I. Personal Information:

Polly Morrell Fordyce
Associate Professor, Departments of Genetics and Bioengineering
Institute Scholar, ChEM-H Institute
Investigator, Chan Zuckerberg Biohub
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II. Educational Background:

1/2007-8/2014	**Postdoctoral Training**, Department of Biochemistry & Biophysics, UCSF, San Francisco, CA. Advisor: Joseph L. DeRisi. Research topics: Microfluidic affinity assays for characterizing transcription factor binding; microfluidic production of spectrally encoded beads
9/2000-1/2007	**Ph.D., Physics**, Stanford University, Stanford, CA. Advisor: Steven M. Block. Thesis topic: Optical trapping and single-molecule fluorescence studies of kinesin proteins
9/1998-6/2000	**B.A., Physics; B.A. Biology**. University of Colorado at Boulder, Boulder, CO. Advisor: Anthony R. Barker. Thesis topic: Determination of the form factor and branching ratio of $K_L \rightarrow e^+e^-\gamma$.

III. Professional Appointments:

Academic Appointments

2023-present	**Associate Professor**, Departments of Bioengineering & Genetics, Stanford University
2020-present	**Director**, Stanford Center for Biological Microfluidics
2017-present	**Investigator**, Chan Zuckerberg Biohub
2015-2022	**Assistant Professor**, Department of Bioengineering, Stanford University
2014-2020	**Co-Director**, Stanford Microfluidics Foundry
2014-present	**Institute Scholar**, Stanford ChEM-H
	Member, Bio-X
	Member, Biophysics Program
2014-2022	**Assistant Professor**, Department of Genetics, Stanford University

Other Appointments

2024-present	**Editorial Committee Member,** Annual Reviews in Biophysics, San Mateo, CA
2024-present	**Advisory Board Member,** Burroughs Wellcome CASI, Research Triangle Park, NC
2023-present	**Co-founder**, Velocity Bio, Palo Alto, CA
2021-2025	**Scientific Advisory Board**, Evozyne, Chicago, IL
2011-2012	**Consultant,** GigaGen Inc., San Francisco, CA

IV. Honors and Awards:

2026	Alexander Cruikshank Lecturer, Gordon Conference on Protein Folding
2025-2030	Schmidt Science Polymath Award
2025	Fellow, American Association for the Advancement of Science (AAAS)
2025	Fellow, American Institute for Medical and Biological Engineering (AIMBE)
2024	Stanford President's Award for Excellence Through Diversity
2023-2028	NIH Pioneer Award
2023	Protein Society Young Investigator Award

2023	Eli Lilly Award in Biological Chemistry
2022-2027	Chan Zuckerberg Biohub Investigator, second cohort
2022-2027	NSF CAREER Award
2021	Bioengineering Justice, Equity, Diversity, & Inclusion Award
2019-2022	Ono Pharma Foundation Breakthrough Science Initiative Award
2017-2022	Chan Zuckerberg Biohub Investigator, initial cohort
2017-2019	Alfred P. Sloan Foundation Research Fellow
2016-2021	NIH New Innovator Award (DP2)
2016, 2017	Research Corporation/Gordon & Betty Moore Foundation Scialog Fellow (Funded)
2015-2017	Stanford University McCormick and Gabilan Fellowship
2012-2017	NIH Pathway to Independence Award (K99/R00)
2013	Gordon Research Conference poster competition, first prize
2008-2011	Helen Hay Whitney Postdoctoral Fellowship
2007	NIH Kirschstein NRSA Award (declined)
2003-2004	G.J. Lieberman Fellow
2002-2005	National Science Foundation Graduate Research Fellow
2002	Centennial Teaching Award
2001	National Science Foundation REU Grant Recipient

V. Scholarly Publications:

Pre-prints and submitted:

1. Olivas, M.B., Almhjell, P.J., Shanahan, J.D., * **Fordyce, P.M.,** "uSort-M: Scalable isolation of user-defined sequences from diverse pooled libraries", *bioRXiv* (2026).
2. Mokhtari, D.A., Lashkaripour, A., & **Fordyce, P.M.,** "Large field-of-view fluorescence imaging of microfluidic devices with a tandem-lens macroscope", *bioRXiv* (2025).
3. Perez, C.P.*, DelRosso, N.V.*, Noland, C.L., Parekh, U., Choe, C.A., Eguchi, R.R., Wen, Q., **Fordyce, P.M.‡,** & Huang, P.S.‡, "ADAPT-M: A workflow for rapid, quantitative *in vitro* measurements of enriched protein libraries", *submitted* (2025).
4. DelRosso, N.*, Suzuki, P.H.*, Griffith, D., Lotthammer, J.M., Novak, B., Kocalar, S., Sheth, M.U., Holehouse, A.S., Bintu, L.‡, **Fordyce, P.M.‡**, "High-throughput affinity measurements of direct interactions between activation domains and co-activators", *bioRXiv* (2024); *in revision*.
5. Alexandari, A.M., Horton, C.A., Shrikumar, A., Shah, N., Li, E., Weilert, M., Pufall, M.A., Zeitlinger, J., **Fordyce, P.M.*,** & Kundaje, A.*, "*De novo* distillation of thermodynamic affinity from deep learning regulatory sequence models of *in vivo* protein-DNA binding", *bioRXiv* (2023).

Peer-reviewed journal articles (original research):

6. Rajesh, V., Ibarra, D.E., Yang, J., Zhang, H., Barrett, A., Kaplan, E.G., Kumthe, A., Sunden, F., Sun, H., Addala, A., Misakian, A., Letourneau-Freibert, L., Jodarski, C.O., Maloney, K.A., Saint-Martin, C., **Fordyce, P.M.**, Pollin, T.I., & Gloyn, A.L., "Functional characterization of glucokinase variants to aid clinical interpretation for monogenic diabetes", *Int. J. Mol. Sci.* (*in press*).
7. Trepka, E., Brinson, K., Cooper, L., Thompson, S., Malinao, M., Rommelfanger, N.J., **Fordyce, P.M.**, Hong, G., "Acoustic printing of conductive polymers", *PNAS* (*in press*).
8. Doshi, S., Gusken,, N.A., Dijk, G., Carlstrom, J., Ortiz-Cardenas, J., Suzuki, P., Li, B., **Fordyce, P.M.**, Salleo, A., Melosh, N.A., & Brongersma, M.L., "Soft photonic skins with dynamic texture and color control", *Nature* (*in press*).
9. Atsavapranee, B.*, Sunden, F.*, Herschlag, D., & **Fordyce, P.M.,** "Quantifying protein unfolding kinetics with a high-throughput microfluidic platform", *Cell Systems* (*in press*).

10. Yang, Z.,[*‡], Thompson, S.[*‡], Zhang, Y., Rutten, I., Van Duyse, J., Van Isterdael, G., Nichols, L., Lamm ertyn, J., Soh, H.T., & **Fordyce, P.M.,** "Continuous FACS sorting of double emulsion picoreactors with a 3D printed vertical mixer", *Analytical Chemistry* (2025).
11. McClune, C., Liu, J., Wick, C., **Fordyce, P.M.,** & Sattely, E.A., "Multiplexed perturbation of yew reveals cryptic proteins that enable a total biosynthesis of baccatin III", *Nature* (2025).
12. Lee, B., Sunden, F., Miller, M., Pak, B., Krebber, A., Lutz, S., & **Fordyce, P.M.**, "Hydrophilic/omniphobic droplet arrays for high-throughput and quantitative enzymology", *Analytical Chemistry* (2025).
13. Hastings, R.*, Aditham, A.*, DelRosso, N., Suzuki, P., & Fordyce, P.M., "High-throughput thermodynamic and kinetic measurements of transcription factor/DNA mutations reveal how conformational heterogeneity can shape motif selectivity", *Nature Communications* (2025).
14. Thompson, S., Zhang, Y., Yang, Z., Nichols, L.A., * **Fordyce, P.M.**, "FACS-sortable picoreactors for ultra high-throughput screening of catalysts in biphasic environments", *Advanced Materials Interfaces* (2025).
15. Lashkaripour A., McIntyre, D.P., Calhoun, S.G.K., Krauth, K., Densmore, D.M., & **Fordyce, P.M.** "Design automation of microfluidic single and double emulsion droplets with machine learning", *Nature Communications* (2024).
16. McIntyre, D., Lashkaripour, A., Arguijo, D., **Fordyce, P.,** & Densmore, D., "Versatility and stability optimization of flow-focusing droplet generators via quality metric-driven design automation", *Lab on a Chip* (2023).
17. Hein, J.B., Nguyen, H.T., Garvanska, D., Nasa, I., Feng, Y., Lopez-Mendez, B., Davey, N.E., Kettenbach, A., **Fordyce, P.M.***, & Nilsson, J.*, "Global substrate identification and high throughput *in vitro* dephosphorylation reactions uncover PP1 and PP2A-B55 specificity principles", *Molecular Systems Biology* (2023).
18. McIntyre, D., Lashkaripour, A., Arguijo, D., **Fordyce, P.,** Densmore, D., "Versatility and stability optimization of flow-focusing droplet generators via quality metric-driven design automation", *Lab on a Chip* (2023).
19. Horton, C.A., Alexandari, A.M., Hayes, M.G.B., Marklund, E., Schaepe, J.M., Aditham, A.K., Shah, N., Shrikumar, A., Afek, A., Greenleaf, W.J., Gordan, R., Zeitlinger, J., Kundaje, A., & **Fordyce, P.M.**, "Short tandem repeats bind transcription factors to tune eukaryotic gene expression", *Science* (2023).
20. Sockell, A., Wong, W., Longwell, S., Vu, T., Karlsson, K., Mokhtari, D., Schaepe, J., Lo, Y.-H., Cornelius, V., Kuo, C., Van Valen, D., Curtis, C.*, & **Fordyce, P.M.***, "A microwell platform for high-throughput longitudinal phenotyping and selective retrieval of organoids", *Cell Systems* (2023).
21. Markin, C.J., Mokhtari, D.A., Du, S., Doukov, T., Sunden, F., **Fordyce, P.M.‡**, & Herschlag, D., "High-throughput enzymology reveals mutations throughout a phosphatase that decouple catalysis and transition state analog affinity", *PNAS* (2023).
22. McCully, A.L., Yao, M.L., Brower, K., **Fordyce, P.M.**, & Spormann, A.M., "Double emulsions as a high-throughput enrichment and isolation platform for slower-growing microbes", *ISME communications* (2023).
23. DelRosso, N., Tycko, J., Suzuki, P., Andrews, C., Aradhana, Mukund, A., Liongson, I., Ludwig, C., Spees, K., **Fordyce, P.M.**, Bassik, M.C., & Bintu, L. "Large-scale mapping and systematic mutagenesis of human transcriptional effector domains", *Nature* (2023).
24. Zuo, Z., Billings, T., Walker, M., Petkov, P., **Fordyce, P.M.,** & Stormo, G. "On the dependent recognition of some zinc finger proteins", *Nuc. Acids Res.* (2023).
25. Stapleton, L.M., Farry, J.M., Lucian, H.J., Wang, H., Paulson, M.J., Totherow, K.P., Roth, G.A., Brower, K.K., **Fordyce, P.M.,** Appel, E.A.*, & Woo, Y.J.* "Microfluidic encapsulation of photosynthetic cyanobacteria in hydrogel microparticles augments oxygen delivery to rescue ischemic myocardium", *J. Biosci. Bioeng.* (2023).
26. Khariton, M.*, McClune, C.J.*, Brower, K.K., Klemm, S., **Fordyce, P.M.‡**, Wang, B.[‡], "Alleviating cell lysate-induced inhibition to enable RT-PCR from single cells in picoliter volume double emulsion droplets", *Anal. Chem* (2023).

27. Li, Q., van de Groep, J., White, A.K., Song, J.-H., Longwell, S., Fordyce, P.M., Quake, S.R., Kik, P., & Brongersma, M. "Metasurface optofluidics for dynamic control of light fields", *Nature Nanotechnol.* (2022).
28. Feng, Y., Zhao, X., White, A.K., Garcia, K.C., & Fordyce, P.M., "Structure-activity mapping of the peptide- and force-dependent landscape of T-cell activation", *Nature Methods* (2022).
29. Calhoun, S.G.K., Brower, K.K., Suja, V.C., Kim, G., Wang, N., McCully, A.L., Kusumaatmaja, H., Fuller, G.G., & Fordyce, P.M. "Systematic characterization of double emulsion droplets for biological applications", *Lab on a Chip* (2022).
30. Zhao, X., Kolawole, E., Chan, W., Feng, Y., Yang, X., Jude, K., Sibener, L., Fordyce, P.M., Germain, R., Evavold, B., & Garcia, K.C. "Engineering high-sensitivity T cell receptors with physiological affinities through catch bond recruitment", *Science* (2022).
31. Appel, M.J., Longwell, S.A., Morri, M., Neff, N., Herschlag, D., & Fordyce, P.M. "uPIC-M: efficient and scalable preparation of clonal single mutant libraries for high-throughput protein biochemistry", *ACS Omega* (2021).
32. Markin, C.J.*, Mokhtari, D.A.*, Sunden, F., Appel, M.J., Akiva, E., Longwell, S.A., Sabatti, C., Herschlag, D.*, & Fordyce, P.M.*. "Revealing enzyme functional architecture via high-throughput microfluidic enzyme kinetics", *Science* (2021).
33. Hein, J.B., Cyert, M.S., & Fordyce, P.M. "MRBLE-pep measurements reveal accurate binding affinities for B56, a PP2A regulatory subunit", *ACS Measurement Science* (2021).
34. Aditham, A.K., Markin, C.J., Mokhtari, D.A., DelRosso, N.V., & Fordyce, P.M. "High-throughput binding affinity measurements for mutations spanning a transcription factor-DNA interface reveal affinity and specificity determinants", *Cell Systems* (2020).
35. Feng, Y., White, A.K., Hein, J.B., Appel, E.A., & Fordyce, P.M "MRBLEs 2.0: High-throughput generation of chemically functionalized spectrally and magnetically-encoded hydrogel beads using a simple single-layer microfluidic device", *Microsystems & Nanoengineering* (2020).
36. Brower, K.K.*, Khariton, M.*, Suzuki, P., Still, C., Kim, G., Calhoun, S., Qi, S., Wang, B.*, & Fordyce, P.M.*. "Double emulsion picoreactors for high-throughput single-cell encapsulation and phenotyping via FACS", *Analytical Chemistry* (2020).
37. Hein, J.B., Nguyen, H.Q., Cyert, M., & Fordyce, P.M. "Protocol for peptide synthesis on spectrally encoded beads for MRBLE-pep assays". *Bio-protocols* (2020).
38. Brower, K.K., Carswell-Crumpton, C., Klemm, S., Cruz, B., Kim, G., Calhoun, S., Nichols, L., & Fordyce, P.M. "Optimized double emulsion flow cytometry with high-throughput single droplet isolation". *Lab on a Chip* (2020).
39. Shimko, T., Fordyce, P.M., & Orenstein, Y. "DeCoDe: degenerate codon design for complete protein-coding DNA libraries", *Bioinformatics* (2020).
40. Longwell, S., & Fordyce, P.M. "micrIO: An open-source autosampler and fraction collector for automated microfluidic IO", *Lab on a Chip* (2019).
41. Nguyen, H.Q., Roy, J., Harink, B., Damle, N., Baxter, B., Brower, K., Kortemme, T., Thorn, K., Cyert, M., & Fordyce, P.M. "High-throughput, quantitative mapping of protein-peptide affinity landscapes using spectrally encoded beads", *eLife* (2019).
42. Treuren, W.V.*, Brower, K.*, Labanieh, L., Hunt, D., Lensch, S., Cruz, B., Cartwright, H.N., Tran, C., and Fordyce, P. "Live imaging of *Aiptasia* larvae, a model system for studying coral bleaching, using a simple microfluidic device", *Scientific Reports* (2019).
43. Ghosh, R.P., Shi, Q., Yang, L., Reddick, M.P., Nikitina, T., Zhurkin, V.B., Fordyce, P., Stasevich, T.J., Chang, H.Y., Greenleaf, W.J., and Liphardt, J.T. "Satb1 integrates DNA sequence, shape, motif density, and torsional stress to differentially bind targets in nucleosome-dense regions", *Nature Communications* (2019).
44. Harink, B., Nguyen, H.Q., Thorn, K., and Fordyce, P.M. "An open-source software package for Microspheres with Ratiometric Barcode Lanthanide Encoding (MRBLEs)", *PLoS ONE* (2019).

45. del Olmo Toledo, V., Puccinelli, R., **Fordyce, P.M.**, & Perez, J.C. "Diversification of DNA binding specificities enabled SREBP transcription regulators to expand the repertoire of cellular functions that they govern in fungi", *PLoS Genetics* (2018).
46. Greenside, P.G., Shimko, T., **Fordyce, P.M.**, & Kundaje, A. "Discovering epistatic feature interactions from neural network models of regulatory DNA sequences", *Bioinformatics* (2018).
47. Mezger, A., Klemm, S., Mann, I., Brower, K., Mir, A., Bostick, M., Farmer, A., **Fordyce, P.**, Linnarsson, S., & Greenleaf, W. "High-throughput chromatin accessibility profiling at single-cell resolution", *Nat. Comm.* (2018).
48. Le, D.D., Shimko, T.C., Aditham, A.K., Keys, A.M., Orenstein, Y., and **Fordyce, P.M.** "Comprehensive, high-resolution binding energy landscapes reveal context dependencies of transcription factor binding", *PNAS* (2018).
49. Brower, K., Puccinelli, R., Markin, C.J., Shimko, T.C., Longwell, S.A., Cruz, B., Gomez-Sjoberg, R., and **Fordyce, P.M.** "An open-source, programmable pneumatic setup for operation and automated control of single- and multi-layer microfluidic devices", *HardwareX* (2018).
50. Orenstein, Y., Puccinelli, R., Kim, R., **Fordyce, P.M.**, & Berger, B. "Optimized sequence library design for efficient in vitro interaction mapping", Cell Systems 5:230-236 (2017).
51. Brower, K.*, White, A.K., and **Fordyce, P.M.** "Multi-step variable height photolithography for valved multilayer microfluidic devices", Journal of Visualized Experiments 119, e55276 (2017). (* denotes equal authorship).
52. Nguyen, H.Q., Baxter, B.C., Brower, K., Diaz-Botia, C.A., DeRisi, J.L, **Fordyce, P.M.***, and Thorn, K.S.*. "Programmable microfluidic synthesis of over one thousand uniquely identifiable spectral codes", Advanced Optical Materials 5(3), 1600548 (2017). (* denotes co-corresponding authors)
53. Perez, J.C., **Fordyce, P.M.**, Lohse, M.B., Hanson-Smith, V., DeRisi, J.L., and Johnson, A.J. "How duplicated transcription regulators can diversify to govern the expression of non-overlapping sets of genes", Genes & Development 28:1272-7 (2014).
54. Dybbro, E., **Fordyce, P.M.**, Ponte, M., and Arron, S.T. "Hydraulic expulsion of Tumbu fly larvae", JAMA Derm. 150:791-2 (2014).
55. Lohse, M.B., Hernday, A.D., **Fordyce, P.M.**, Noiman, L., Sorrells, T.R., Hanson-Smith, V., Nobile, C.J., DeRisi, J.L. and Johnson, A.D. "Identification and characterization of a recently evolved, novel class of sequence-specific DNA binding domains", PNAS 110:7660-5 (2013).
56. Hernday, A.D., Lohse, M.B.*, **Fordyce, P.M.***, Nobile, C.J., DeRisi, J.L., and Johnson, A.D. "Structure of the transcriptional network controlling white-opaque switching in Candida albicans", Molecular Microbiology [Epub ahead of print] (2013). (* denotes equal authorship)
57. Nelson, C.S., Fuller, C.K., **Fordyce, P.M.**, Greninger, A.L., Li, H., and DeRisi, J.L. "Microfluidic affinity and ChIP-seq analyses converge on a conserved FOXP2 binding motif that enables the detection of evolutionarily novel regulatory targets", Nucleic Acids Research, 41:5991-6004 (2013).
58. **Fordyce, P.M.**, Pincus, D., Kimmig, P., Nelson, C., El-Samad, H., Walter, P., and DeRisi, J.L. "Basic leucine zipper transcription factor Hac1 binds DNA in two distinct modes as revealed by microfluidic analyses", PNAS 109:E3084-93 (2012).
59. Gerver, R.E.*, Gomez-Sjoberg, R.*, Baxter, B.C.*, Thorn, K.S.*, **Fordyce, P.M.***, Diaz-Botia, C.A., Helms, B.A., and DeRisi, J.L. "Programmable microfluidic synthesis of spectrally encoded microspheres". Lab on a Chip 12:4716-23 (2012). (* denotes equal authorship; author order was chosen by random draw)
60. **Fordyce, P.M.**, Diaz-Botia, C.A., Gomez-Sjoberg, R., and DeRisi, J.L. "Systematic characterization of feature dimensions and closing pressures for microfluidic valves produced via photoresist reflow". Lab on a Chip, 12:4287-95 (2012).
61. **Fordyce, P.M.***, Gerber, D.*, Tran, D., Zheng, J., Li, H., DeRisi, J.L., and Quake, S.R., "*De novo* identification and biophysical characterization of transcription factor binding with microfluidic affinity analysis", Nature Biotechnology 28:970-5 (2010). (* denotes equal authorship)

62. Valentine, M.T.*, **Fordyce, P.M.***, Krzysiak, T.C., Gilbert, S.P., and Block, S.M., "Individual dimers of the mitotic kinesin motor Eg5 step processively and support substantial loads in vitro", Nature Cell Biology 8:470-476 (2006). (* denotes equal authorship)
63. Lang, M.J.*, **Fordyce, P.M.***, Engh, A.M., Neuman, K.C., and Block, S.M., "Simultaneous, coincident optical trapping and single-molecule fluorescence", Nature Methods 1:133-139 (2004). (* denotes equal authorship)
64. Rosenfeld, S.S., **Fordyce, P.M.**, Jefferson, G.M., King, P.H., and Block, S.M., "Stepping and stretching – how kinesin uses internal strain to walk processively", Journal of Biological Chemistry 278:18550-18556 (2003).
65. Lang, M.J., **Fordyce, P.M**., and Block, S.M., "Combined optical trapping and single-molecule fluorescence", Journal of Biology 2:6-10 (2003).
66. Alavi-Harati, A. et al., "Search for the decay $K_L \rightarrow \pi^0 e^+ e^-$", Physical Review Letters 86:397-401 (2001).
67. Alavi-Harati, A., et al., "Measurement of the branching ratio of $K_L \rightarrow e^+ e^- \gamma\gamma$", Physical Review D 64:1-4 (2001).

Peer-reviewed reviews and editorials:

68. Feng, Y., & **Fordyce, P.M.** "BATTLES: high-throughput screening of antigen recognition under force", *Nature Methods* (2022).
69. McIntyre, D., Lashkaripour, A., **Fordyce, P.M.**, & Densmore, D. "Machine learning for microfluidic design and control", *Lab on a Chip* (2022).
70. Mokhtari, D.A.*, Appel, M.J.*, **Fordyce, P.M.**, & Herschlag, D. "High-throughput and quantitative enzymology in the genomic era", *Curr. Op. Struct. Biol.* (2021).
71. Atsavapranee, B., Stark, C.D., Sunden, F., Thompson, S., and **Fordyce, P.M.** "Fundamentals to function: quantitative and scalable approaches for measuring protein stability", *Cell Systems* (2021).
72. Doudna, J., Bar-Ziv, R., Elf, J., Noireaux, V., Berro, J., Saiz, L., Vavylonis, D., Faulon, J.L., and **Fordyce, P.** "How will kinetics and thermodynamics inform our future efforts to understand and build biological systems?", Cell Systems 4:144-146 (2017).
73. **Fordyce, P.**, and Ingolia, N. "Integrating systems biology data to yield functional genomics insights", Genome Biology 12:302 (2011).
74. Valentine, M.T., **Fordyce, P.M.**, and Block, S.M., "Eg5 steps it up!", Cell Division 1:31-39 (2006).

Book chapters:

75. Aditham, A.K., Shimko, T.C., and **Fordyce, P.M.**, "BET-seq: Binding energy topographies revealed by microfluidics and high-throughput sequencing", in Methods in Cell Biology – Microfluidics on a Molecular Scale (2018).
76. **Fordyce, P.M.***, Valentine, M.T.*, and Block, S.M., "Advances in surface-based assays for single molecules", in "Single-Molecule Techniques: A Laboratory Manual" (Cold Spring Harbor Monograph Series, 2008). (* denotes equal authorship)

Abstracts not published in other forms:

77. Fannjiang, C., Olivas, M., Greene, E.R., Markin, C.J., Wallace, B., Krause, B., Pinney, M., Fraser, J., **Fordyce, P.**, Madani, A., & Naik, N. "Designing active and thermostable enzymes with sequence-only predictive models", *NeurIPs* (2022).
78. Nguyen, H.Q, Brower. K., Harink, B., Baxter, B., Thorn, K.S., & **Fordyce, P.M.** "Peptide library synthesis on spectrally encoded beads for multiplexed protein/peptide bioassays", Progress in Biomedical Optics and Imaging – Proceedings of SPIE 10061, 100610Z (2017).

VI. Editorial Service:

Referee: Science, Nature Biotechnology, PNAS, Nature Methods, ACS Synthetic Biology, Journal of Laboratory Automation, Biophysical Journal, Lab on a Chip, Scientific Advances, Cell Reports, Small, Cell Systems.

Editorial board member: Cell Systems.

VII. Grants:

Ongoing Research Support:

1. Merck SEEDS Program 10/01/2025-09/30/2026
   "Amplicon-Bead Display for high-throughput expression, purification, and characterization of antibodies"
   Total funding: $192,500
2. Schmidt Sciences Polymath Award, Role: PI 09/01/2025-08/31/2030
   "Towards a Protein Functional Observatory"
   Total funding: $2,775,000
3. Stanford Bio-X IIP, Role: PI (w/ Dunn) 09/01/2024-08/31/2026
   "High-throughput microfluidic force spectroscopy for engineering protein mechanosensors"
   Total funding: $200,000 ($100,000 for Fordyce Lab)
4. NIH DP1CA290563 (Pioneer Award) 09/19/2023-08/31/2028
   Role: PI
   "Using microfluidics to realize patient-specific anti-cancer immunotherapies"
   Total funding: $5,404,000

1. NIH R01 GM064798, Role: Co-PI (PIs: Herschlag & Fordyce), Type: R01 02/01/2024-11/30/2027
   "Quantitative, high-throughput mechanistic enzymology"
   Total funding: $1,947,504 ($973,752 for Fordyce lab and $973,752 for Herschlag lab)

5. Chan Zuckerberg Biohub Investigator, Role: PI 03/01/2022-02/28/2027
   "Microfluidics for high-throughput and quantitative biophysics, biochemistry, and single-cell biology"
   Total funding: $1,000,000
6. NSF CAREER, Role: PI 01/15/2022-12/31/2026
   "Leveraging microfluidics for high-throughput *in vitro* investigations of transcriptional regulation"
   Total funding: $838,386
7. Stanford Woods Institute for the Environment Environmental Venture Project
   Role: PI (w/ Appel and Tarpeh) 10/01/2022-09/30/2024
   "High-throughput development of next-gen resins for water purification"
   Total funding: $200,000 ($76,000 for Fordyce lab)
8. Stanford Bio-X IIP, Role: PI (w/ Banik) 09/01/2022-08/31/2024
   "Enzymatic editing of biological membranes for next-generation therapeutics"
   Total funding: $250,000 ($125,000 for Fordyce lab)
9. Edward P. Evans Foundation, Role: co-PI (w/ Aaron Hoskins) 09/01/2023-08/31/2026
   "Leveraging microfluidics and biochemistry to link DDX41 genotypes with molecular phenotypes in MDS"
   Total funding: $270,000 ($80,000 for Fordyce lab)

Completed Research Support:

2. Emerson Collective, Role: PI 01/01/2022-12/31/2023
   "Leveraging spectrally encoded beads to map the force- and sequence-dependent landscape of T cell activation"
   Total funding: $300,000
3. NIH R01 GM064798, Role: Co-PI (PIs: Herschlag & Fordyce), Type: R01 07/01/2019-06/30/2024
   "Quantitative, high-throughput mechanistic enzymology"
   Total funding: $2,832,675 ($1,416,338 for Fordyce lab and $1,416,338 for Herschlag lab)
4. Codexis Sponsored Research Agreement, Role: PI 04/01/2022-03/31/2024
   "Superhydrophilic/superhydrophobic surface arrays for high-throughput protein expression and functional characterization"
   Total funding; $449,386

5. Chan Zuckerberg Biohub Investigator, Role: PI 03/01/2017-03/01/2022
   "High-throughput assays to link protein variation with its functional effect"
   Total funding: $750,000
6. Stanford Bio-X IIP, Role: PI (w/ Garcia) 10/01/2020-09/30/2022
   "Mapping of the force-dependent landscape of T cell receptor agonists for immunotherapy"
   Total funding: $200,000 ($100,000 for Fordyce lab and $100,000 for Garcia lab)
7. NIH R56HG011231, Role: Co-I (PI: Salzman) 09/10/2020-08/31/2022
   "Orthocoding for spatial sequencing"
   Total funding: $394,250 ($24,890 for Fordyce lab)
8. Gordon and Betty Moore Foundation, Role: Co-PI (PIs: Fordyce & Ozkan) 12/01/2019-11/30/2022
   "Unraveling the second secret of life: discovering and manipulating allostery for enzymatic control"
   Total funding: $1,000,000 ($500,000 for Fordyce lab and $500,000 for Herschlag lab)
9. Ono Pharma Foundation, Role: PI 09/01/2019-08/31/2022
   "High-throughput microfluidic enzyme kinetics to identify and manipulate allosteric handles for enzyme control"
   Total funding: $1,000,000 ($500,000 for Fordyce lab and $500,000 for Herschlag lab)
10. Stanford Bio-X IIP, Role: Co-I (w/ Zuchero) 01/01/2020-06/302022
    "Genetic tools to determine circuit-specific roles of myelination"
    Total funding: $200,000 ($16,015 to Fordyce lab)
11. NIH 1DP2 GM123641, Role: PI, Type: DP2 09/30/2016-06/30/2021
    "Leveraging spectral encoding for high dimensional biological multiplexing."
    Total funding: $1,500,000
12. K99 GM099848-02, Role: PI, Type: K99 09/15/2012-08/31/2014
    "Using microfluidic affinity analysis to probe transcriptional regulation"
13. Stanford ChEM-H Microbiome Seed Grant, Role: PI 02/01/2016-01/31/2017
    "Molecular analysis and engineering of the human microbiome"
14. NIH R00 GM099848-03, Role: PI, Type: R00 02/15/2015-12/31/2017
    "Using microfluidic affinity analysis to probe transcriptional regulation"
15. NIH R01 GM117106, Role: Co-I (PI: Gordan), Type: R01, subcontract 09/25/2015-08/31/2020
    "New methods of quantitative modeling of protein-DNA interactions"
16. Beckman Technology Development Grant, Role: PI (w/ Gephardt) 04/01/2016-03/31/2018
    "TRAP-Seq: Leveraging spectrally encoded beads to enable high-throughput Tandem RNA and Protein
17. JIMB/NIST Metrology Seed Grant, Role: PI (w/ Herschlag) 06/01/2016-05/31/2018
    "Developing and deploying a novel microfluidic platform for high-throughput quantitative enzymology"
18. Stanford Bio-X IIP, Role: PI (w/ Herschlag) 09/01/2016-08/31/2018
    "Developing and deploying a novel microfluidic platform for high-throughput quantitative enzymology"
19. Stanford Bio-X IIP, Role: PI (w/ Cyert) 09/01/2016-08/31/2018
    " Deciphering the language of cellular protein interaction networks using spectrally encoded peptide-bead libraries."
20. NIH R01 GM107132, Role: Co-I (PI: Dorsey), Type: R01, subcontract 05/01/2017-08/31/2019
    " A novel platform for synthesis of programmable proteome-scale peptide bead arrays"
21. Sloan Foundation, Role: PI 09/15/2017-09/14/2018
    "Developing new microfluidic tools for quantitative, systems-scale biophysical measurements of molecular interactions."
22. Gordon and Betty Moore Foundation, Role: PI (w/ Ozkan) 08/01/2017-07/31/2018
    "Unravelling the second secret of life: are all proteins allosteric?"
23. Precourt Institute for Energy Seed Grant, Role: PI (w/ Wakatsuki) 09/01/2017-08/31/2018
    "Ecosystem-inspired biosystems design of energy-efficient enzymatic CO_2 fixation"

VIII. Service as Grant Review

Ad hoc reviewer, NIH MFSB Study Section (February 2021)
Ad hoc reviewer, NIH ISD Study Section (June 2019)
Ad hoc reviewer, DOD PRMRP Grant panel (June 2018)
Ad hoc reviewer, NIH Special Emphasis Panel (September 2017)

IX. Patents:

1. U.S. Provisional Patent Application 63/916,150. "High-throughput production of protein variants". Fordyce, P.M., Almhjell, P., & Olivas, M. (2025).
2. U.S. Provisional Patent Application 63/759,430. "Systems and methods for high-throughput measurement of protein stability and druggable pockets". Fordyce, P.M. & Costello, S.M. (2025).
3. U.S. Provisional Patent Application 63/741,698. "Library-scale single-molecule force spectroscopy on a chip". Fordyce, P.M., & DeJong, M. (2024).
4. U.S. Provisional Patent Application 63/707,264. "Systems and methods for high-throughput protein screening". Fordyce, P.M., & Passow, D. (2024).
5. U.S. Provisional Patent Application 63/672,426. "Systems and methods for high-throughput protein characterization". Fordyce, P.M., & Lee, B. (2024).
6. U.S. Provisional Patent Application 63/611,965. "Methods for ultra-high-throughput profiling of nucleic acid binding or modifying proteins". Fordyce, P.M., Hastings, R.L., Wilburn-Hayes, M.G., Suzuki, P.H. (2024).
7. U.S. Provisional Patent Application 63/387,757. "Kinase/phosphatase substrate analysis and compositions using spectrally encoded microbeads". Fordyce, P.M., and Hein, J.B. (2022).
8. U.S. Provisional Patent Application 63/387,748. "Microbeads with ratiometric lanthanide encoding for drug screening". Fordyce, P.M., and Hein, J.B. (2022).
9. U.S. Provisional Patent Application 63/378,229. "Array platform for high-throughput organoid profiling". Fordyce, P.M., Curtis, C., Sockell, A.A., and Wong, W. (2022).
10. U.S. Provisional Patent Application 63/108,162. "High-throughput force-dependent cellular response assay using spectrally encoded smart beads". Feng, Y., White, A.K., Fordyce, P.M., Zhao, X., and K. Christopher Garcia (2020).
11. U.S. Provisional Patent Application 63/037,804. "Methods, devices, and compositions related to polymeric microbeads". Feng, Y., White, A.K., Hein, J.B., & Fordyce, P.M. (2020).
12. U.S. Provisional Patent Application 62/853,494. "Method for multiplexed detection of nucleic acids using spectrally encoded beads". White, A.K., Nguyen, H.Q., Yu, F., Shimko, T., Fordyce, P.M., Andini, N., and Yang. S. (2019)
13. U.S. Provisional Patent Application 62/853,627. "Methods and compositions for multiple-parameter single-cell analysis using spectrally encoded microbeads". Brower, K., Fordyce, P.M., Sockell, A., White, A., & Feng, Y. (2019).
14. U.S. Provisional Patent Application 62/693,800. "Method to perform high-throughout single cell genomic and phenotypic analyses". K. Brower, S. Klemm, Greenleaf, W.J, & P.M. Fordyce. (2018).
15. U.S. Patent Application 61/692,618. "Spectrally encoded microbeads and methods and devices for making and using same". B. Baxter, J. DeRisi, P. Fordyce, R. Gerver, R. Gomez-Sjoberg, K. Thorn. (2013)

X. University Administrative Service

Stanford Affiliations:
ChEM-H
Bio-X
Biophysics Program

University Committee Service:

2025	Chair, ChEM-H Faculty Search Committee
2025-present	DARE Selection Committee
2024-present	Stanford Bioengineering Biotechnology Training Grant Advisory Committee
2024-present	School of Medicine Sustainable Funding Models Venture Fund Committee
2024-present	School of Medicine Research Data Strategy Basic Science Subcommittee Meeting
2023-2024	School of Medicine Integrated Strategic Planning Committee
2023-2024	Bioengineering Graduate Student Services Committee
2023-present	Biophysics Program Executive Committee
2022-present	Bio-X Seed Grant Review Committee
2022-present	Stanford SciQube Steering Committee Member
2022-present	Stanford SciQube Executive Committee Member
2022-2023	Future of Life Sciences Executive Committee
2021-2022	School of Medicine Propel Postdoctoral Scholar Program Advisor
2020-present	Next Generation Faculty Symposium, Co-Founder & Co-Organizer
2020-2021	School of Medicine Diversity Liaison (representing Genetics)
2020-2021	Bioengineering Justice, Equity, Diversity, & Inclusion Committee (JEDI)
2019-2020	Stanford Bioengineering Faculty Search Committee
2018-2019	Stanford Nanofacilities Long Range Planning Team
2017-2021	Stanford Genetics Graduate Admissions Committee
2016-present	Stanford ChEM-H Executive Committee
2015-2018	Stanford Genetics Retreat Planning Committee
2015-present	Director of Stanford Microfluidics Foundry
2014-2017,2021,2023	Stanford Bioengineering Graduate Admissions Committee
2014-present	Stanford Genetics Graduate Program First Year Graduate Student Advisor
2014-present	Stanford Bioengineering Graduate Program First Year Graduate Student Advisor
2015-present	Stanford Bioengineering Undergraduate Program Student Advisor

Thesis Committees:

2015-2020	Eli Moss (A. Bhatt), Genetics
2016-2020	Kalli Kappel (R. Das), Biophysics
2016-2018	Johnny Israeli (A. Kundaje), Biophysics
2017-2020	Nikki Teran (A. Straight), Genetics
2016-2020	Chelsea Kliebert (J. Cochran), Chemical & Systems Biology
2017-2020	Margaux Pinney (D. Herschlag), Biochemistry
2017-2020	Terence Theisen (J. Boothroyd), Microbiology & Immunology
2017-	Amalia Hadjitheodorou (J. Theriot), Biophysics
2017-2021	Robert Coukos (A. Ting), Genetics
2017-2019	Anne Zijing Ye (J. Cochran), Bioengineering
2017-2019	Suhas Rao (R. Kornberg), Biophysics
2017-	Athena Ierokomos (Z. Bryant), Biophysics
2018-2021	Soso Xue (S. Quake), Bioengineering
2019-2021	Avanti Shrikumar (A. Kundaje), Genetics
2019-2021	Neeraja Ravi (S. Wang), Bioengineering
2017-	Shreya Deshmukh (U. Demerci), Bioengineering
2020-	Amr Mohamed (A. Kundaje), Computer Science
2017-2021	Sam Bray (B. Wang), Bioengineering
2020-	Abhimanyu Banerjee (A. Kundaje), Physics
2019-	Alex Tseng (A. Kundaje), Computer Science

2017-2022 Matias Kaplan (C. Smolke), Bioengineering
2018- Suzanne Calhoun (G. Fuller), Chemical Engineering

XI. Service to Professional Organizations

Membership: Biophysical Society, American Physical Society
Editorial Advisory Board: Cell Systems
Advisory Committee: Burroughs Wellcome Career Awards at the Scientific Interface, Annual Reviews in Biophysics

XII. Presentations:

National and Regional Meetings:

1. Gordon Research Conference: Protein Folding. Pomona, CA (2026) (invited speaker).
2. Physics of Life Symposium. New York, NY (2025) (invited speaker).
3. Gordon Research Conference: Synthetic Biology. Newry, ME (2025) (invited speaker).
4. ASBMB Evolution and Core Processes in Gene Expression. Kansas City, MO (2025) (invited speaker).
5. NHGRI Advances in Genome Technology Development. St. Louis, MO (2025) (keynote speaker).
6. Biophysical Society Annual Meeting, Intrinsically Disordered Proteins Subgroup. Los Angeles, CA (2025) (invited speaker, was unable to present due to illness).
7. Cold Spring Harbor Single Biomolecules. Cold Spring Harbor, NY (2024) (invited speaker).
8. Bay Area Chemical Biology Symposium. Stanford, CA (2024) (invited speaker).
9. RosettaCON Summer Meeting. Cle Elum, WA (2024) (keynote speaker).
10. Neural Information Processing Systems (NIPS), Machine Learning in Structural Biology Workshop. New Orleans, LA (2023) (keynote speaker).
11. Cell Systems: The Conceptual Power of Single-Cell Biology. San Diego, CA (2023) (invited speaker).
12. Gordon Research Conference: High-Throughput Chemistry and Chemical Biology. New London, NA (2023) (keynote speaker).
13. IEEE EMBS Micro and Nanotechnology in Medicine Conference. Kapolei, HI (2022) (invited speaker).
14. QBI Chemical Biology Symposium. San Francisco, CA (2022) (invited speaker).
15. Codexis Protein Engineering 2022. San Franciscio, CA (2022) (invited speaker).
16. NIAID Workshop: Novel Biologics for Eliminating HIV-1 Infected Cells. Virtual (2022) (invited speaker).
17. Gordon Research Conference: Bioorganic Chemistry. Proctor, NH (2022) (invited speaker).
18. Enzyme Engineering XXVI. Dallas, TX (2022) (invited Keynote speaker).
19. Cold Spring Harbor Laboratory: Systems Biology. Cold Spring Harbor, NY (2022) (invited speaker).
20. Biophysical Society Annual Meeting, Biopolymers *in vivo* Subgroup. San Francisco, CA (2022) (invited Keynote speaker).
21. Microfluidics Consortium. San Francisco, CA (2022) (invited speaker).
22. MicroTAS 2021. Palm Springs, CA (2021) (keynote speaker).
23. NSF Virtual Workshop: Challenges and Opportunities in Synthesizing Massively Parallel Assays and High-Throughput Datasets. Virtual (2021) (invited speaker).
24. Ono Pharma Foundation Symposium. Virtual (2021) (invited speaker).
25. American Society of Biochemistry and Molecular Biology. Virtual (2021) (invited speaker).
26. Protein-DNA Interactions: From Biophysics To Cancer. Houston, TX (2019) (invited speaker).
27. Telluride Science Research Center Workshop: Emergent Simplicity in Biophysical Dynamics. Telluride, CO (2019) (co-organizer and speaker).
28. Biophysical Society Annual Meeting. Baltimore, MD (2019) (invited symposium speaker).
29. IEEE EMBS Micro and Nanotechnology in Medicine Conference. Lihue, HI (2018) (invited speaker).
30. University of Pennsylvania Single Cell Symposium. Philadelphia, PA (2018) (invited speaker).
31. Bay Area Microfluidics. San Francisco, CA (2018) (invited speaker).
32. Biophysical Society Thematic Meeting: Genome Biophysics. Santa Cruz, CA (2018) (invited speaker).

33. q-bio 2018. Houston, TX (2018) (invited speaker).
34. Cold Spring Harbor Laboratory: Systems Biology and Regulation of Gene Expression. Cold Spring Harbor, NY (2018) (invited speaker).
35. Biology and Mathematics in the Bay Area. San Francisco, CA (2017) (invited speaker).
36. Cold Spring Harbor Laboratory: Single Cell Analysis. Cold Spring Harbor, NY (2017) (invited speaker).
37. Stanford|EMBL Conference on Personalized Health. Stanford, CA (2017) (invited speaker).
38. UCSF Spring Mutation Workshop. San Francisco, CA (2017) (invited speaker).
39. Moore Foundation Scialog: Molecules Come to Life (Participant). Tucson, AZ (2017) (invited participant).
40. IEEE EMBS Micro and Nanotechnology in Medicine Conference. Waikoloa, HI (2016) (invited speaker).
41. Moore Foundation Scialog: Molecules Come to Life (Participant). Tucson, AZ (2016) (invited participant).
42. Epigenomics 2016. San Juan, Puerto Rico (2016) (invited speaker).
43. University of Utah: Rising Stars Symposium in Chemical Biology. Salt Lake City, UT (2013) (invited speaker).
44. Aspen Conference on Single-Molecule Biophysics. Aspen, CO (2003) (selected talk).

International Meetings:

45. Rules of Protein-DNA Recognition. Cancun, Mexico (2025) (invited talk).
46. Frontiers in Biophysics. University of British Columbia (2025) (keynote speaker).
47. AI x BIO. Wellcome Genome Campus, United Kingdom (2025) (invited speaker).
48. Mutational Scanning Symposium. Barcelona, Spain (2025) (invited speaker).
49. Protein Society Annual Meeting. Vancouver, Canada (2024) (plenary award session).
50. Gordon Research Conference: Intrisically Disordered Proteins. Les Diablerets, Switzerland (2024) (invited talk).
51. Rules of Protein-DNA Recognition. Cancun, Mexico (2023) (invited talk).
52. Protein-DNA Interactions: From Biophysics to Cell Biology. Rehovot, Israel (2022) (invited talk).
53. Wellcome Genome Campus Scientific Conference: Single Cell Biology. Cambridge, UK (virtual attendance) (2020) (invited speaker).
54. EMBL Conference: Microfluidics: Designing the Next Wave of Biological Enquiry. Heidelberg, Germany (virtual attendance) (2020) (invited speaker).
55. Beilstein Enzymology Symposium. Beilstein, Germany (2019) (invited speaker).
56. Gordon Research Conference: Microfluidics, Physics and Chemistry of. Hong Kong, China (2019) (invited speaker).
57. EMBL Conference: Chromatin and Epigenetics. Heidelberg, Germany (2019) (invited speaker).
58. BIRS Conference: Rules of Protein-DNA Recognition, Computational and Experimental Advances. Oaxaca, Mexico (2018) (invited speaker).
59. OIST Microfluidics Compartmentalization Workshop. Okinawa, Japan (2017) (invited speaker).
60. EMBL Conference: Personalized Health. Heidelberg, Germany (2015) (invited speaker).
61. BIRS Conference: Rules of Protein-DNA Recognition, Computational and Experimental Advances. Oaxaca, Mexico (2015) (invited speaker).
62. Gordon Research Conference: Physics and Chemistry of Microfluidics. Barga, Italy (2013) (selected flash talk).
63. EMBL Conference: From Functional Genomics to Systems Biology. Heidelberg, Germany (2010) (selected talk).

Extramural Seminars:

64. Rockefeller University, Evnin Chemistry and Structural Biology Seminar. New York, NY (2025).
65. Bayer Crop Sciences Seminar. Virtual seminar (2025).
66. Chan Zuckerberg Biohub Investigator Meeting. San Francisco, CA (2025).
67. Sanger Institute, Generative and Synthetic Genomics Seminar. Cambridge, UK (2025).

68. University of Chicago Institute for Biophysical Dynamics Seminar. Chicago, IL (2025).
69. Columbia University Department of Systems Biology Distinguished Speaker Seminar. New York, NY (2024).
70. University of Southern California Computational Biology Seminar. Los Angeles, CA (2024).
71. Rice University Department of Bioengineering Seminar. Houston, TX (2024).
72. Harvard University Department of Biochemistry and Molecular Pharmacology Seminar. Cambridge, MA (2023).
73. Institute for Protein Design Seminar. Seattle, WA (2023).
74. University of Washington Biochemistry Seminar. Seattle, WA (2023).
75. Lawrence Berkeley Molecular Foundry Seminar. Berkeley, CA (2023).
76. UC Berkeley Rising Star in Bioengineering Lecture. Berkeley, CA (2023).
77. Caltech Bioengineering Seminar Series. Pasadena, CA (2023).
78. Princeton University BioE Highlight Seminar Series. Princeton, NJ (2023).
79. UCSD Cellular and Molecular Medicine/School of Biological Sciences Seminar Series. San Diego, CA (2023).
80. University of Wisconsin Madison Biochemistry Seminar. Madison, WI (2023).
81. UC Boulder Molecular Biophysics Seminar. Boulder, CO (2022) (student-invited speaker).
82. Johns Hopkins University Biophysics Seminar. Baltimore, MD (2022).
83. UT Southwestern Molecular Biophysics Seminar. Dallas, TX (2022).
84. Ohio State Molecular Life Science Seminar. Virtual Presentation (2022).
85. Salesforce. Virtual Presentation (2022).
86. BASF. Virtual Presentation (2022).
87. University of Iowa Biochemistry and Molecular Biology Seminar. Iowa City, Iowa (2022).
88. UNAM LCG Frontiers in Genomics Seminar. Cuernavaca, Mexico (2022).
89. Amyris. Virtual Presentation (2022).
90. Ono Pharma Foundation Webinar. Virtual Presentation (2022).
91. Novartis Global Microfluidics Group. (2022) (presented via Zoom).
92. New England Biolabs. Ipswitch, MA (2021).
93. Harvard Chemistry & Chemical Biology Seminar. Cambridge, MA (2021) (presented via Zoom).
94. Stowers Institute Seminar. Kansas City, MO (2021) (presented via Zoom).
95. Harvard Genetics Seminar. Boston, MA (2021) (presented via Zoom).
96. Donnelly Centre Seminar Series. Toronto, Canada (2021) (presented via Zoom).
97. Innovative Genomics Institute. Berkeley, CA (2021) (presented via Zoom).
98. UC Davis Biology Seminar. Davis, CA (2021) (presented via Zoom).
99. MIT Physical Chemistry Seminar. Boston, MA (2021) (presented via Zoom).
100. EPFL Institute of Bioengineering Seminar. Lausanne, Switzerland (2020) (presented via Zoom).
101. UC Santa Cruz Electrical and Computer Engineering Seminar. Santa Cruz, CA (2020) (presented via Zoom).
102. UC Berkeley Chemical and Biological Engineering Seminar. Berkeley, CA (2020) (presented via Zoom).
103. UC Irvine Pharmaceutical Sciences Seminar. Irvine, CA (2020) (presented via Zoom).
104. UCSF BBC Graduate Program Seminar. San Francisco, CA (2020) (presented via Zoom).
105. Arizona State University Biophysics Seminar. Tempe, AZ (2020).
106. Davis Chemistry Seminar. Davis, CA (2019).
107. Cornell Mechanical Engineering Seminar. Ithaca, NY (2019).
108. Washington University at St. Louis BJC Program Seminar. St. Louis, MO (2019).
109. University of Washington Biochemistry Seminar. Seattle, WA (2018).
110. University of Illinois Urbana-Champaign Bioengineering Seminar. Champaign, IL (2018).
111. University of Chicago Quantitative Biology Seminar. Chicago, IL (2018).
112. University of California Berkeley Bioengineering Seminar. Berkeley, CA (2017).

113. University of California Berkeley Nutrition Science and Technology Seminar. Berkeley, CA (2017).
114. University of Minnesota Academic Health Center Duluth Research Seminar. Duluth, MN (2016).
115. Memorial Sloane Kettering Computational Biology Seminar. New York, NY (2016).
116. Princeton University Biophysics Seminar. Princeton, NJ (2016).
117. Rice University Bioengineering Seminar. Houston, TX (2015).
118. University of California Santa Barbara Junior Nanotech Network Workshop. Santa Barbara, CA (2015).
119. University of California San Diego Department of Bioengineering Seminar. San Diego, CA (2014).
120. University of California San Francisco Cardiovascular Research Institute Seminar. San Francisco, CA (2014).
121. Princeton University Lewis-Sigler Institute Seminar. Princeton, NJ (2014).
122. University of Washington Department of Bioengineering Seminar. Seattle, WA (2014).
123. Stanford University Department of Genetics Seminar. Stanford, CA (2014).
124. Harvard Medical School Department of Biological Chemistry & Molecular Pharmacology Seminar. Boston, MA (2014).
125. Northwestern University Department of Molecular Biosciences Seminar. Evanston, IL (2014).
126. University of California San Diego Department of Chemistry and Biochemistry Seminar. La Jolla, CA (2014).
127. Harvard University FAS Center for Systems Biology Seminar. Cambridge, MA (2014).
128. University of Colorado at Boulder Department of Biochemistry Seminar. Boulder, CO (2014).
129. California Institute of Technology Department of Bioengineering Seminar. Pasadena, CA (2014).
130. University of California Berkeley Department of Bioengineering Seminar. Berkeley, CA (2014).
131. University of California Berkeley Department of Chemical Engineering Seminar. Berkeley, CA (2014).
132. Cornell University Department of Molecular Biology and Genetics Seminar. Ithaca, NY (2014).
133. Stanford University Department of Bioengineering Seminar. Stanford, CA (2014).
134. University of Maryland Department of Bioengineering Seminar. College Park, MD (2014).
135. University of Washington Genome Sciences Department Seminar. Seattle, WA (2014).
136. Bio-Rad Seminar. Pleasanton, CA (2013).
137. University of California Davis Chemistry Department Seminar. Davis, CA (2013).
138. University of Santa Clara Chemistry Department Seminar. Santa Clara, CA (2013).
139. Agilent Techologies Seminar. Santa Clara, CA (2010).
140. Lawrence Berkeley National Laboratories Molecular Foundry Seminar. Berkeley, CA (2008).
141. University of Colorado Optical Science and Engineering Seminar. Boulder, CO (2006).

XIII. Teaching:

Major Teaching Responsibilities:

2025 BIOE301D/GENE207 Microfluidics Device Laborator
2023 BIOE301D/GENE207 Microfluidics Device Laboratory
2022 BIOE301D/GENE207 Microfluidics Device Laboratory
2020 BIOE393 Bioengineering Departmental Research Colloquium
2019 BIOE301D/GENE207 Microfluidics Device Laboratory
2018 BIOE301D/GENE207 Microfluidics Device Laboratory
2017 BIOE301D/GENE207 Microfluidics Device Laboratory
2016 BIOE301D/GENE207 Microfluidics Device Laboratory (developed and taught new course)
Highlighted in Stanford Alumni Magazine:
https://alumni.stanford.edu/get/page/magazine/article/?article_id=92942
Highlighted in Stanford Report:
http://news.stanford.edu/2017/08/16/engineering-students-help-geneticists-study-coral-bleaching/

2015 GENE 241 (Biological Macromolecules) (led weekly discussion sections)

Other Mentoring:

2014 Keynote Speaker, Bioscience Welcome Dinner
2015 Faculty Mentor, Career Mentoring Lunch, Geneticists for Diversity in Science
2015 Faculty Mentor, ChEM-H Postdoctoral Retreat
2015 Faculty Mentor, Academic Career Discussion Chat, Genetics Department
2015 Faculty Mentor, Biology Postdoc Organization Meeting
2015 Faculty Mentor, Bioengineering Postdoc Organization Meeting
2015 Faculty Mentor, NIST postdoctoral seminar ("Applying to Faculty Positions")
2015 Faculty Mentor, School of Medicine Career Center capstone course
2016 Faculty Mentor, Biosciences Orientation Panel
2016 Faculty Mentor, Career Exploration Opportunities course
2016 Faculty Mentor, GradSWE Roundtable Lunch
2017 Faculty Mentor, SIMR Bioengineering Boot Camp
2017 Faculty Mentor, Biosciences Orientation Panel
2017 Faculty Mentor, Grant Writing Academy
2017 Faculty Speaker, Stanford Students in Biodesign
2017 Faculty Speaker, Stanford Biofutures Forum
2018 Faculty Speaker, Stanford Students in Biodesign
2018 Faculty Mentor, SIMR Bioengineering Boot Camp
2018 Faculty Mentor, Postdoc Academic Chat
2019 Faculty Speaker, Let's Have An Awesome Time Doing Science
2020 Faculty Speaker, ADVANCE summer program
2020 Faculty Speaker, SSRP summer program

XIV. Mentorship:

Postdoctoral Fellow Trainees:

2015-2023 Craig Markin, Postdoctoral Fellow (joint with Herschlag Lab) (at University of Manchester)
2015-2017 Dan Le, Postdoctoral Fellow (now at Genentech)
2015-2020 Adam White, Postdoctoral Fellow (joint with Quake Lab) (now at Illumina)
2016-2018 Huy Nguyen, Postdoctoral Fellow (now at Genentech)
2017-2018 Bjorn Harink, Postdoctoral Fellow (now at Leiden Measurement Technology)
2017-2020 Jamin Hein, Postdoctoral Fellow (joint with Cyert Lab) (now at Amgen)
2017-2018 Kyle Carter, Postdoctoral Fellow (joint with Herschlag Lab) (now at Gigagen, Inc.)
2018-2022 Mason Appel, Postdoctoral Fellow (joint with Herschlag Lab) (now at IDEAYA Biosciences)
2018-2021 Yinnian (Andy) Feng, Postdoctoral Fellow (now at Merck)
2018-2021 Zheng Zuo, Postdoctoral Fellow
2019- Conor McClune, Postdoctoral Fellow (joint with Sattely Lab)
2020- Samuel Thompson, Postdoctoral Fellow (joint with David Baker Lab at UW)
2021-2022 Margaux Pinney, Postdoctoral Fellow (joint with Sherlock Lab) (now at UC Berkeley)
2021-2023 Ali Lashkaripour, Postdoctoral Fellow (co-founded Velocity Bio)
2021- Jennifer Ortiz Cardenas, Postdoctoral Fellow
2022- Byungjin Lee, Postdoctoral Fellow
2022- Karl Krauth, Postdoctoral Fellow
2022- Albert Lee, Postdoctoral Fellow (joint with Herschlag lab)
2022- Patrick Almhjell, Postdoctoral Fellow (joint with Herschlag lab)
2023-2023 Daniel Mokhtari, Postdoctoral Fellow (co-founded Velocity Bio)
2023- Shawn Costello, Postdoctoral Fellow (joint with Herschlag lab)

2023-2025 Gabriela Lomeli, Postdoctoral Fellow (joint with Bertozzi lab)
2025- Carlos Cortz, Postdoctoral Fellow
2025- Chase Freschlin, Postdoctoral Fellow

Graduate Students:

2015-2020 Kara Brower, Graduate Student (Bioengineering, current: Associate at Flagship Pioneering and Co-founder of FL78)
2016-2020 Tyler Shimko, Graduate Student (Genetics, current: CEO at Trident Bioscience)
2016-2020 Scott Longwell, Graduate Student (Bioengineering)
2016-2021 Arjun Aditham, Graduate Student (Bioengineering, current: Postdoctoral Fellow in Jesse Bloom's laboratory at Fred Hutchison Cancer Research Center)
2017-2022 Alexandra Sockell, Graduate Student (Genetics, joint with Curtis lab)
2017-2021 Daniel Mokhtari, MSTP Student (Biochemistry, joint with Herschlag lab, current: Stanford Medical School (returned to MSTP program))
2019-2024 Bea Atsavapranee, Graduate Student (Bioengineering)
2019-2024 Nicole DelRosso, Graduate Student (Biophysics, joint with Bintu lab)
2020- Eliel Akinbami, Graduate Student (Bioengineering, joint with Herschlag lab)
2020-2025 Peter Suzuki, Graduate Student (Bioengineering, joint with Bintu lab)
2020- Michael Hayes, Graduate Student (Genetics)
2020- Renee Hastings, Graduate Student (Biophysics)
2021-2025 Minsung Cho, Graduate Student (Biophysics)
2021- Micah Olivas, Graduate Student (Genetics)
2022- Matt de Jong, Graduate Student (Chemical Engineering)
2022- Daria Wonderlick, Graduate Student (Biophysics)
2022-2023 Lexy Strom, Graduate Student (Biophysics)
2022-2024 Jack Shanahan, Graduate Student (Genetics)
2023- Jessica Karaguesian, Graduate Student (Bioengineering)
2023- Maya Sheth, Graduate Student (Bioengineering)
2023- Micah Lawrence, Graduate Student (Bioengineering)
2024- Alan Su, Graduate Student (Chemical & Systems Biology)
2025- Yujia Bian, Graduate Student (Chemical Engineering)
2025- Lucas Melo, Graduate Student (Genetics)
2025- Lillian Peterson, Graduate Student (Genetics, joint with Bintu lab)

Undergraduate Students:

2016-2017 Rebecca Bromley-Dulfano, Undergraduate Student (Physics)
2017-2018 Alli Keyes, Undergraduate Student (Chemistry, ChEM-H program)
2017-2018 Bianca Cruz, Undergraduate Student (Cal Poly Pomona, CAMPARE program)
2018 Vincent Cornelius, Undergraduate Student (Amgen Scholar)
2019-2022 Gaeun Kim, Undergraduate Student (Bioengineering)

Stanford Microfluidics Foundry Summer Interns

2023 Hector Baltazar (Mission College)
2023 Daisy Espinosa (Mission College)
2023 Drake Gonzales (College of San Mateo)
2023 Evan Jimenez (College of San Mateo)
2023 Manny Sanchez (Foothill College)
2023 Raymond Yum (Foothill College)
2024 Ananya Pant (College of San Mateo)
2024 Nick Tugangui (Mission College)

2024 Eduardo Posadas Barrera (College of San Mateo)
2024 Denisse Ramos (Mission College)
2024 Bianca Figueroa (College of San Mateo)
2024 JuanPablo Curiel (Mission-West Valley College)
2025 Alan Vongsavanh (College of San Mateo)
2025 Lauren Hong (College of San Mateo)
2025 Anna Gerasimenko (University of Illinois Chicago)
2025 Elvin Garcia (University of California, Los Angeles)
2025 Ana Fonseca (Florida International University)
2025 Jasmine Cardenas (College of San Mateo)
2025 Itzel Salgado (Santa Clara University)

Technicians:

2014-2017 Robert Puccinelli, Research Specialist (now at Chan Zuckerberg Biohub)
2015-2016 Chantal Guegler, Research Specialist (now a graduate student at MIT)
2017-2018 Michael Madsen, Research Specialist
2018-2021 Connor Horton, Research Specialist (now a graduate student at UC Berkeley)
2022- Caroline Horn, LSRP II

Rotation Students:

2015 David Morgens, Rotation Student (Genetics)
2015 Eli Moss, Rotation Student (Genetics)
2015 Naomi Genuth, Rotation Student (Biology)
2015 Christopher Probert, Rotation Student (Genetics)
2015 Linfeng Yang, Rotation Student (Bioengineering)
2015 Theo Susanto, Rotation Student (Genetics)
2016 David Gennert, Rotation Student (Genetics)
2016 Anton Jackson-Smith, Rotation Student (Bioengineering)
2016 Mira Mouffarej, Rotation Student (Bioengineering)
2017 Nelson Hall, Rotation Student (Bioengineering)
2017 Chew Chai, Rotation Student (Bioengineering)
2018 Alex Powers, Rotation Student (Chemistry)
2018 Alex Chu, Rotation Student (Biophysics)
2019 Alex Tseng, Rotation Student (Computer Science)
2020 Rochelle Radziminsky, Rotation Student (Applied Physics)
2021 Julia Schaepe, Rotation Student (Bioengineering)
2022 Siyuan Du, Rotation Student (Chemistry)
2025 Diego Pomales-Matos, Rotation Student (Genetics)
2025 Sophia Burick (Biophysics)
2025 Forrest Zepezauer (Biophysics)
2025 Preston Kellenberger (Biochemistry)

High School Students:

2016 Varun Venkatesh, High School Student
2017 - 2018 Vedika Shenoy, High School Student