

DANIEL J. COHEN

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Princeton University
Dept. of Mechanical and Aerospace Engineering
Omenn-Darling Bioengineering Institute
109, Hoyt Laboratory
Princeton, NJ 08544

Academic Appointments

Princeton University

Associate Professor with Tenure, Omenn-Darling Bioengineering Institute Mechanical and Aerospace Engineering	2024 – Present
Director of Graduate Studies, Omenn-Darling Bioengineering Institute	2023 – Present
<i>Affiliate Faculty,</i> Biophysics	2022 – present
<i>Affiliate Faculty,</i> Quantitative and Computational Biology	2020 – present
<i>Affiliate Faculty,</i> Molecular Biology	2019 – present
<i>Affiliate Faculty,</i> Princeton Materials Institute (PRISM)	2018 – present
<i>Affiliate Faculty,</i> Chemical and Biological Engineering	2018 – present
Assistant Professor, Mechanical and Aerospace Engineering	2018 – 2024

Education and Training

Stanford University

Post-doc: Life Sciences Research Foundation Fellow in Cell Biology Supervisor: W. James Nelson	2014 – 2017
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Molecular Biology Laboratory at Woods Hole

Trainee in Cell Physiology	Summer, 2011
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University of California, Berkeley and UCSF

Joint Ph.D. in Bioengineering Supervisor: Michel Maharbiz	2013
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Princeton University

B.S.E. in Mechanical and Aerospace Engineering	2008
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Honors and Recognitions

Elected Chair: Gordon Research Conference, Directed Cell Migration	sch. 2027,2029
Biomedical Engineering Society CMBE Rising Star Award	2023
NSF CAREER Award	2021 – present
NIH/NIGMS Outstanding Investigator Award (MIRA)	2019 – present
Alfred Rheinstein Faculty Award	2022
Princeton Engineering Commendation for Outstanding Teaching	2018-2023
Life Sciences Research Foundation Fellow, Sponsored by HHMI	2014-2017
NSF Postdoctoral Research Fellowship in Biology	offered

Electrochemical Society Daniel Cubicciotti Award	2013
National Science Foundation Graduate Research Fellow (GRFP)	2008 – 2013
ASEE-NDSEG Graduate Fellowship	2008 – 2011
UC Berkeley Lloyd Distinguished Graduate Student Fellowship	2008
Princeton University John Marshall II Memorial Award	2008

Publications

Google Scholar: <https://scholar.google.com/citations?user=1xX1QUOAAAAJ&hl=en>

Peer-Reviewed Articles

* = Co-first or Co-corresponding

29. Singh A, Kim H, Miao M, Rawson L, and **Cohen DJ**. *Engineering Cellular Self-Adhesions Inside 3D Printed Micro-Arches to Enhance Cell/Biomaterial Attachment*, **Advanced Materials** (2025).
28. Suh K, Thornton R, Nguyen L, Farahani P, and **Cohen DJ*** and Toettcher J*. *Large-scale control over collective cell migration using light-activated epidermal growth factor receptors*, **Cell Systems** (2025).
27. Falco C, **Cohen DJ**, Carrillo JA, and Baker RE. *Quantifying cell cycle regulation by tissue crowding*, **Biophysical Journal** (2025).
26. Lin Y, Silvermun-Dutz A, Bailey M, and **Cohen DJ**. *A programmable, open-source robot that scratches cultured tissues to investigate cell migration, healing, and tissue sculpting*, **Cell Reports Methods** (2024).
25. Anamika S*, Cho E*, and **Cohen DJ**. *Instant whole-plate cell and tissue micropatterning using a budget 3D resin printer*, **ACS Omega** (2024).
24. Shim G*, Breinyn IB*, Martinez-Calvo A, Rao S, and **Cohen DJ**. *Bioelectric stimulation controls tissue shape and size*, **Nature Communications** (2024). <https://doi.org/10.1038/s41467-024-47079-w>.
23. Suh K*, Cho E*, Breinyn IB, and **Cohen DJ**. *E-cadherin biointerfaces reprogram collective cell migration and cell cycling by forcing homeostatic conditions*, **Cell Reports** (2024). doi.org/10.1016/j.celrep.2024.113743
22. Falco C, **Cohen DJ**, Carrillo J, and Baker RE. *Quantifying tissue growth, shape, and collision via continuum models and Bayesian inference*, **J. Royal Society, Interface** (2023). doi.org/10.1098/rsif.2023.0184
21. Heinrich MA, Alert R, Wolf A, Kosmrlj A, and **Cohen DJ**. *Self-assembly of tessellated tissue sheets by expansion and collision*, **Nature Communications** (2022). [doi: 10.1038/s41467-022-31459-1](https://doi.org/10.1038/s41467-022-31459-1)
20. LaChance JM, and **Cohen DJ**. *Learning the rules of collective cell behaviors using deep attention networks*, **PLoS Comp Bio** (2022). [doi: 10.1371/journal.pcbi.1009293](https://doi.org/10.1371/journal.pcbi.1009293)
19. Wolf A, Heinrich MA*, Breinyn I*, Zajdel TJ, and **Cohen DJ**. *Short-term stimulation of collective cell migration induces long-term, supracellular changes to tissue behavior*, **PNAS Nexus** (2022). [doi:10.1093/pnasnexus/pgac002](https://doi.org/10.1093/pnasnexus/pgac002)
18. LaChance JM, Zajdel TJ, Schottdorf M, Saunders JL, Dvali S, Marshall C, Seirup L, Notterman DA, **Cohen DJ**. *PVPI—The People's Ventilator Project: A fully open, low-cost, pressure-controlled ventilator*, **PLoS ONE** (2022). [doi:10.1371/journal.pone.0266810](https://doi.org/10.1371/journal.pone.0266810)
17. Shim G, Devenport DD, and **Cohen DJ**. *Overriding endogenous coordination makes cell migration more susceptible to external control*, **PNAS** (2021). [doi:10.1073/pnas.2101352118](https://doi.org/10.1073/pnas.2101352118)
16. Nirody J, Rosario LD, Johnston D, and **Cohen DJ**. *Tardigrades exhibit robust interlimb coordination across walking speeds*, **PNAS** (2021). **Media attention:** Smithsonian Institute, Scientific American, CNN Argentina, Vice, Engadget, and others
15. Zajdel TJ, Shim G, and **Cohen DJ**. *Come together: Bioelectric 'healing-on-a-chip' to accelerate tissue healing*, **Biosensors and Bioelectronics** (2021). [doi:10.1016/j.bios.2021.113479](https://doi.org/10.1016/j.bios.2021.113479)
14. Hart KC et al., **Cohen DJ**, Tan J, Nelson WJ, and Pruitt BL. *An Easy-to-Fabricate Cell Stretcher Reveals Density-Dependent Mechanical Regulation of Collective Cell Movements in Epithelia*, **Cellular and Molecular Bioengineering** (2021). [doi:10.1007/s12195-021-00689-6](https://doi.org/10.1007/s12195-021-00689-6)
13. Zhang, C, Suo, DC, **Cohen, DJ**, Minasyan, E, Hazan, E, LaChance, J, Singh, K., Schottdorf, M, Agarwal, N, Gradu, PN, Zajdel, T, Ghai, U, & Chen, X (2021). *Machine learning for medical ventilator control*. **ML4H Proceedings of Machine Learning Research** v.158 (2021)
12. Zajdel, TJ., Shim G, Wang L, Rossello M, and **Cohen DJ.**, *SCHEPDOG: Programming Electric Cues to Herd Cell Migration*, **Cell Systems** (2020). [doi:10.1016/j.cels.2020.05.009](https://doi.org/10.1016/j.cels.2020.05.009)
Media attention: Science Magazine's Frontpage News
11. Heinrich MA, Alert R, LaChance J, Zajdel TJ, Kosmrlj A, and **Cohen DJ**, *Size-dependent patterns of cell proliferation and migration in freely-expanding epithelia*, **eLife** (2020). [doi:10.7554/eLife.58945](https://doi.org/10.7554/eLife.58945)
10. Bisaria A, Hayer A, Garbett D, **Cohen DJ**, and Meyer T. *Membrane-proximal F-actin restricts local membrane protrusions and directs cell migration*, **Science** (2020). [doi:10.1126/science.aay7794](https://doi.org/10.1126/science.aay7794)
9. LaChance JM and **Cohen DJ**, *Practical Fluorescence Reconstruction Microscopy for Large Samples and Low-Magnification Imaging*, **PLoS Comp. Bio.** (2020). [doi:10.1371/journal.pcbi.1008443](https://doi.org/10.1371/journal.pcbi.1008443)
8. **Cohen DJ**, Nelson WJ. *Secret Handshakes: cell-cell recognition and adhesion*, **Current Opinion in Cell Biology** (2018). [doi:10.1016/j.celb.2018.01.001](https://doi.org/10.1016/j.celb.2018.01.001)

7. Glierich M, Bianchini JM, Siemers KA, **Cohen DJ**, Nelson WJ. *Cell division orientation is coupled to cell-cell adhesion by the E-cadherin/LGN complex*, **Nature Communications** (2017). doi:10.1038/ncomms13996
6. **Cohen DJ**, Glierich M, Nelson WJ. *Epithelial self-healing is recapitulated by a 3D biomimetic E-cadherin junction*, **PNAS** (2016). doi:10.1073/pnas.1612208113
5. **Cohen DJ**, Nelson WJ, Maharbiz MM. *Galvanotactic control of collective cell migration in epithelial monolayers*, **Nature Materials** (2014). 10.1038/nmat3891
4. **Cohen DJ**, Mitra D, Peterson K, Maharbiz MM. *A highly elastic, capacitive strain gauge based on percolating nanotube networks*, **Nano Letters** (2012). 10.1021/nl204052z
3. Libby T, Moore TY, Chang-Siu E, Li D, **Cohen DJ**, Jusufi A, Full RJ. *Tail-assisted pitch control in lizards, robots and dinosaurs*, **Nature** (2012). doi:10.1038/nature10710
2. Chen J, Bly RA, Saad MM, Alkhodary MA, El-Backly RM, **Cohen DJ**, Kattamis N, Fatta MM, Moore WA, Arnold CB, Marei MK, Soboyejo WO. *In-vivo study of adhesion and bone growth around implanted laser groove/RGD- functionalized Ti-6Al-4V pins in rabbit femurs*, **Materials Science and Engineering: C** (2011). doi:10.1016/j.msec.2010.12.019
1. **Cohen DJ**, Morfino R, Maharbiz M, *A Modified Consumer Inkjet for Spatiotemporal Control of Gene Expression*, **PLoS ONE**(2009). doi:10.1371/journal.pone.0007086

Issued Patents

4. *Automated process for surgical repair of tissue defects*, 2022, USPO 63/459,300, Provisional Status
3. *Automated process for surgical repair of tissue defects*, 2022, USPO 63/459,300, Provisional Status
2. *Bioelectric device to program cell migration in multiple dimensions* 2019, USPO 62/938,770, Provisional Status
1. *Methods and apparatus for monitoring wound healing using impedance spectroscopy*, 2014, USPO 62/012,975, US Patent #10,783,989

Invited and Contributed Talks

Invited Academic Talks/Seminars/Keynotes

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| 63. | U. Chicago, Chicago IL (USA) <i>Cellular Crowd Dynamics</i> –Invited Seminar (Biology) and Storytelling Workshop | sch. 05/2026 |
| 62. | (Keynote) Chalmers University of Technology, Gothenburg (Sweden) –Keynote at Health Engineering Symposium | 12/2025 |
| 61. | (UCSF) University of California, San Francisco, CA (USA) <i>Controlling Cellular Collectives</i> –Invited Seminar (Quantitative Biology) and Storytelling Workshop | sch. 11/2025 |
| 60. | (EPFL) Swiss Federal Technology Institute, Lausanne (Switzerland) <i>Cellular Crowd Dynamics</i> –Invited Seminar (Biomechanics) and Storytelling Workshop | sch. 10/2025 |
| 59. | Gordon Research Conference on Cell-Cell Adhesion, Les Diablerets (Switzerland) –Session Speaker and Storytelling Workshop | 06/2025 |
| 58. | (MIT) Massachusetts Institute of Technology, Boston MA (USA) <i>Cellular Crowd Dynamics</i> –Invited Seminar (Biology) and Storytelling Workshop | 05/2025 |
| 57. | Duke University, Durham NC (USA) <i>Cellular Crowd Control</i> –Invited Seminar (Biology) and Storytelling Workshop | 03/2025 |
| 56. | Biophysical Society Annual Meeting, (USA) <i>Controlling Collective Mechanobiology</i> –Invited Speaker (Mechanobiology SIG) | 02/2025 |
| 55. | (Keynote) Gordon Research Seminar/Conference on Directed Cell Migration, Florence (Italy) –Keynote Lecture at GRS and Workshop on Science History and Storytelling | 01/2025 |

54.	Rice University, Houston TX (USA) — <i>Cellular Crowd Engineering</i> —Invited Seminar (Bioengineering) and Storytelling Workshop	11/2024
53.	University of British Columbia, Vancouver (Canada) <i>Collective Cell Invasion</i> —Invited Talk (Invadopodia Consortium Meeting) and Storytelling Workshop	10/2024
52.	University of Washington, Seattle WA (USA) — <i>The biology of cellular crowd control</i> —Invited Seminar (Biology Seminar Series) and Storytelling Workshop	sch. 04/2024
51.	TU Dresden, Dresden (Germany) — <i>Interactive control of living active matter</i> —Invited Seminar (Physics of Life Series) and Storytelling Workshop	sch. 03/2024
50.	University of Pennsylvania, Philadelphia PA (USA) — <i>Mechanical intelligence in collective living systems</i> —Invited Seminar (Mechanobiology Consortium Seminar)	sch. 03/2024
49.	BMES CMBE 2024 Society Meeting, Puerto Rico Rising Star Awardee and Invited Talk	01/2024
48.	Washington University in St. Louis, Saint Louis MO (USA) <i>Adventures in cellular herding</i> —Invited Seminar (Mechanobiology Institute Seminar)	12/2023
47.	American Society for Cell Biology, Cell Biology 2023 (ASCB-EMBO), Boston MA (USA) — <i>Bioelectric control of tissue assembly and morphogenesis</i> —Invited Talk (Bioelectricity SIG)	Sch. 12/2023
46.	Institute for Investigation and Innovation in Health (Porto, Portugal) —Keynote	Sch. 11/2023
45.	SES: Society for Engineering Sciences (USA) —Invited Talk	Sch. 10/2023
44.	Université Aix-Marseille (Marseille, France) —Invited Seminar (Developmental Biology)	09/2023
43.	Cell MECH 2023,(Marseille, France) —Invited Talk	09/2023
42.	L'Institut Jacques Monod (Paris, France) —Invited Seminar (Biomechanics)	09/2023
41.	L'Institut Curie (Paris, France) —Invited Seminar (Biophysics)	9/2023
40.	Gordon Research Conference on Collective Behavior (USA) —Invited Talk	08/2023
39.	SB3C Summer Biomechanics, Bioengineering, and Biotransport Conference, Vail CO (USA) — <i>Pump it up: electrical control of tissue hydrostatic pressure in organoids</i> —Invited Talk	05/2023
38.	Gordon Research Conference on Tissue Repair and Regeneration, New London NH (USA) — <i>Adventures in cellular herding: controlling collective cell behaviors</i> —Invited Talk	05/2023
37.	Massachusetts Institute of Technology, Boston MA (USA) — <i>Adventures in cellular herding</i> —Invited Seminar (Physical Math Seminar Series)	05/2023
36.	Columbia University, NY NY (USA) — <i>Adventures in cellular herding: engineering collective cell behaviors</i> —Invited Seminar (Mechanical Engineering)	04/2023
35.	Johns Hopkins University, Baltimore MD (USA) — <i>Adventures in cellular herding: engineering collective cell behaviors</i> —Invited Seminar (Mechanical Engineering)	04/2023
34.	University of Pennsylvania, Philadelphia PA (USA) — <i>Adventures in cellular herding: engineering collective cell behaviors</i> —Invited Seminar (Biomedical Engineering)	03/2023
33.	Stanford University, Stanford CA (USA) — <i>Adventures in cellular herding: engineering collective cell behaviors</i> —Invited Seminar (Biomechanics)	03/2023

32.	Georgia Institute of Technology, Atlanta GA (USA) — <i>Adventures in cellular herding: understanding and control of collective cell behaviors</i> —Invited Seminar (Biophysics)	02/2023
31.	University of Michigan, Ann Arbor (USA) — <i>Adventures in cellular herding: engineering collective cell behaviors</i> —Invited Seminar (Mechanical Engineering)	01/2023
30.	Gordon Research Conference on Directed Cell Migration, Galveston TX (USA) — <i>Adventures in cellular herding: programming directed cell migration</i> —Invited Talk	01/2023
29.	American Society for Cell Biology, Cell Biology 2022 (ASCB-EMBO), Washington D.C. (USA) — <i>Bioelectric regulation of tissue hydrostatic pressure in tissue spheres and organoids</i> —Invited Talk (Water Transport SIG)	12/2022
28.	American Society for Cell Biology, Cell Biology 2022 (ASCB-EMBO), Washington D.C. (USA) — <i>Cell-mimetic substrates reprogram collective cell behaviors</i> —Invited Talk (Cell-Matrix Interaction SIG)	12/2022
27.	American Society for Cell Biology, Cell Biology 2022 (ASCB-EMBO), Washington D.C. (USA) — <i>Welcome to the Zellenstaat: machine learning collective cell behaviors</i> —Invited Talk (Cellular Big Data SIG)	12/2022
26.	Society for Engineering Science (SES), College Station TX (USA) — <i>Crowd control: engineering cellular flocks and bioelectric 'sheepdogs'</i> —Invited Talk	10/2022
25.	Abercrombie Meeting, Royal Microscopy Society, Oxford (UK) <i>Adventures in Cellular Herding</i> —Invited Talk; Prestigious cell migration meeting held once every 5 years.	09/2022
24.	Oregon Health Sciences University, CEDAR Cancer Institute (virtual) — <i>Cellular Crowd Control</i> —Department Seminar	07/2022
23.	Tufts University, Allen Discovery Center (USA) — <i>Walk this way: bioelectric control of collective cell behavior</i> —Invited Seminar (virtual)	11/2021
22.	Montana State University, Cell Biology department Bozeman MT (USA) — <i>Adventures in cellular herding</i> —Invited Seminar (Biology)	10/2021
21.	Princeton University, Princeton NJ (USA) — <i>Cellular crowd control</i> —Robotics Seminar Series	09/2021
20.	Materials Research Society, March Meeting, Boston MA (USA) Remote, Invited Speaker on Bioelectronics; (virtual)	04/2021
19.	NIH Distinguished Lecturer in Cell Biology (USA), National Institutes of Health—NHLBI; (virtual)	04/2021
18.	University of British Columbia (Vancouver, Canada) — <i>Jousting, sheepdogs, and spies: paradigms to engineer and control collective cell behaviors</i> —Invited Biomathematics Seminar (virtual)	01/2021
17.	Mid-Atlantic Micro-Nano Alliance, U. Maryland at College Park, MD (USA). Micro-engineering symposium; (virtual)	10/2020
16.	Cell Migration Seminars Series, University College London (virtual). Collective migration seminar	08/2020
15.	ORD Camp 2020. Google (Chicago IL USA). Bioelectricity seminar; Waterbear demonstration	01/2020
14.	Mid-Atlantic Soft Matter Conference, Baltimore MD (USA). Symposium speaker	09/2019

13.	Brandeis University, Waltham MA (USA) –Cellular Crowd Control –Invited Seminar	09/2019
12.	Rutgers University, Rutgers NJ (USA) –Engineering collective cell behaviors –Invited Seminar	09/2019
11.	Syracuse University, Syracuse NY (USA) –Cellular Crowd Control –Invited Seminar	09/2019
10.	Boston University, Boston MA (USA) –Cellular herding: engineering collective cell behaviors –Invited Seminar	09/2019
9.	EMBO Dynamics of Living Cells Fall Workshop, Cargese (France). Collective cell behavior seminar	10/2017
8.	University of Pennsylvania, Philadelphia PA (USA) (canceled)–Invited Seminar (Bioengineering)	04/2017
7.	Columbia University, New York NY (USA)–Invited Seminar (Biomedical Engineering)	04/2017
6.	Princeton University, Princeton NJ (USA)–Invited Seminar (Mechanical and Aerospace Engineering)	03/2017
5.	Carnegie-Mellon University, Pittsburgh PA (USA)–Invited Seminar (Bioengineering)	02/2017
4.	Life Sciences Research Foundation, Seattle WA (USA). Invited fellows talk	10/2017
3.	L'Institut Curie, Paris (France); Biophysics Seminar	11/2015
2.	Gordon Research Conference: Directed Cell Migration, Galveston TX (USA) Flash talk	02/2015
1.	Stanford Biomechanics Seminar, Stanford CA (USA) Post-doctoral Interview	10/2013

Contributed Talks

(* indicates talks given by my student)

17.	IBEC M-CELS Multicellularity Conference , Barcelona (Spain)	06/2022
16.	Society for Biomaterials 2022 , Baltimore, MD (USA)	04/2022
15.	New England Bioengineering Consortium 2022 , Columbia University, NYC (USA)	04/2022
14.	Biomedical Engineering Society Annual Meeting, Scheduled for oral presentation: COVID Cancellation	10/2021
13.	Asilomar Workshop on Bioelectronics, Participant, COVID Cancellation	09/2021
12.	American Society for Cell Biology, Washington D.C. (USA) Morphogenesis mini-symposium (virtual)	12/2020
11.	American Society for Cell Biology, Washington D.C. (USA) Tissue dynamics mini-symposium: "Tissue jousting: epithelial collision dynamics" (virtual)	12/2020
10.	Society of Engineering Sciences (Virtual). Heinrich MA*, Kosmrlj A, and Cohen DJ: "Mechanics of tissue collisions"	03/2020

9.	Americal Physical Society March Meeting, Boston MA (USA). Heinrich MA*, Kosmrlj A, and Cohen DJ: "Mechanics of tissue collisions"	03/2020
8.	American Society for Cell Biology, Washington D.C. (USA) Cell Migration micro-symposium: "Cellular crowd control"	12/2019
7.	Materials Research Society, Boston MA (USA). Bioelectronics session speaker: "Bioelectric cellular herding"	12/2019
6.	Americal Physical Society March Meeting, Boston MA (USA). "Cellular Crowd Control"	03/2019
5.	Americal Physical Society March Meeting, Boston MA (USA). Zajdel T* and Cohen DJ: "Electrically programming cell migration"	03/2019
4.	Americal Physical Society March Meeting, Boston MA (USA). Heinrich MA*, Kosmrlj A, and Cohen DJ: "Size-dependent effects on epithelial expansion in large tissues"	03/2019
3.	American Society for Cell Biology, San Francisco CA (USA). Micro-symposium on morphogenesis: "Cell-mimetic biomaterials"	12/2017
2.	Gordon Research Seminar/Conference: Biointerfaces, Switzerland. Talk, Best Poster Award: "Cell-mimetic biomaterials"	04/2017
1.	SWARM 2015, Kyoto University (Japan). "Engineering cooperative cell migration"	10/2015

Current and Past Grants

10.	National Institutes of Health (NIGMS 2-R35 GM133574) <i>Understanding and Controlling Collective Cell Behaviors</i> PI: DJ Cohen (Renewed) Amount: \$2,240,000	2024-2029
9.	National Science Foundation (PHY - 2412941) <i>Collaborative Research: Physics of How Cells Follow Electric Fields</i> Co-PI: DJ Cohen Co-PI: Camley B Amount: \$333,000	2024-2027
8.	National Institutes of Health (NIGMS R35 GM133574) <i>Rules and Tools for Tissue Collisions</i> PI: DJ Cohen Amount: \$1,954,000	2019-2024
7.	National Science Foundation (CBET-2046977) <i>CAREER: Engineering approaches to control collective cell migration using electro-taxis</i> PI: DJ Cohen Amount: \$550,000	2021-2026
6.	National Institutes of Health (NICHD 1R01HD107026) <i>Geometric and mechanical control of developmental Yap signaling</i> PI: E Pofsai; Co-I: DJ Cohen Amount: \$2,197,168 (\$91,000 to DJ Cohen)	2022-2027

Eric and Wendy Schmidt Transformative Technology Fund		2023-2024
5.	Mapping the Cellular Electrome Co-PI: DJ Cohen, M Chan Amount: \$500,000	
Princeton Catalysis Initiative		2022-2023
4.	Speeding up healing with next-gen electric band-aids using cell-inspired supercapac- itive electrodes Co-PI: DJ Cohen, K. Hatzell Amount: \$120,000	
SEAS Innovation Grant; Helen Shipley Hunt		2020-2022
3.	Waterbear-inspired Room-temperature Storage of Cells and Embryos Co-PI: DJ Cohen, E. Posfai Amount: \$100,000	
Princeton Catalysis Initiative		2019-2020
2.	Understanding and control of complex social behaviors across species Co-PI: DJ Cohen, S. Kocher Amount: \$120,000	
SEAS Innovation Grant; Forese Family Fund		2018-210
1.	Electrobioreactors for Tissue Healing PI: DJ Cohen Amount: \$20,000	

Teaching

• BNG 501—Experimental Problem Solving	2024—Present
<i>Course director; co-taught: J. Avalos; T. Fu; reviews not collected by Grad School for 2024</i>	
• MAE 344/566 — Biomechanics and Biomaterials	2018—Present
<i>Outstanding Teaching Commendations: 2018/2020/2023/2025</i>	
<i>Teaching leave: 2019, 2022, 2024</i>	
• MAE 567 - Crowd Control: Swarming and Engineering Collective Behavior	2019 - Present
<i>Outstanding Teaching Commendations: 2019/2020/2021/2022</i>	
• MAE 519 - Experimental Methods and Techniques in Engineering (co-taught)	2018—2019

Trainees and Mentoring

PhD Students

Graduated Alumni

8.	Isaac Breinyn, PhD QCB PhD program <i>Current: Post-doc, Max Planck Institute (Germany), Couzin Lab</i>	2025
7.	Kevin Suh, PhD CBE PhD program <i>Current: Post-doc, UCLA, Wollman Lab</i>	2024

6.	Elena Cho, PhD CBE PhD program <i>Current: Senior Scientist, Oddity.ai</i>	2024
5.	Lisset Rosario, PhD MOL PhD program <i>Current: Scientist, IFF inc.</i>	2024
4.	Gawoon Shim, PhD MAE PhD program <i>Current: Post-doc, Hiiragi Lab at EMBL Heidelberg/University of Utrecht</i>	2023
3.	Avi Wolf, PhD CBE PhD program <i>Current: Consulting</i>	2022
2.	Julienne LaChance, PhD MAE PhD program <i>Current: Sony Artificial Intelligence Team</i>	2021
1.	Matthew Heinrich, PhD MAE PhD program; co. with A. Kosmrlj <i>Current: Moderna Pharmaceuticals</i>	2021

Current PhD Students

7.	Sameeksha Rao MAE PhD program	2023-present
6.	Yubin Lin ECE PhD program	2022-present
5.	Celeste Rodriguez MOL PhD program	2021-present
4.	Isaac Breinyn QCB PhD program NSF GRFP Fellow	2021-present
3.	Kevin Suh CBE PhD program	2020-present
2.	Elena Cho CBE PhD program	2020-present
1.	Lisset Rosario MOL PhD program; co. with J. Avalos HHMI Gilliam Fellow	2019-present

Postdoctoral Researchers

Jeremy Yodh, PhD	2023-Present
Anamika Singh, PhD	2021-Present
Tom Zajdel, PhD <i>Current: Faculty at Carnegie Mellon, EECS</i>	2018-2021

Undergraduates

22.	Margaret Miao MAE	2023-present
21.	Evelyn Chen MOL	Thesis, 2025
20.	Samantha Borenstein CBE	Thesis, 2025
19.	Amina Anowara CBE	Thesis, 2025
18.	Jack Schenckman ECE	Thesis, 2024
17.	Courteney Wiredu MOL	Thesis, 2023

16. Alexis Laudenslager MAE	Thesis, 2023
15. Lauren Rawling MAE	IW/Thesis, 2022/2023
14. Sophie Chang MAE	Thesis, 2021/2022
13. Jose Ayala MAE	Thesis, 2021/2022
12. Isa Kessinger MAE	IW, Fall 2021
11. Linus Wang MAE	2018-2021
10. Ayanna Matthews PHY	Thesis, 2019/2020
9. Sophia Rodriguez MAE	Thesis, 2019/2020
8. Madison Manning CBE	Thesis, 2019/2020
7. Mofopofoluwa Olarinmoye CBE	Thesis, 2019/2020
6. Jake Strain CBE	Thesis, 2019/2020
5. Janaya Bruce MOL	Fall, 2019
4. Diego Fierros MAE	AY 2018/2019
3. Hyojin Lee CHM	Summer, 2018
2. Moses Im MOL	Summer, 2018
1. Jessica Fan MAE	Summer, 2018

Service

University Service

Director of Graduate Studies, Omenn-Darling Bioengineering Institute	2023-present
Lab Tales science storytelling workshop for STEM trainees NSF CAREER Funded	Summer 2021-present
Committee Co-Chair: Diversity, Inclusion, and Outreach Committee, MAE	2023-present
Graduate Curriculum Committee, University Committee Service	2023-present
Mentor at NSF CAREER Junior Faculty proposal workshop	10/2021
Bioengineering Institute Steering Committee	2020-present
Bioengineering Institute Building Committee 150+ hrs of meetings to date for Bioengineering	2020-present
EE Faculty Search Committee: bioelectronics emphasis	2020-2021
Bioengineering Institute Symposium Committee	Fall, 2020
MAE Graduate Committee	2019-present
First-Year BSE Advising; Mathey	2019-present
MAE Upper Class Advising	2018-Present
Engineering Biology Certificate Committee	2018-present
MAE ad hoc Data Committee	Fall, 2018

Professional Activities

*N.B. For ALL invited university research seminars I give, I also give a *second* seminar on Science Storytelling, and I offer the same for any conference I attend.

Elected Co-Chair: Gordon Research Conference on Directed Cell Migration	sch. 06/2027; 06/2029
Gordon Research Conference: Cell-Cell Adhesion Talk and Science storytelling outreach workshop	07/2025
Gordon Research Conference: Directed Cell Migration Science storytelling outreach workshop	01/2025
Biophysical Society (BPS) Online Science Communication and Advocacy Seminar	03/2025
American Society of Cell Biology CELLBIO 2024 Running Collective Biology Symposium	12/2024
American Society of Cell Biology CELLBIO 2024 Running 'Welcome to the Zellenstaat' science history and storytelling mini-workshop	12/2024
i3S Consortium Meeting, Porto (Portugal) Keynote and Science storytelling outreach workshop	10/2023
CellMech 2023 Mechanobiology European Congress, Marseille (France) Speaker and Science storytelling outreach workshop	09/2023
Gordon Research Conference: Collective Behaviors Science storytelling outreach workshop	08/2023
Gordon Research Conference: Tissue Healing and Regeneration Science storytelling outreach workshop	05/2023
Gordon Research Conference: Directed Cell Migration Science storytelling outreach workshop	01/2023
American Physical Society March Meeting Science Storytelling Outreach Workshop	03/2023
American Physical Society March Meeting Focus Session Organizer	03/2022
National Science Foundation Study Section	Nov 2021
American Physical Society March Meeting Session Chair	03/2021
COVID19 Voluntary Activities Designed and delivered 3000+ PAPR protective full-head gaskets to Penn Medicine System. Developed PVP1 Open Source ventilator; pediatric simulation testing at Cleveland Clinic	2020-2022
PCTS Symposium on Collective Cell Migration Co-organized with Ned Wingreen, Celeste Nelson, and Ricard Alert	01/2020
Clinical Applied Sciences and Engineering Seminar: CASES Organizer and creator of regular clinical engineering seminars led by physicians or industrial specialists; ran Sep. 2019 to March 2020, will resume in 2023/2024 pending clinician availability.	

Peer Reviewer; *selected venues*

PNAS, eLife, Nature, Cell Systems, Applied Physics Letters, Science Advances, Nature Methods, Nature Physics, Molecular Biology of the Cell, PLoS Biology, Nature Communications, Biophysical Journal, iScience, ACS Applied Materials and Interfaces, Biotechnology Progress, Journal of Physiology, PLoS ONE, Sensing and Biosensing Research, Journal of Cell Physiology

Outreach

Selected activities from 90+ engagements since 2014. Complete list available upon request.

Lab Tales Scientific Storytelling Workshop

2021-Present

Lab Tales is an NSF-funded (CAREER), **5-day long, in-person summer workshop** to train cohorts of up to 20-30 trainees in the use of narrative storytelling for science communication. **We have trained 101 students over 4 cohorts to date, including 7 members from other universities.** The workshop is co-presented by Prof. Cohen and Annetta Black (co-founder of The Odd Salon) and organizational support and educational impact analysis is provided by Council on Science and Technology at Princeton. I have also run a miniature version of this workshop at the following venues training **400+ people to date:**

5. **Academic Seminars:** Rice, Duke, MIT, UCLA, Stanford, UBC (Canada), TU Dresden (Germany), U. Aix Marseille (France), I3S (Portugal), U. Pennsylvania, WUSTL (USA), MBL at Woods Hole (USA), U. Washington
4. **Gordon Research Conferences** (x6 to date)
3. **SB3C Biomechanics Conference (2023)**
2. **CellMech 2023 (France)**
1. **American Physical Society (2023)**

ORD Camp Chicago

2020

ORD Camp is a diverse 'un-conference' specializing in eclectic discussions and presentations. Prof. Cohen spoke on both the history of bioelectricity and the biology of waterbears/tardigrades, and provided a live demonstration of living waterbears to participants

Fellow of the Odd Salon and Co-Founder of Odd Salon: NYC

2014-Present

Odd Salon is an affiliate 501(c)3 non-profit running educational programming focused on the history of STEM and the arts in San Francisco (Public Works Theater) and New York City (The Kraine Theater). Odd Salon NYC will return in 2023.

17. Curated Odd Salon: Chutzpah 2019
16. Co-Producer, Odd Salon: Empire 2019
15. Curated, Odd Salon: Afterlives 2018
14. Co-Producer, Odd Salon: Racket 2018
13. Co-Producer, Odd Salon: Renegades 2018
12. (Speaker) Zilvervloot: Piracy Pays 2018
11. (Speaker) Le Grand K: Life of the Kilogram 2018
10. (Speaker) Renaissance Rhinoplasty 2017

9. (Exhibitor/Speaker) Marvelous Strange Art Gallery, San Francisco 2017
8. (Speaker) Equal and Opposite: Newton and Chalonier 2017
7. (Speaker) Cracked Condyles and the Piltdown Man 2017
6. (Speaker) Secret Lives of Fiber Composites: centrifuges to erectile mechanics 2017
5. (Speaker) Turing's Morphogenesis 2016
4. (Speaker) Zilvervloot: the Largest Heist in History and Piracy Math 2016
3. (Speaker) Alcohol, Inspiration, and Strouhal Numbers in the Prose Edda 2016
2. (Speaker) Revenge through art and tall buildings 2015
1. (Speaker) Bioelectricity: From Frankenstein to the Flexner Report 2015

Tower to Town Public Lecture Series

2019

Created a public lecture series at the Princeton Public Library for researchers to gain experience presenting to the public. I presented 2 lectures myself and hosted 4 other speakers in our first season. On hold re: COVID19

Johns Hopkins Center for Talented Youth Education Day

2018, 2019

Outreach workshop with day-long teaching hands-on module on microfluidics and micro-organisms in collaboration with Prof. Michael Littman

- Extreme Biology and Waterbears 2019
- A Tale of Lizard Tails and Waterbears 2018

Nerd Nite

Nerd Nite is a national organization dedicated to technical, public lectures. These talks were given in San Francisco, CA.

6. (Speaker) Walk This Way—Bioelectricity Then and Now (@ The Battery) 2017
5. STEM representative at Bedlam Festival at the Battery 2016
4. (Speaker) The Forger and the Nazi (@ Rickshaw Stop) 2015
3. (Speaker) History of Bioelectricity (@ Rickshaw Stop) 2014
2. (Speaker) Swarm Behaviors (@ Parkway Theater) 2013
1. (Speaker) History of Frankenstein (@ Cal. Acad. of Sci.) 2013

Bay Area Arts and Sciences Interdisciplinary Council

2014-2015

3. (Speaker) Science of Swarming 2014
2. (Speaker) Science of Monsters 2014
1. (Exhibitor) Aggregate Space Art Gallery—Cellular Cinematography 2015

Exploratorium Helix

2014

Helix was a pop-up museum affiliated with the Exploratorium in San Francisco. I did live microscopy demonstrations of Waterbears along with public lectures on extremophile biology.

Kids in the Lab

2009-2013

I organized field trips for disadvantaged children from inner-city schools in Oakland, CA (e.g. St. Anthony's) to visit labs and resources at UC Berkeley, and to meet with graduate students to learn their stories about how they came to science.