjun Guo, *Linear stability of time-dependent flows: dissolution-driven convection*, Department of Mathematics, University of Wisconsin, Madison, 2013.
20. S. Mandre, Anja Slim, Xinjun Guo, *Hydrodynamic stability of time-dependent flows*, Geophysical Fluid Dynamics Program, Woods Hole Institute of Oceanography, Woods Hole, 2012.
21. S. Mandre, Anja Slim, Xinjun Guo, *Hydrodynamic stability of time-dependent flows*, Division of Applied Mathematics, Brown University, Providence 2010.
22. S. Mandre, *Mechanism of a splash*, i-Bio Seminar series, National Centre for Biological Sciences, Tata, Institute of Fundamental Research, Bangalore, India, 2012.
23. S. Mandre, *Mechanism of a splash*, Department of Mathematics, New Jersey Institute of Technology Newark, 2010.
24. S. Mandre, *Mechanism of a splash*, Division of Engineering, Brown University Providence, 2010.
25. S. Mandre, *Mechanism of a splash*, Department of Mathematics, University of New Hampshire Durham, 2010.
26. S. Mandre, M. Mani and M. P. Brenner, *Air cushion on droplet impact: a mechanism for sheet ejection*, James Frank Institute, University of Chicago, Chicago, 2010.

27. S. Mandre, M. Mani and M. P. Brenner, *Events before droplet splashing on a solid surface*, Department of Mathematics, University of California Berkeley, Berkeley, 2009.
28. S. Mandre, M. Mani and M. P. Brenner, *Precursors to splashing of a liquid droplet on a solid surface*, Dynamics Days, Gottingen, 2009.
29. S. Mandre, *The physics and mathematics of singing bottles*, Department of Mathematics, University of Alberta, Edmonton, 2009.
30. S. Mandre, *Lectures on convective and absolute instabilities*, Department of Chemical Engineering, Indian Institute of Technology, Mumbai
31. S. Mandre, M. Mani and M. P. Brenner, *Droplet impact as a precursor to splashing*, Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai, 2008.
32. S. Mandre, *The physics and mathematics of singing bottles*, Department of Mathematics, MIT, Cambridge, 2008.
33. S. Mandre, *Roll waves and relatives*, Division of Engineering and Applied Sciences, Harvard University, Cambridge, 2006.
34. S. Mandre, *A flow induced elastic instability*, Department of Mechanical Engineering, Indian Institute of Technology Bombay, Mumbai, 2005.
35. S. Mandre, *Energy stability and finite amplitude thresholds*, Center for Nonlinear Sciences, Georgia Institute of Technology, Atlanta, 2005.
36. S. Mandre, *Some flow instabilities and their mechanisms*, Simple Persons Applied Math Seminar Series, Department of Mathematics, MIT, Cambridge MA, 2004.

Invited conference presentations

1. S. Mandre, X. Guo, P. Kartheeswaran, *Vortex Shedding from Smooth Two-Dimensional Objects Using Boundary Layers*, SIAM Partial Differential Equations, Phoenix AZ, 2015.
2. S. Mandre, Andong He, Khoi Nguyen, Michael Miller, *The Effect of Size and Shape on the Capillary Attraction between Nearby Floating Objects*, New England Complex Fluids, University of Massachusetts, Amherst, 2013.
3. S. Mandre, Andong He, Khoi Nguyen, Michael Miller, *The Effect of Size and Shape on the Capillary Attraction between Nearby Floating Objects*, Frontiers in Applied and Computational Mathematics, New Jersey Institute of Technology, Newark, 2013.
4. S. Mandre, Anja Slim, Xinjun Guo, *Hydrodynamic stability of time-dependent flows*, Dynamical Systems Conference, Snowbird, Utah, 2013.
5. S. Mandre, *Mechanism of a splash*, Complex fluids and complex flows in industry and nature, Vancouver, BC, Canada, 2011.
6. S. Mandre, *Mechanism of a splash*, AMS Eastern Sectional Meeting, Worcester, MA, 2011.
7. S. Mandre and L. Mahadevan, *A generalized theory of viscous and inviscid flutter*, Dynamics Days, San Diego, 2009.

External Grants

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|-----------|--|-----------|
| 2013-2017 | co-PI: Human Frontier Science Program Young Investigator Award <i>The mechanics of the foot</i> , with PI:Madhusudhan Venkadesan and co-PI:Mahesh Bandi. | \$1050k |
| 2013-2017 | PI: Advanced Research Projects Agency - Energy <i>Marine Hydro-Kinetic Energy Harvesting Using Cyber-Physical Systems</i> , with Kenny Breuer and Heather Leslie. | ~ \$3800k |
| 2012-2015 | co-PI: Air Force Office of Scientific Research <i>Cyber-physical systems to understand the dynamics of nonlinear aero-elastic systems for flexible MAVs and energy harvesting applications</i> , with PI:Kenny Breuer. | \$492877 |

Internal Grants

2011-2012 PI: Richard B. Salomon Faculty Research Award \$15k
On the development of a research program in thermoacoustics,

Teaching

Courses taught at Harvard University:

| Term | Course | Title |
|-------|--------|---|
| F2006 | AM205 | Practical Scientific Computing |
| S2007 | AM105b | Ordinary and Partial Differential Equations |
| F2007 | AM205 | Practical Scientific Computing |
| S2008 | AM105b | Ordinary and Partial Differential Equations |
| F2008 | AM205 | Practical Scientific Computing |
| S2009 | AM105b | Ordinary and Partial Differential Equations |

Courses taught at Brown University:

| Term | Course | Title | Class size |
|-------|------------|---|------------|
| F2010 | ENGN 0030 | Introduction to Engineering | 206 |
| S2011 | ENGN 1710 | Heat and Mass Transfer | 20 |
| F2011 | ENGN 2912H | Interfacial Phenomena | 7 |
| S2012 | ENGN 1710 | Heat and Mass Transfer | 22 |
| F2012 | ENGN 2912J | Asymptotic and Perturbation Methods | 12 |
| S2013 | ENGN 1710 | Heat and Mass Transfer | 13 |
| F2013 | ENGN 2912H | Interfacial Phenomena | 7 |
| S2014 | ENGN 1860 | Advanced Fluid Mechanics | 21 |
| F2015 | ENGN 2912J | Asymptotic and Perturbation Methods | 7 |
| S2016 | ENGN 1860 | Advanced Fluid Mechanics | 24 |
| F2016 | ENGN 0810 | Fluid Mechanics (co-taught w/K. Breuer) | 95 |
| S2017 | ENGN 2912H | Interfacial Phenomena | 5 |
| F2017 | ENGN 0810 | Fluid Mechanics (co-taught w/J. Franck) | 87 |

Undergraduate Advising and Mentoring

| Name | Research output |
|-------------------------------|--|
| Karine Ip Kiun Chong '12 | <p>Poster at NEW.Mech, MIT, Oct 2011: “Enhanced evaporation from surfaces of width comparable to that of the mass boundary layer thickness”</p> <p>Poster at APS DFD, 2011: “Enhanced evaporation from surfaces of width comparable to that of the mass boundary layer thickness.”</p> <p>Senior thesis: “Evaporation And Condensation Design at the Microscale Level”</p> |
| Pablo Sanchez-Santaefemia '12 | <p>Senior thesis: “Thermoacoustics with Flexible Boundaries”</p> |
| Marvin Li '13 | <p>Poster at NEW.Mech, MIT: Oct 2011 ”Cool Sounds: Optimal Combination of Traveling and Standing Waves in Thermoacoustic Refrigerators”</p> |
| Patrick O’Neil ‘14 | <p>Senior thesis: ”Use of Gradient Based Optimization With Noise for Harvesting Tidal Energy”</p> |
| Khoi Nguyen '14 | <p>Publication: A. He, K. Nguyen, and S. Mandre. “Capillary interactions between nearby interfacial objects”. <i>Europhyscs Letter</i> 2013, 102.3, p. 38001.</p> <p>Presentation: K. Nguyen, M. J. Miller, S. Mandre. “Estimation of Forces between Objects in the Cheerios Effect”, 66th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, Pittsburgh 2013.</p> <p>Poster at Workshop on <i>Dynamics at Interfaces</i>, OIST 2014: “Evaporation rate profile near the contact line of a droplet”.</p> <p>Senior Thesis: An Experimental Investigation of the Coffee Ring Phenomenon for Biosensor Applications</p> |
| Elliot Weiss '17 | <p>Poster at American Physical Society Division of Fluid Dynamics annual meeting, 2016: ”A model for tracking the wakes of vertical axis turbines”</p> <p>Poster at Marine Energy Technology Symposium, 2017: ”A simple model for exploring and optimizing the performance of hydrokinetic turbine arrays”</p> <p>Senior thesis: ”A computational study of systematic flow manipulation for turbine arrays”</p> |
| Leland Kirshen '17 | <p>Poster at American Physical Society Division of Fluid Dynamics annual meeting, 2016: ”A model for tracking the wakes of vertical axis turbines”</p> <p>Senior thesis: ””An experimental study of systematic flow manipulation for horizontal axis turbines”</p> |

Sc.M. Mentoring

| Name | Research output |
|-----------------------|--|
| Aakash Sane Sc. M '17 | <p>“Surface tension of flowing soap films”</p> |

Doctoral Mentoring

| Name | Research output |
|---------------------------------------|--|
| Ravi Singh PhD '15 | Thesis: "Hydrodynamic instability leading to Monami" |
| Xinjun Guo PhD '15 | Thesis: "A vortex shedding model for unsteady fluid dynamics" |
| Michael J. Miller PhD (expected 2018) | Thesis: "Research and development of oscillating hydrofoil for hydrokinetic power" |
| Maria Lugo-Bolanos PhD | Thesis: "Role of the arches in human foot mechanics" |

Postdoctoral Mentoring

| Name | | Currently at |
|-------------------------------|-----------------|--|
| Ildoo Kim | 2/2015-8/2017 | Brown (courtesy appointment) |
| Marcelo A. Dias | 9/2012-8/2014 | (co-advised w/ Tom Powers, now starting faculty at Aarhus University, Denmark) |
| V. Ponnulakshmi Kartheeswaran | 9/2013-2/2015 | (Research staff at a startup) |
| Julie Albagnac | 3/2011-7/2012 | (Faculty at U. Toulouse, France) |
| Andong He (ICERM fellow) | 9/2011 - 8/2012 | (ex-faculty at U. Hawaii, tragically deceased) |

Visiting Scientists hosted

| Name | Appointment at Brown |
|-----------------|------------------------------------|
| Niall M. Mangan | Visting Lecturer (10/2015-12/2015) |
| Mahesh M. Bandi | Adjunct Lecturer (9/2011-4/2012) |

Service

Service to Brown University

Advising:

1. Freshman and Sophomore advisor – AY 2011-onwards,
2. TEAM (Team enhanced advising and mentoring, a program targeted to under-represented minorities) Freshman advisor – AY 2011-2012,

Administrative duties

1. Fluids Seminar Series organizer – AY 2010-2011,
2. Fluids and Thermal Sciences Graduate Representative – AY 2011-2012, 2012-2013. 2013-2014.

Service to the Community

Conference and workshop organizer

1. New England Workshop on Mechanics of Structures and Materials, MIT, Oct 2011.
2. New England Workshop on Mechanics of Structures and Materials, Brown University, Nov 2012.
3. Society of Engineering Sciences, 50th Annual Technical Meeting and ASME-AMD Annual Summer Meeting, July 2013.

4. Dynamics at Interfaces, Workshop organized at the Okinawa Institute of Science and Technology, June 9-13, 2014.
5. Staff at the Geophysical Fluid Dynamics Summer School at Woods Hole Oceanographic Institution, June 21-Aug 25, 2016.

External reviewer

- Referee for
 - Proceedings of the National Academy of Sciences,
 - Journal of Fluid Mechanics,
 - Physics of Fluids,
 - Physical Review Fluids,
 - Journal of Experimental Biology,
 - Langmuir,
 - Ocean Engineering,
 - SIAM Journal of Applied Mathematics,
 - Journal of Fluids Engineering,
 - European Journal of Applied Mathematics,
 - Fluid Dynamics Research,
 - Journal of Engineering Mathematics,
 - American Journal of Physics.
- Grant reviewer for
 - The U.S. National Science Foundation,
 - The U.S. Department of Energy,
 - The U.S. Department of Defense,
 - The Natural Science and Engineering Council of Canada,
 - National Commission for Scientific and Technological Research of Chile.