Jenn Stroud Rossmann

Jeffers Dean of Engineering
Matthew Baird Professor of Mechanical Engineering
Lafayette College · Easton, Pennsylvania
(610) 330-5406 · *rossmanj@lafayette.edu*
http://sites.lafayette.edu/rossmanj

EDUCATION

Ph.D. University of California, Berkeley, Applied Physics, 2000
Numerical Simulation of Blood Flow in the Severely Stenotic Carotid Artery Bifurcation. Thesis committee: Stanley A. Berger, mechanical engineering (Chair); Ömer Savaş, mechanical engineering; Alexandre Chorin, mathematics.

B.S. University of California, Berkeley, Mechanical Engineering, 1995
Emphasis in fluid mechanics, heat transfer. Minor in English (creative writing).

ADMINISTRATIVE EXPERIENCE

Jeffers Dean of Engineering, 2025-
Lafayette College · Easton, Pennsylvania
Coordinate curriculum, resources, and assessment and accreditation processes for six engineering majors. Partner with various campus partners to represent and advance engineering. Lead team of 42 faculty members, 4 administrative staff members, and 6 technical staff members.

Founding Co-Director, Hanson Center for Inclusive STEM Education, 2020-2022
Lafayette College · Easton, Pennsylvania
Coordinated student support, faculty development, curricular design and research related to advancing College practices and understanding of inclusion and equity in STEM.

Since 2016, convened and facilitated faculty and staff to generate collaborative proposal for coordinated Inclusive STEM efforts at the College, including new faculty lines, curricular design and review, student support, faculty development, and securing endowed support for center.

Department Head, Mechanical Engineering, July 2012-July 2017 and 2018-2019
Lafayette College · Easton, Pennsylvania
Supervised 12 faculty members; chaired multiple search processes; managed budget and resources; coordinated ABET assessment process and successful reaccreditation; facilitated curricular reform and created minor program.

ACADEMIC EXPERIENCE

Professor of Mechanical Engineering, 2017-present

Associate Professor of Mechanical Engineering, 2012-2017

Assistant Professor of Mechanical Engineering, 2005-2012
Lafayette College · Easton, Pennsylvania

Taught biomechanics, thermodynamics, heat transfer, strength of materials, capstone thermo-fluids laboratory; Developed and taught courses for liberal arts students in (1) cultural history of technology; (2) race and technology; and (3) the art and science of flow visualization. Advised undergraduate research (50+ individual student projects) including simulation of physiological flows, development of flow visualization and PIV laboratory, and design projects, including Grand Challenges. Service has included Promotion, Tenure, & Review Committee and Faculty Governance Committee (Chair).

Assistant Professor of Engineering, 2001-2005
Harvey Mudd College · Claremont, California

Taught continuum mechanics, heat transfer, fluid mechanics, biomechanics, dynamic systems, solid mechanics, experimental engineering methods. Advised undergraduate research including design, construction, and operation of subsonic wind tunnel.

Mechanical Engineering Instructor, 2000
University of California, Berkeley

SCHOLARLY PUBLICATIONS:

BOOKS

Rossmann, J.S. (2025 UK, 2026 US) *Worldbuilding: The Engineering Imagination.* Forthcoming from Polity Books.

Mase, G. Thomas, Smelser, Ronald E., and **Rossmann, J.S.** (2020) *Continuum Mechanics for Engineers,* Fourth Edition, Taylor & Francis/CRC Press/Routledge.

Rossmann, J.S. Dym, C.L., and Bassman, L.C. (2015) *Introduction to Engineering Mechanics: A Continuum Approach*, Second Edition, Taylor &Francis/CRC Press.

Rossmann, J.S. and Dym, C.L. (2008) *Introduction to Engineering Mechanics: A Continuum Approach*, Taylor & Francis/CRC Press.

JOURNAL ARTICLES

Smith, J. M., Beddoes, K., Downey, G., Jesiek, B. K., Reddy, E., Riley, D., **Rossmann, J**., Wylie, C., York, E., Marques, I., Konstantis, K., Mody, C. C. M. (2025). We have been here before: Reflections on Engineering and Authoritarianism. *Engineering Studies*, 1–10. https://doi.org/10.1080/19378629.2025.2466994

Powell, A., Mann, A., **Rossmann, J.S.** and Prabhu, R. (2024) Making design moves: Exploring the relationship between gender, self-efficacy, & design moves in collaborative ideation, *The Journal of Creative Behavior* 58(4):546–560, https://doi.org/10.1002/jocb.682

Addy, T.M, Moore, K, Whitteck, E., and **Rossmann, J.** (2022) Film as a powerful tool for increasing awareness of the importance of belonging in STEM, *Course Source* Volume 9: 10.24918/cs.2022.47

Rossmann, J.S and Armstrong, M.A. (2022) Empowering and liberating: Influence of engagement with Women's and Gender Studies for STEM students, *ADVANCE Journal*, **3**(2): https://doi.org/10.5399/osu/ADVJRNL.3.2.9

Rossmann, J.S. (2016) Engineering design as a liberal art, *International Journal of Engineering Education* **32** (2): 1502-1507.

Rossmann, J.S. and Sanford Bernhardt, Kristen L. (2015) Sociotechnical engineering is one facet of prismatic liberal education, *Engineering Studies,* 10.1080/19378629.2015.1062505.

Clark, A.*, **Rossmann, J.S.**, Katz, I. M., Martin, A. R., Caillibotte, G. (2015) Pressure loss coefficients for asymmetric bifurcations of pulmonary airways with predetermined flow distributions, *Journal of Bioengineering and Biomedical Science*, 10.4172/2155-9538.1000148.

Albert, S.*, Balaban, R.S., Neufeld, E., and **Rossmann, J.S.** (2014) Influence of the renal artery ostium flow diverter on hemodynamics and atherogenesis, *Journal of Biomechanics*, **47**(7): 1594-602.

Chan, C.M.* and **Rossmann, J.S.** (2012) Badminton shuttlecock aerodynamics: synthesising experiment and theory, *Sports Engineering* **15:** 61-71.

Cummins, M.* and **Rossmann, J.S.** (2010) Hemodynamics of ulcerated plaques: before and after, *Journal of Biomechanical Engineering* **132**(10): 104503.1-8.

Rossmann, J.S. (2010) Elastomechanical behavior of bovine veins, *Journal of the Mechanical Behavior of Biomedical Materials* **3**(2): 210-215.

Fisher, C.* and **Rossmann, J.S.** (2009) Effect of non-Newtonian behavior on hemodynamics of cerebral aneurysms, *Journal of Biomechanical Engineering*,**131**(9): 091004.1-9.

* Undergraduate co-author

Cover image for journal.

Rossmann, J.S. and Rau, A.* (2007) An experimental study of Wiffle ball aerodynamics, *American Journal of Physics*, **75**(12): 1099-1105.

Utter, B.* and **Rossmann, J.S.** (2007) Numerical simulation of saccular aneurysm hemodynamics: influence of morphology on rupture risk, *Journal of Biomechanics* **40**(12): 2716-2722.

Lorthois, S., **Rossmann, J. Stroud**, Berger, S.A., Jou, L.D. and Saloner, D. (2005) Numerical simulation of Magnetic Resonance Angiographies of an anatomically realistic stenotic carotid bifurcation, *Annals of Biomedical Engineering*, Vol. 33: 270-283.

Dym, C.L., **Rossmann, J.S.**, and Sheppard, S.D. (2004) Designing engineering education, *International Journal of Engineering Education*, Vol. 20: 470-474.

Stroud, J.S., Berger, S.A., and Saloner, D. (2002) Numerical analysis of flow through a severely stenotic carotid artery bifurcation, *Journal of Biomechanical Engineering*, Vol. 124: 9-20.

Stroud, J.S., Berger, S.A., and Saloner, D. (2000) Influence of stenosis morphology on flow through stenotic vessels: implications for plaque rupture, *Journal of Biomechanics*, Vol. 33: 443-455.

OTHER ARTICLES

Rossmann, J.S. (2025) Stories of Speculative Technologies: What-Ifs and Then-Whats, chapter in *STS Teachbook,* forthcoming from Lever Press.

Rossmann, J.S. (2024) Public Thinker: Deb Chachra Interview, *Public Books* https://www.publicbooks.org/infrastructure-tells-us-that-we-need-one-another/

Rossmann, J.S. (2023) Dear white faculty, we must do better, *Inside Higher Ed* https://www.insidehighered.com/opinion/career-advice/diversity/2023/05/19/dear-white-faculty-we-must-do-better

Rossmann, J.S. and Cohen, B.R. (2021) The internet is railroads: The roots of digital racism date back to 19th century railroads, *Fast Company*, Oct. 9 https://www.fastcompany.com/90683997/the-roots-of-digital-racism-date-back-to-19th-century-railroads

Rossmann, J. S. (2021) Remolding the world together, ASEE Committee on Diversity, Equity, and Inclusion. https://diversity.asee.org/deicommittee/2021/03/30/remolding-the-world-together/

Rossmann, J.S. (2020) Public Thinker: Virginia Eubanks Interview, *Public Books*

Rossmann, J. S. (2019) Wind Energy in *30-second Engineering*, Edited by James Treveylan, Ivy Press.

Rossmann, J. S. (2017) The contentious physics of Wiffle ball, *The Atlantic*, September 15, 2017, An Object Lesson. https://www.theatlantic.com/technology/archive/2017/09/wiffle-ball-physics/539982/

Stewart-Gambino, H. and **Rossmann, J. Stroud** (2015) Often asserted, rarely measured: The value of integrating humanities, arts, and STEM learning, Report commissioned by National Academies of Science and Engineering. http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_170985.pdf

Rossmann, J.S. (2014) Chocolate and peanut butter: Engineering and liberal arts, *Inside Higher Ed* https://www.insidehighered.com/blogs/university-venus/chocolate-and-peanut-butter

Rossmann, J.S. (2008) Built to spec: the vaginal speculum as a case study of inadequate design, *Ambidextrous* **10**: 47-49.

Rossmann, J. Stroud (2001) Why do jets leave white trails in the sky? *Scientific American,* Nov. 19, 2001; reprinted in *Scientific American's Ask the Experts*, Collins Reference, 2003.

CONFERENCE PROCEEDINGS

Rossmann, J.S. and Armstrong, M.A. (2024) Developing engineers' critical consciousness through gender and ethnic studies: Reframing STEM identity. Proceedings of the 132nd Annual ASEE Conference & Exposition, Portland, OR.

Rossmann, J.S and Armstrong, M.A. (2021) "A new way of seeing": Engagement with Women's and Gender Studies fosters engineering identity formation. Proceedings of the 129th Annual ASEE Conference & Exposition, (virtual). **BEST LEES DIVISION and BEST CONFERENCE PAPER Awards**

Rossmann, J.S., Sanford, K.L., and Cohen, B.R. (2021) "Asking 'why' instead of 'how"': Outcomes of an interdisciplinary degree program in Engineering Studies. Proceedings of the 129th Annual ASEE Conference, (virtual).

Koh, R.S. and **Rossmann, J.S**. (2021) Strategic disruptions toward a more liberatory engineering education. Proceedings of the 129th Annual ASEE Conference & Exposition, (virtual).

Rossmann, J.S., Sanford, K.L., Nicodemus, J.N., and Cohen, B.R. (2020) The socio-technical core curriculum: An interdisciplinary Engineering Studies degree program, Proceedings of the 128th Annual ASEE Conference & Exposition, Montreal (virtual).

Rossmann, Jenn Stroud and Stewart-Gambino, H. (2019) Cornerstone design for sociotechnical Grand Challenges, Proceedings of the 127th Annual ASEE Conference & Exposition, Tampa.

Sanford Bernhardt, K.L., and **Rossmann, J.S.** (2019) An integrative education in engineering and the liberal arts: An institutional case study, Proceedings of the 127th Annual ASEE Conference & Exposition, Tampa.

Rossmann, J.S., Hoida, B., Mun, N., Gunther, TB, and Farmer, R. (2019) Whatever happened to class? Writing about and across socioeconomic difference, Panel presentation, AWP, Portland, Oregon.

Chen, Z.* and **Rossmann, Jenn Stroud**, (2018) CFD Analysis of Flow Patterns in Human Respiratory System, Proceedings of American Society of Biomechanics East Cost Meeting, Penn State.

Rossmann, Jenn Stroud, and Roth, Mary J.S. (2017) A classification system for integrative engineering education, *Proceedings of the 125th Annual ASEE Conference & Exposition*, Columbus.

Rossmann, Jenn Stroud & Stewart-Gambino, H. (2016) Integration: Defining the value of the "hard to measure"; and Cornerstone Multidisciplinary Design, *Union College Symposium on Engineering and Liberal Education,* Schenectady, New York

Hoida, B., **Rossmann, J.S**., Prado, R., Gelman, S., and González, L. (2016) People are afraid to merge in Los Angeles, Panel presentation, AWP, Los Angeles.

Rossmann, Jenn Stroud; Dym, Clive L; Bassman, Lori C. (2015) Starting with the a-ha: An integrated introduction to solid and fluid mechanics, *Proceedings of the 122th Annual ASEE Conference & Exposition*, Seattle.

Rossmann, J.S. (2014) An integrated introduction to the mechanics of solids and fluids: Continuum mechanics as the first mechanics course, APS Division of Fluid Dynamics, San Francisco CA, Nov. 23-25, 2014.

Cohen, B.R., **Rossmann, J.S.,** and Sanford Bernhardt, K.L. (2014) Introducing engineering as a socio-technical process, *Proc. ASEE Annual Conference,* Indianapolis.

Rossmann, J.S., Albert, S.*, and Balaban, R. (2013) Renal hemodynamics: The influence

* Undergraduate co-author

of the renal artery ostium flow diverter, APS Division of Fluid Dynamics, Pittsburgh PA, Nov. 24-26, 2013.

Rossmann, J.S. (2013) Seminar in flow visualization at Lafayette College: Variations on the Hertzberg Effect, APS Division of Fluid Dynamics, Pittsburgh PA, Nov. 24-26, 2013.

Albert, S.*, **Rossmann, J.S.,** and Balaban, R. (2013) Simulation of blood flow in the renal artery: influence of ostium diverter, *ASME Summer Bioengineering Conference*, Sunriver, Oregon.

Clark, A.* and **Rossmann, J.S.** (2012) Effect of asymmetric branching on respiratory flow and pressure losses: implications for asthma, *ASME Summer Bioengineering Conference Proceedings*, Fajardo, Puerto Rico.

Buchan, G.* and **Rossmann, J.S.** (2011) Quantifying Confidence Envelopes for Efficiency Values in the SR-30 Turbojet Engine, *ASME International Mechanical Engineering Congress Proceedings,* Denver.

Rossmann, J.S. (2011) Toward improved models for hemodynamics in stenotic vessels: PIV and CFD results including turbulence and compliance, *ASME Summer Bioengineering Conference Proceedings*, Farmington, Pennsylvania.

Rossmann, J.S., Sanford Bernhardt, K., and Smith, J.H. (2011) Engineering as a second language, *Union College Symposium on Engineering and Liberal Education,* Schenectady, New York.

Rossmann, J.S. (2010) Hemodynamics in stenotic vessels: synthesis of CFD and PIV results, *APS Division of Fluid Dynamics,* Long Beach, California.

Rossmann, J.S. and Skvirsky, K. (2010) You don't need a weatherman to know which way the wind blows, *ASEE/IEEE Frontiers in Education*, Washington, DC.

Rossmann, J.S. (2010) A continuum approach to introductory biomechanics, *ASME Summer Bioengineering Conference Proceedings,* Naples, Florida.

Rossmann, J.S. (2010) Engineering America, *Union College Symposium on Engineering and Liberal Education,* Schenectady, New York.

Rossmann, J.S. and Skvirsky, K. (2010) You don't need a weatherman, ASEE Mid-Atlantic Regional Conference, Easton. **Best Paper Award.**

Guswa, A., Klein, J.D., Krupczak, J., **Rossmann, J.S.**, Baker, I., and Traver, C. (2010) Engineering and Liberal Education, Panel presentation, *American Association of Colleges & Universities* annual meeting, Washington, D.C.

Stolfi, C.* and **Rossmann, J.S**. (2009) Biomechanics of glaucoma: parametric study of flow in Schlemm's canal, *ASME International Mechanical Engineering Congress Proceedings,* Orlando, Florida.

Cummins, M.* and **Rossmann, J.S**. (2009) Numerical simulation of blood flow in patient-specific carotid bifurcation geometries, *ASME International Mechanical Engineering Congress Proceedings,* Orlando, Florida.

Rossmann, J.S. and Skvirsky, K. (2009) The art and science of flow visualization, *Union College Symposium on Engineering and Liberal Education,* Schenectady, New York.

Rossmann, J.S., Dym, C.L., and Bassman, L.C. (2008) An integrated introduction to engineering mechanics: A continuum approach, *ASME International Mechanical Engineering Congress Proceedings*, Boston.

Rossmann, J.S. and Fisher, C.* (2008) Influence of non-Newtonian models on simulation of aneurysm hemodynamics, *ASME Summer Bioengineering Conference Proceedings*, Marco Island, Florida.

Rossmann, **J.S.**, Rau, A.C.*, and Utela, B.* (2007) Experimental determination of elastomechanical properties of bovine veins, *Proceedings of the 2nd International Conference on*

Mechanics of Biomaterials and Tissues, Elsevier, Kauai, Hawaii.

Utter, B.* and **Rossmann, J.S.** (2006) Influence of shape on saccular aneurysm hemodynamics and risk of rupture, *Proceedings of the IEEE 32nd Annual Northeast Bioengineering Conference*, Easton, PA: 21-22.

Rossmann, J.S. and Dym, C.L. (2004) Continuum mechanics as the first mechanics course, *Proc. 2004 ASEE Annual Conference*, Salt Lake City.

Rossmann, J.S., MacVicar, S.*, and Huynh, S.* (2003) Numerical simulation of aneurysm hemodynamics, *APS Division of Fluid Dynamics*, East Rutherford.

Jemmott, C.*, Logan, S.*, Utvich, A.*, and **Rossmann, J.S.** (2003) Experimental investigation of the aerodynamic forces on a curveball, *APS Division of Fluid Dynamics*, East Rutherford.

Utvich, A.*, Jemmott, C.*, Logan, S.*, and **Rossmann, J.S.** (2003) Aerodynamics of Wiffle balls, *APS Division of Fluid Dynamics*, East Rutherford.

Hsu, Y.H.*, Stratton, C.M. *, Schauer, J.M. *, Utvich, A.*, and **Rossmann, J.S.** (2003) Design and construction of a new subsonic wind tunnel, *ASME International Mechanical Engineering Congress Proceedings,* Washington, D.C. **First Prize,** Young Engineers Paper Contest.

Berger, S.A., **Stroud, J.S.**, and Rayz, V. (2001) Hemodynamic simulations of flow in normal and stenotic carotid arteries, *ASME Congress Proceedings*, *Advances in Bioengineering* BED-Vol. 51.

Lorthois, S., **Stroud, J.S.**, Berger, S.A., Jou, L.D. and Saloner, D. (2001) Numerical simulation of time of flight (TOF) magnetic resonance angiographies of severely stenotic carotid artery bifurcations with realistic shapes, *Proc. International Society of Biomechanics, XVIIIth Congress*, Zurich.

Berger, S.A. and **Stroud, J.S.** (2001) Flow in sclerotic carotid arteries, *First MIT Conference on Computational Fluid and Solid Mechanics, Proceedings,* Elsevier.

Jou, L.D., **Stroud, J**., Berger, S.A., Saloner, D. (2000) The effects of injection profiles on carotid contrast-enhanced MRA, *Eighth Scientific Meeting of International Society for Magnetic Resonance in Medicine*, *Proc.,* Denver.

Berger, S.A. and **Stroud, J.S.** (2000) Flow in stenotic vessels, *APS Division of Fluid Dynamics*, Washington, D.C.

Stroud, J.S. and Berger, S.A. (2000) Numerical simulation of blood flow in the severely stenotic carotid artery bifurcation, *IUTAM 2000*, Chicago.

Berger, S.A. and **Stroud, J.S.** (2000) Flow in the atherosclerotic carotid artery, *ASME Congress Proceedings, Mechanics in Biology,* Casey, J. and Bao, G., Editors, AMD-Vol. 242/BED-Vol. 46: 99-112.

Stroud, J.S. and Berger, S.A. (1999) Numerical simulation of blood flow in the stenotic carotid artery bifurcation, *APS Division of Fluid Dynamics*, New Orleans.

Stroud, J.S. and Berger, S.A. (1998) Simulation of flow in stenosed blood vessels, *APS Division of Fluid Dynamics*, Philadelphia.

Stroud, J.S. and Berger, S.A. (1997) Numerical simulation of blood flow in the mildly stenotic carotid artery bifurcation, *APS Division of Fluid Dynamics*, San Francisco.

BOOK REVIEWS

"An Engineer Reads a Novel" essay series for Public Books, including:
A Monster in the Shape of a Woman, August 16, 2021
https://www.publicbooks.org/a-monster-in-the-shape-of-a-woman/

* Undergraduate co-author

Soulful, Perhaps Even Magical, Science, December 1, 2020
https://www.publicbooks.org/soulful-perhaps-even-magical-science/
Dead Cosmonauts, Space Cowboys, February 19, 2020
https://www.publicbooks.org/dead-cosmonauts-space-cowboys/
Ted Chiang: Realist of a Larger Reality, July 19, 2019
https://www.publicbooks.org/ted-chiang-realist-of-a-larger-reality/
The Rubble of Creation, June 12, 2019
https://www.publicbooks.org/the-rubble-of-creation/
The Pinsetter's Lament, January 30, 2019
https://www.publicbooks.org/the-pinsetters-lament/
In the Desert You Can't Remember Your Name, November 13, 2018
https://www.publicbooks.org/in-the-desert-you-cant-remember-your-name/
Turning History Inside Out, September 13, 2018,
https://www.publicbooks.org/turning-history-inside-out/
Unsex the Lab, July 17, 2018
https://www.publicbooks.org/unsex-the-lab/
Famous and Unfamous Feminists, May 1, 2018
https://www.publicbooks.org/famous-and-unfamous-feminists/
The Shape of Power Is Always the Same, Feb. 2018
https://www.publicbooks.org/the-shape-of-power-is-always-the-same/
Robot and Juliet, Public Books, November 27, 2017
http://www.publicbooks.org/robot-and-juliet/
Good with Her Hands, Public Books, October 2, 2017
http://www.publicbooks.org/good-with-her-hands/
Even Broken History Is History, Public Books, July 17, 2017
http://www.publicbooks.org/even-broken-history-is-history/
Science and the Wolf, Public Books, April 19, 2017.
http://www.publicbooks.org/science-and-the-wolf/
Who Builds Anything in this Country?, Public Books, October 12, 2016.
http://www.publicbooks.org/who-builds-anything-in-this-country/
Westward the Course of Empire Takes Its Way, Public Books, September, 2016.
http://www.publicbooks.org/blog/westward-the-course-of-empire-takes-its-way
Prophecy in Future Perfect, Public Books, July, 2016.
http://www.publicbooks.org/blog/prophecy-in-future-perfect
Too Bad About the Trees, Public Books, June, 2016.
http://www.publicbooks.org/blog/too-bad-about-the-trees
The New York Values of City on Fire, Public Books, February 6, 2016.
http://www.publicbooks.org/blog/the-new-york-values-of-city-on-fire
Technological Citizenship and the End of the World, Public Books, Jan. 4, 2016.
http://www.publicbooks.org/blog/technological-citizenship-at-the-end-of-the-world

Other book reviews:
Athena's Daughters, Kathleen Kennedy and Frances Early, eds., *Women's Studies: An Interdisciplinary Journal,* Vol. 33: 341-344 (2004).
Fatal Women of Romanticism, by Adriana Craciun, *Women's Studies: An Interdisciplinary Journal*, Vol. 32: 1111-1114 (2003).
Time Lord, by Clark Blaise, San Francisco *Chronicle,* 13 May 2001
The Science of UFOs, by William Alschuler, San Francisco *Chronicle,* 8 April 2001

FICTION

"Iceplant Summer," Bull Magazine, August 2025

"Sand Dollars," Eckleburg Review, accepted

"In Order of Appearance," HAD, June 2021

"That's the Exact Opposite of What I Wanted," in *What I Thought of Wasn't Funny* anthology, October 2020

"Island Time," *Pithead Chapel*, January 2020 **Pushcart Prize Nominee**

The Place You're Supposed to Laugh, **A novel**, 7.13Books, Brooklyn NY, 2018

"In Patient," *X-RAY Lit*, March 2019

"Work/Life Balance," *Hobart,* July 2018

"Thank you for helping us serve you better," *Bending Genres*, June, 2018

"Table for Two," *JMWW*, December 2017 **Best Small Fictions Nominee**

"The Disaster Specialist," *CHEAP POP*, July 2017

"Non-Stick," *Literary Orphans,* July 2016

"Don't Shake Hands on the Bandstand," *Jellyfish Review,* July 2016

"The Place You're Supposed to Laugh," *Indianola Review,* Dec. 2015, **Pushcart Prize Nominee**

"Ladies & Gentlemen, the Invincibles" in *Tahoma Literary Review,* Dec. 2014, **Pushcart Prize Nominee**

"Recycling," in *Night Train,* online September 2014 and print, March 2015

"Oh So High" in *dislocate,* March 2014, **Pushcart Prize Nominee**

"I Cover the Rest" in *Cobalt Review,* December 2011

"All-American" in *Failbetter*, March 2010, **Pushcart Prize Nominee**

"Re-think" in *Readymade,* March 2004

"Geeks" in *The MacGuffin*, July 2003

"How to Be the Bigger Person" in *Surgery of Modern Warfare*, Feb. 2003

"Cast of Characters" in *Pindeldyboz*, November 2002

"How to Seem Smarter" in *Readymade*, January 2002

"The Disaster Specialist" in *Ashby Ave.* anthology, Fall 2001

"Near the Highway" in *Red Rock Review*, Winter 2001

"Enjoy Yourself" in *Ibid*, Spring 1999

MEDIA INTEREST

Interviewed regarding aerodynamics of Wiffle ball and baseball for:

- Mark Rober YouTube video, May 2023
- NPR Short Wave podcast, April 2020
- *The Ringer,* August 2019
- *Popular Science* magazine, April 2014; April 2015
- *Wired* magazine, March 2011.
- *Morning Call* newspaper, October 10, 2010. Article reprinted in Los Angeles *Times,* October 24, 2010*;* Washington *Post*, November 21, 2010; and other newspapers.
- *Wiffle Ball: The Ultimate Guide,* by Michael Hermann, Triumph Books, April, 2010.
- Documentary film *Yard Work*, HMP Films, 2009. Debuted NESN October 25, 2009.

INVITED TALKS

Bendheim Annual Lecture, Middlesex School, Concord MA, April 8, 2025.

Race & technology, Mechanical Engineering Graduate Seminar, Rochester Institute of Technology, April 11, 2024.

Optimized surveillance: Now with AI, Engineers Week, Lafayette College, February 23, 2024.

Modeling cardiovascular dynamics, Physics & Astronomy Department Seminar, San Francisco State University, April 11, 2022.

The internet is railroads: Historical structure of digital racism, with B.R. Cohen, Hamilton College, March 3, 2022.

Historical structure of digital racism, with B.R. Cohen, Just Data Lab Seminar, Princeton University, February 8, 2022.

Algorithmic bias, Olmsted Workshop, Philosophy Department, Lafayette College, October, 2020.

Wicked problems in biofluid dynamics, Mechanics Seminar, University of Wisconsin, November 15, 2019.

James River Writers Conference, October 11-13, 2019.

Art and science of fluid mechanics, Mechanical Engineering Seminar, University of Toronto, December 1, 2017.

Often asserted, rarely measured: The value of integrating humanities, arts, and STEM learning, with Hannah Stewart-Gambino, National Academies of Science and Engineering, December 2, 2015.

Modeling cardiovascular flow: atherosclerosis & aneurysm, Mechanical Engineering Seminar, Santa Clara University, March 19, 2012.

Hemodynamics in diseased vessels, Bioengineering Seminar, Pennsylvania State University, November 2, 2011.

Blood flow and baseball: Research in fluid mechanics, The Cooper Union for the Advancement of Science and Art, March 31, 2005.

Engineering and the liberal arts; and Blood flow and baseball, Smith College, Engineering seminars, March 4, 2005.

Science in fiction, Invited Panelist, *Contamination*: *Sites of Contagion, Transgression and Transformation,* conference hosted by University of Southern California department of English, February 28, 2003.

Keep your eye on the ball: Aerodynamics of sports balls, Stauffer Speaker Series, Harvey Mudd College, June 6, 2002; Claremont Rotary, Oct. 1, 2002.

Numerical and experimental analyses of blood flow in the stenotic carotid bifurcation, Beckman Laser Institute, U.C. Irvine, March 1, 2002.

Numerical simulation of blood flow in stenotic vessels, Stanford University, Biomechanical Engineering Seminar, May 8, 2000.

A numerical approach to the equations of blood flow and MRI, Noetherian Ring, Berkeley, April 24, 1997.

AWARDS

Sterling Olmsted Award, ASEE LEES Division, 2023

At Lafayette College: Baird Professorship, 2021-; Jones Award for Scholarship, 2019; Jones Lecture Award, 2012; Viscomi Prize for Mentoring, 2010.

MRI: Acquisition of laser flow measurement instrumentation for fluid mechanics research, National Science Foundation, August 2010, CBET-1040236, $193,519. (Co-PI)

Acquisition of PIV system for study of biological flows, National Science Foundation, August 2006, CTS-0618923, $139,530. (PI)

Acquisition of high-speed camera and instrumentation for flow visualization and measurement, National Science Foundation, August 2003, CTS-0552104, $126,515. (PI)

Numerical simulation of aneurysm hemodynamics, Keck Quantitative Life Sciences Grant, May 2003, $9,300. (PI)

Barbara Stokes Dewey endowed Assistant Professorship of Life Sciences, Harvey Mudd College, June 2002-June 2004.

ORGANIZATIONS

Sigma Xi (2000) · Phi Beta Kappa· Tau Beta Pi
American Physical Society
American Society of Mechanical Engineers
American Society for Engineering Education
Council on Undergraduate Research

PROFESSIONAL ACTIVITY

ASEE Liberal Education/Engineering & Society (LEES) Division Leadership, including Program Chair for 2023 Annual Conference, July 2021-July 2025
IEEE Ethics-2025 Program Committee (Conference at Northwestern, June 2025)
HERS Leadership Institute, 2022-2023
"Race and Technology" workshop at Brooklyn Institute for Social Research, with Danya Glabau, June-July 2020
Panelist, NSF BMMB Review, May 2020
Invited panelist, NAE Workshop "Liberal Studies in Engineering," Washington DC, 2015
Panelist, NSF GSRFP Review, January 2015
Consultant, Hasbro/Nerf projectile design & testing, January 2015-present.
Invited participant, ICERM Workshop "Emerging Challenges for Cardiovascular Mathematics," Brown University, January 2014.
Panelist, NSF RIGEE Proposal Review, June 20-21, 2013.
Judge, Student Poster Competition, ASME Summer Bioengineering Conference, June 20-23, 2012.
Session Chair, APS Division of Fluid Dynamics, November 21-24, 2010.
Session Organizer, ASME International Mechanical Engineering Congress, 2010.
Judge, Student Poster Competition, ASME Summer Bioengineering Conference, 2010.
Session Organizer and Session Chair, ASME International Mechanical Engineering Congress, 2009.
Technical Committee member and Session Chair, IEEE Northeast Bioengineering Conference, 2006.
Invited participant, Teaching and Scholarship in the Grand Tradition of Modern Engineering, Princeton University, August 2005.
Panelist, NSF MRI Proposal Review, April 29-30, 2004; May 6, 2005.
Reviewer, *SIAM Review*, 2004-. *Journal of Fluids Research,* 2006-. *Journal of Biomechanics,* 2007-. *Experiments in Fluids*, 2007-. *Experimental Techniques,* 2008-, *International Journal for Numerical Methods in Biomedical Engineering,* 2010-, *Journal of Engineering in Medicine*, 2010-, *Journal of Fluids Engineering,* 2010-, *Experimental Mechanics,* 2010-, *Journal of the Royal Society Interface*, 2011-, *Journal of Sports Engineering,* 2014-, *Journal of Non-Newtonian Fluid Mechanics*, *Interface Focus* 2017-.
NSF New Century Scholars Workshop, Stanford University, August 2002.

COLLEGE SERVICE (SELECTED)

Search Committee for 18th President of Lafayette College, 2020-2021
Department Head of Mechanical Engineering (2012-2017 and 2018-2019)
Chair, Governance Committee (2015-2016)
Director (Co-director, 2016-2019), Inclusive STEM Initiative (2016-2022)
Elected to Promotion, Tenure Review (2018-present), Governance (2013-2016), Faculty Academic Policy (2012-2013), Diversity (2009-2012), and Curriculum and Educational Policy (2006-2009) Committees
Advisory Committees for Hanson Center for Inclusive STEM Education, Center for Integration of Teaching, Learning, & Scholarship, and Integrative Engineering
Advisory Board for Engineering Studies A.B. Program, 2006-2007 and 2009-2014 and 2021-present
Advisory Board, Center for Innovation, Design, Entrepreneurship, & Leadership, 2017-19
Search Committees for Physics (2), Mechanical Engineering (5), Engineering Studies (5), Computer Science (2), Electrical & Computer Engineering (2), and International Affairs (1) faculty searches; Chaired five (5) ME visitor searches
Search Committee for Vice President for Campus Life and Diversity
Chair, Mechanical Engineering Department Committee for Ethics Education
Graduate Advisor for Mechanical Engineering undergraduates, 2006-2014
President, Phi Beta Kappa selection committee, 2009-2013
Co-coordinator, Interdisciplinary Seminar Series in the Life Sciences, 2006-2010
Faculty mentor for Marquis Scholars, 2010-2013
Steering committee for Grand Challenges Scholars Program, 2009-2014

UNDERGRADUATES MENTORED (PARTIAL LIST)

Ethan Coffin	Pneumatic Artificial Muscle: Design and feasibility of wearable device for drop foot	2024-2025	LC
Madaleine Perry	Experimental analysis of bubble dynamics in rhyolitic high-silica magma *(co-advised with T. Carley)*	2023-2024	LC
Manaka Gomi	Design of inclusive musical instruments *(joint thesis with music department)*	2022-2023	LC
Bobby Oehrlein	Stents and cardiovascular flow	Summer 2021	LC
Remziye Erdogan *Now at U Virginia*	Modeling transport in the placenta: Hydrogels and CFD	Summer 2018, 2019-2020	LC
Sarah Johnson	Hemodynamics in stenotic vessels	Summer 2018	LC
Zishen (Gary) Chen	Design of self-stabilizing helicopter	2018-2019	LC
Zishen (Gary) Chen *Now at UC Berkeley*	Respiratory biomechanics	Summer 2017, 2018	LC
Siping (Spring) You *Now at Dartmouth*	Respiratory biomechanics	2015-2016	LC
Robert Maber	Respiratory biomechanics	Summer 2015	LC
Scott Albert (ChemE) *Now at Johns Hopkins*	Renal artery hemodynamics	2012-2013	LC
Kate Yoder *MS U Wisconsin*	Aerodynamics of the flying gyroscope	2012-2013	LC
Luna Yuan	Solar heating for L9W New Orleans: Joint thesis, ME and Policy Studies	2011-2012	LC
Taimoor Sohail *Now at Australian Natl Univ*	Renal artery hemodynamics	January 2012	LC
Peter Sun	Wiffle aerodynamics & renal hemodynamics	Summer 2011	LC
Luna Yuan	Renal artery hemodynamics	2011	LC
Alicia Clark *PhD, Washington, 2018*	Respiratory biomechanics	2010-2011	LC
Greg Buchan	Gas turbine engine investigation	Summer and Fall 2010	LC
Hallie Zeller *MS Brown, 2014*	PIV in stenotic vessels	Summer 2010	LC
Chak Man Chan	Aerodynamics of badminton shuttlecock	2009-2010	LC
Naomi Itescu Tyler Sossong (Neurosci)	PIV in stenotic vessels (patient-specific stenoses)	2009-2010	LC
Ryan King (CS)	Hemodynamics simulations (wall motion)	Summer 2009 - Present	LC
Ming Hong	PIV in stenotic vessels	Summer 2009 - Present	LC
Megan Cummins (Biology) *MD/PhD Mt. Sinai, 2013*	Hemodynamics simulations (patient-specific stenoses)	2008-2009	LC
Carolyn Stolfi *MS Purdue, 2011*	Biomechanics of glaucoma	2007-2009	LC
Andrew Rau *MS Penn State, 2010*	PIV in stenotic vessels Wiffle ball aerodynamics experiments	2007-2008 Summer 2006	LC
Mary Kate Erdman *MD Florida, 2014*	Design of ovarian cystectomy device	2007-2008	LC
Emily Egge	Hemodynamics simulations (stents)	2006-2007	LC
Carolyn Fisher *MS Columbia, 2008*	Hemodynamics simulations (non-Newtonian effects in aneurysms)	Summer 2006, 2006-2007	LC
Brent Utter *PhD Michigan, 2010*	Hemodynamics simulations (aneurysms)	Summer 2005, 2005-2006	LC
Timothy Nish *MS Lehigh*	Flow visualization in stenotic vessels	2005-2006	LC
Catherine Herchenroder	Redesign of vaginal speculum	2005-2006	LC
One Kim Ephraim Lansford	Effect of reduced gravity on bubble-slug flow transition Team of undergraduates selected to	2003-2004	HMC

Josiah Larson Tristan Sharp Jay Wright	perform experiments on NASA's KC-135 *Vomit Comet*; flight dates July 8-17, 2004.		
Jacob Pinheiro Alex Cohan	Development of undergraduate aerodynamics laboratory	2003-2004	HMC
Ben Utela *MS Washington, 2009*	Material testing of bovine veins	Summer 2003	HMC
David Greisen(Physics)	Design and feasibility study of novel blood testing instruments	Spring- Fall 2003	HMC
Jocelyn Wong (Chemistry)	Measurement of blood flow through a prosthetic check socket	Summer 2003	HMC
Stephen MacVicar Sophia Huynh	Hemodynamics simulations (aneurysms)	Summer 2003	HMC
Alexis Utvich Colin Jemmott *Ph.D. Penn State, 2010* Sheldon Logan *Ph.D. UCSC, 2013*	Wind tunnel experiments: flow over rotating spheres **Excellent Presentation Award**, Sigma Xi Student Research Conference, 2003.	Summer 2003	HMC
Erin Koos *Ph.D. Caltech, 2009*	Instrumentation of wind tunnel	Spring 2003	HMC
Judy Hsu *Ph.D. Stanford, 2009* Christina Stratton Justin Schauer *MS Stanford, 2009*	Design and construction of subsonic wind tunnel	Summer 2002	HMC