



UNIVERSITY OF CALIFORNIA,
BERKELEY

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EDUCATION

01/98 – 09/02	STANFORD UNIVERSITY Doctor of Philosophy, Mechanical Engineering <i>National Science Foundation Graduate Research Fellow</i> “Isoelectric Focusing for Multi-Dimensional Separations in Microfluidic Devices” Advisors: Profs. Thomas W. Kenny & Juan G. Santiago	<i>Stanford, CA</i>
09/97 – 01/99	STANFORD UNIVERSITY Master of Science, Mechanical Engineering <i>National Science Foundation Graduate Research Fellow</i>	<i>Stanford, CA</i>
09/93 – 06/97	CALIFORNIA INSTITUTE OF TECHNOLOGY (CALTECH) Bachelor of Science, Engineering & Applied Science <i>with Honors</i>	<i>Pasadena, CA</i>

APPOINTMENTS

07/14–present	LESTER JOHN & LYNNE DEWAR LLOYD DISTINGUISHED PROFESSOR , UC BERKELEY, <i>Berkeley, CA</i>
07/12– 07/15	ASSOCIATE PROFESSOR, BIOENGINEERING , UNIVERSITY OF CALIFORNIA, BERKELEY, <i>Berkeley, CA</i>
07/07– 07/12	ASSISTANT PROFESSOR, BIOENGINEERING , UNIVERSITY OF CALIFORNIA, BERKELEY, <i>Berkeley, CA</i> UC BERKELEY/UCSF GRADUATE GROUP IN BIOENGINEERING Directing a research group focused on design and study of microanalytical tools and methods that exploit scale-dependent physics & chemistry to address questions in the biosciences and biomedicine. Chan Zuckerberg Biohub Investigator (2017-21), BioE Vice-chair for Engineering Engagement (2016-now), Faculty Director of the UC Bakar Faculty Fellows Program (2016-now), Director’s Council of the Jacobs Institute of Design Innovation, NIH NANO Study Section (2013-19), Co-Director of the Cold Spring Harbor Laboratory “Single Cell Analysis” Course (2015, 2016), Editorial Advisory Boards of <i>Analytical Chemistry</i> , <i>ACS Sensors</i> , and <i>Lab on a Chip</i> , Board of the Chemical & Biological Microsystems Society (2013-17), Advisory Board UCSF Rosenman Institute (2015-18), Executive Committee UC Berkeley-UCSF Graduate Group in Bioengineering (2009-11, 2012-14, Acting Chair 2015), Director Bioengineering Immersion Experience (2012-16), Research Area Graduate Advisor (2011- <i>now</i>), Undergraduate Curriculum Committee (2007-15), Graduate Admissions Committee (2007-14, Chair 2012-14), Undergraduate Transfer Admissions Committee (2008, 2010-15), Undergraduate Awards Committee (2011-15), Faculty Advisor Society of Women Engineers (2008- <i>now</i>) & Graduate Women of Engineering (2013- <i>now</i>)
2016 <i>Sabbatical</i>	BIODESIGN FACULTY FELLOW (External Affiliate) , STANFORD UNIVERSITY, <i>Stanford, CA</i> EXECUTIVE PROGRAM FOR WOMEN LEADERS , STANFORD GRADUATE SCHOOL OF BUSINESS
2013-2016	CO-FOUNDER & SCIENTIFIC ADVISORY BOARD , ZEPHYRUS BIOSCIENCES (acquired by Bio-techno)
06/08– present	FACULTY SCIENTIST , BIOLOGICAL SYSTEMS & ENGINEERING, LAWRENCE BERKELEY NAT’L LAB,
09/04 – 06/07	SENIOR MEMBER OF THE TECHNICAL STAFF
10/02 – 09/04	RESEARCH SCIENTIST , BIOSYSTEMS RESEARCH, SANDIA NATIONAL LABORATORIES, <i>Livermore, CA</i> Devised immunoaffinity techniques to assess protein expression in complex biological fluids (saliva, serum) and signaling cascades in intact single mammalian cells. Cited as outstanding mentor, team member & individual contributor. Directed technical programs ~\$0.6M/yr.
01/98 – 09/02	GRADUATE RESEARCH ASSISTANT , STANFORD UNIVERSITY, <i>Stanford, CA</i> <ul style="list-style-type: none">Designed & validated chip-based two-dimensional electrophoretic (2DE) by serial coupling of orthogonal separation mechanisms, free solution isoelectric focusing and zone electrophoresis.Developed and characterized rapid microfluidic isoelectric focusing (IEF) for protein analysis.Described induced pressure gradients generated during electrokinetic flow in systems with non-uniform wall ζ-potentials using scalar velocimetry techniques.
06/98 - 01/01	CONSULTANT AND SUMMER INTERN , CEPHEID, <i>Sunnyvale, CA</i>
12/95 - 09/97	UNDERGRADUATE RESEARCH ASSISTANTSHIPS , CALTECH & JPL, <i>Pasadena, CA</i>
06/96 - 09/96	UNDERGRADUATE RESEARCH ASSISTANT (NASA SPACE GRANT) , CORNELL, <i>Ithaca, NY</i>
Summers 93-95	OPPORTUNITY AWARD RESEARCH ASSISTANT , LUCENT TECHNOLOGIES, <i>Orlando, FL & Madrid, Sp</i>

1. J. Vlassakis & A. E. Herr “Joule Heating-Induced Dispersion in Open Microfluidic Electrophoretic Cytometry”, *Analytical Chemistry*, *accepted*.
2. E.J. Su & A.E. Herr, “Electrophoretic Cytometry of Adherent Cells”, *Lab on a Chip*, *accepted*, doi: 10.1039/C7LC01012E.
3. P. Abdel-Sayed, K. A. Yamauchi, R. E. Gerver and A. E. Herr, “Fabrication of an open microfluidic device for immunoblotting”, *Analytical Chemistry*, **2017**, 89(18):9643-9648. doi: 10.1021/acs.analchem.7b02406, PMID: 28825964.
4. H. Neira & A.E. Herr, “Hydrogels as Solid Supports for Enzyme Immobilization: Intrinsic Kinetics and Error Propagation”, *Analytical Chemistry*, **2017**, 89(19):10311-10320. doi: 10.1021/acs.analchem.7b02075, PMID: 28858525.
5. E. Sinkala, E. Sollier-Christensen, C. Renier, E. Rosàs-Canyelles, J. Che, K. Heirich, T. A. Duncombe, J. Vlassakis, K. A. Yamauchi, H. Huang, S. S. Jeffrey, A. E. Herr, “Profiling protein expression in circulating tumour cells using microfluidic western blotting”, *Nature Communications*, **2017**, 8:14622. doi: 10.1038/ncomms14622. PMID: 28332571
6. J. J. Kim, E. Sinkala, and A. E. Herr, “High-selectivity cytology via lab-on-a-disc western blotting of individual cells”, *Lab Chip*, **2017**, 28;17(5):855-863. doi: 10.1039/c6lc01333c, PMID: 28165521.
7. Y. Pan, E. K. Sackmann, K. Wypisniak, M. Hornsby, S. S. Datwani, and A. E. Herr, ““Determination of equilibrium dissociation constants for recombinant antibodies by high-throughput affinity electrophoresis” *Scientific Reports*, **2016**, 6:39774, doi: 10.1038/srep39774.
8. K.A. Yamauchi & A. E. Herr, “Subcellular western blotting of single cells”, *Microsystems & Nanoengineering (Nature Publishing Group)*, **2017**, 3:16079, doi:10.1038/micronano.2016.79.
9. A.M. Tentori*, K. A. Yamauchi*, A.E. Herr, “Detection of Isoforms Differing by a Single-charge Unit in Individual Cells”, *Angew Chem Int Ed Engl.*, **2016**, 55(40):12431-5. *equal contributors. PMID: 27595864
10. C.-C. Kang, K. Yamauchi*, J. Vlassakis*, E. Sinkala, T.A. Duncombe, A.E. Herr, “Single cell-resolution western blotting”, *Nature Protocols*, **2016**, 11(8):1508-30. *equal contributors. PMID: 27466711
11. M. A. Kapil, Y. Pan, T. A. Duncombe, A.E. Herr, “Kinetic rate determination via electrophoresis along an open microchannel with varying cross-sectional area”, *Analytical Chemistry*, **2016**, 88(7):3669-76. PMID: 26963604.
12. T.A. Duncombe*, C.-C. Kang*, S. Maity, N. Murthy, T. M. Ward, M. A. Pegram, & A.E. Herr, “Hydrogel pore-size modulation for enhanced single-cell western blotting”, *Advanced Materials*, **2016**, 28(2):327-34. *equal contributors. PMID: 26567472.
13. J. Vlassakis & A.E. Herr, “Effect of polymer hydration state on in-gel immunoassays”, *Analytical Chemistry*, **2015**, Nov 3;87(21):11030-8. PMID: 26457450
14. T.A. Duncombe, A.M. Tentori, & A.E. Herr, “Microfluidics: reframing biological enquiry”, *Nature Reviews Molecular Cell Biology*, **2015**, Sep;16(9):554-67. PMID: 26296163 (Invited Review)
15. Colleen A. Kellenberger, Jade Sales-Lee, Yuchen Pan, Madalee M. Gassaway, Amy E. Herr, and Ming C. Hammond, “A Minimalist Biosensor: Quantitation of Cyclic Di-GMP Using Conformational Change of a Riboswitch”, *RNA Biology*, **2015**, 12(11):1189-97. PMID: 26114964
16. R. Lin, A. Skandarajah, R.E. Gerver, H.D. Neira, D.A. Fletcher, & A. E. Herr, “A lateral electrophoretic flow diagnostic assay”, *Lab Chip*, **2015**, 15(6):1488-96. doi: 10.1039/c4lc01370k. PMID: 25608872
17. R.E. Gerver & A.E. Herr, “Microfluidic western blotting of low molecular mass proteins”, *Analytical Chemistry*, **2014**, 86(21):10625-32. PMID: 25268977, PMC4222625.
18. Y. Pan, T.A. Duncombe, C. Kellenberger, M.C. Hammond, A.E. Herr, “High-throughput electrophoretic mobility shift assays for quantitative analysis of molecular binding reactions”, *Analytical Chemistry*, **2014**, 86(20):10357-64. PMID: 25233437, PMC4204909.
19. C-C Kang, J-M Lin, Z. Xu, S. Kumar, A.E. Herr, “Single-cell western blotting after whole-cell imaging to assess cancer chemotherapeutic response” *Analytical Chemistry*, **2014**, 86(20):10429-36. PMID: 25226230, PMC4204918.
20. M. Chung, D. Kim, & A.E. Herr, “Polymer sieving matrices in microanalytical electrophoresis”, *Analyst*, 139(22):5635-54. PMID: 25195612.
21. A.J. Hughes*, D. M. Spelke*, Z. Xu, C.-C. Kang, D.V. Schaffer, A.E. Herr, “Single-cell Western blotting”, *Nature Methods*, **2014**, 11(7):749-55. *equal contributors. PMID: 24880876, PMC4077215.
22. A. M. Tentori and A. E. Herr, “Performance implications of chemical mobilization after microchannel isoelectric focusing”, *Electrophoresis*, **2014**, 35(10):1453-60. PMID: 24590929.
23. M.A. Kapil & A.E. Herr, “Binding kinetic rates measured via electrophoretic band crossing in a pseudo-homogeneous format”, *Analytical Chemistry*, **2014**, 4;86(5):2601-9. PMID: 24552202.
24. Y. Pan, K. Karns, & A.E. Herr, “Microfluidic electrophoretic mobility shift assays for quantitative biochemical analysis”, *Electrophoresis*, **2014**, 35(15):2078-90. PMID: 24591076.
25. M.K. Araz, A.A. Apori, C. Salisbury, A.E. Herr, “Microfluidic barcode assay for antibody-based confirmatory diagnostics”, *Lab on a Chip*, **2013**, 13(19):3910-3920. PMID: 23925585.
26. M. Chung, D. Kim, A.E. Herr, “Microchamber Western blotting using poly-L-lysine conjugated polyacrylamide gel for blotting of SDS coated proteins”, *Analytical Chemistry*, **2013**, 85(16):7753-7761. PMID: 23848185.

27. D. Kim & A.E. Herr, "Protein immobilization techniques for microfluidic assays", *Biomicrofluidics*, **2013**, 7(4):41501. PMID: 24003344, PMC3747845.
28. M.K. Araz, A.M. Tentori, A.E. Herr, "Microfluidic multiplexing in bioanalyses", *Journal of Laboratory Automation*, **2013**, 18(5):350-366. PMID: 23757343.
29. A.M. Tentori, A.J. Hughes, & A.E. Herr, "Microchamber Integration unifies distinct separation modes for Two-Dimensional Electrophoresis", *Analytical Chemistry*, **2013**, 85(9):4538-4545. PMID: 23565932, PMC3714212.
30. T.A. Duncombe & A.E. Herr, "Photopatterned free-standing polyacrylamide gels for microfluidic protein electrophoresis", *Lab on a Chip*, **2013**, 13(11):2115-2123. PMID: 23609800.
31. S. Tia, K. Brown, D. Chen, A.E. Herr, "Protein post-translational modification analyses using immunoprobed isoelectric focusing", *Analytical Chemistry*, **2013**, 85(5):2882-2890. PMID: 23363036.
32. K. Karns, J.M. Vogan, Q. Qin, S. Hickey, M.C. Hammond, and A.E. Herr, "Microfluidic screening of electrophoretic mobility shifts elucidates riboswitch binding function", *Journal of the American Chemical Society (JACS)*, **2013**, 135(8):3136-3143. PMID: 23343213, PMC3644558.
33. A.A. Apori, M. Brozynski, I. El-Sayed, A.E. Herr, "Microfluidic validation of diagnostic protein markers for spontaneous cerebrospinal fluid rhinorrhea", *Journal of Proteome Research*, **2013**, 12(3):1254-1265. PMID: 23343621.
34. C. Hou & A.E. Herr, "Microfluidic integration of Western blotting is enabled by electrotransfer-assisted sodium dodecyl sulphate dilution" *Analyst*, **2013**, 138(1):158-163. PMID: 23042290.
35. A. J. Hughes & A.E. Herr, "Microfluidic Western blotting", *Proceedings of the National Academy of Sciences USA (PNAS)*, **2012**, 109 (52):21450-21455. PMID: 23223527, PMC3535594.
36. T.A. Duncombe & A.E. Herr, "Use of polyacrylamide gel moving boundary electrophoresis to enable low-power protein analysis in a compact microdevice", *Analytical Chemistry*, **2012**, 84(20):8740-8747. PMID: 22971048.
37. A.J. Hughes*, A.M. Tentori*, A.E. Herr, "Bistable isoelectric point photoswitching in green fluorescent proteins observed by dynamic immunoprobed isoelectric focusing", *Journal of the American Chemical Society (JACS)*, **2012**, 134(42):17582-17591. *equal contributors. PMID: 23017083, PMC3488114.
38. A. K. Denisin*, K. Karns*, A.E. Herr, "Post-collection processing of Schirmer strip-collected human tear fluid impacts protein content", *Analyst*, **2012**, 137(21):5088-5096. PMID: 22991688. *equal contributors.
39. A.J. Hughes R.K.L. Lin, D.M. Peehl, A.E. Herr, "Microfluidic integration for automated targeted proteomic assays", *Proceedings of the National Academy of Sciences USA (PNAS)*, **2012**, 109(16):5972-5977. PMID: 22474344, PMC3341062.
40. D. Kim K. Karns, S. Tia, M. He, A.E. Herr, "Electrostatic Protein Immobilization using Charged Polyacrylamide Gels and Cationic Detergent Microfluidic Western Blotting", *Analytical Chemistry*, **2012**, 84(5):2533-2540. PMID: 22304398.
41. M. He, J. Novak, B. Julian, A.E. Herr, "Membrane assisted on-line renaturation for automated microfluidic lectin blotting", *Journal of the American Chemical Society (JACS)*, **2011**, 133(49):19610-19613. PMID: 22070432, PMC3267544.
42. K. Karns & A.E. Herr, "Human tear protein analysis enabled by an alkaline microfluidic homogeneous immunoassay", *Analytical Chemistry*, **2011**, 83(21):8115-8122. PMID: 21910436.
43. X. Chen, M. Kapil, A. J. Hughes, A. E. Herr, "A single-microchannel, multi-step assay reports protein size and immunoaffinity", *Analytical Chemistry*, **2011**, 83(17):6573-6579. PMID: 21834519.
44. S. Q. Tia, M. He, K. Kim, A.E. Herr, "Multi-analyte on-chip native Western blotting", *Analytical Chemistry*, **2011**, 83(9):3581-3588. PMID: 21456518.
45. A.M. Tentori & A.E. Herr, "Photopatterned materials in bioanalytical microfluidic technology" *Journal of Micromechanics and Microengineering: Structures, Devices, and Systems*, **2011**, 21(5):54001. PMID: 21857772, PMC3156436.
46. A.A. Apori & A.E. Herr, "Homogeneous immunosubtraction integrated with sample preparation is enabled by a microfluidic format", *Analytical Chemistry*, **2011**, 83(7):2691-2698. PMID: 21375345, PMC3069757.
47. J. S. Kinney, T. Morelli, T. Braun, C.A. Ramseier, A.E. Herr, J.V. Sugai, C.E. Shelburne, L.A. Rayburn, A.K. Singh, W.V. Giannobile. "Saliva/Pathogen Biomarker Signatures and Periodontal Disease Progression.", *Journal of Dental Research*, **2011**, 90(6):752-758. PMID: 21406610, PMC3144122.
48. M. He & A.E. Herr, "Automated microfluidic protein immunoblotting", *Nature Protocols*, **2010**, 5:1844-1856. PMID: 21030959
49. A.J. Hughes & A.E. Herr, "Quantitative enzyme activity determination with zeptomole sensitivity by microfluidic gradient-gel zymography", *Analytical Chemistry*, **2010**, 82(9):3803-3811. PMID: 20353191.
50. C. Hou & A.E. Herr, "Ultra-short separation length homogeneous electrophoretic immunoassays using on-chip discontinuous polyacrylamide gels", *Analytical Chemistry*, **2010**, 82(8):3343-3351. PMID: 20334346.
51. M. He & A.E. Herr, "Polyacrylamide gel photopatterning enables automated protein immunoblotting in a two-dimensional microdevice", *Journal of the American Chemical Society (JACS)*, **2010**, 132(8):2512-2513. PMID: 20131779.
52. M. He & A.E. Herr, "Microfluidic polyacrylamide gel electrophoresis with *in-situ* immunoblotting for native protein analysis", *Analytical Chemistry*, **2009**, 81:8177-8184. PMID: 19731927.
53. S. Tia & A.E. Herr, "On-chip technologies for multidimensional separations", *Lab on a Chip*, **2009**, 9:2524-2536. PMID: 19680577.

54. N. Srivastava, J. S. Brennan, R.F. Renzi, M. Wu, S.S. Branda, A.K. Singh, A.E. Herr, "Fully-integrated microfluidic platform enables automated phospho-profiling of macrophage response", *Analytical Chemistry*, **2009**, 81:3261-3269. PMID: 19323537.
55. C.A. Ramseier, J.S. Kinney, A.E. Herr, T. Braun, J.V. Sugai, C.A. Shelburne, L.A. Rayburn, H.M. Tran, A.K. Singh, W.V. Giannobile, "Identification of pathogen and host-response markers correlated with periodontal disease", *Journal of Periodontology*, **2009**, 80(3):436-446. PMID: 19254128.
56. C. Hou & A.E. Herr, "Clinically-relevant advances in on-chip affinity-based electrophoresis and electrochromatography", *Electrophoresis*, **2008**, 29:3306-3319. PMID: 18702056.
57. C.T. Lo¹, D.J. Throckmorton¹, A.K. Singh, A.E. Herr. "Photopolymerized diffusion-defined polyacrylamide gradient gels for on-chip protein sizing." *Lab Chip*, **2008**, 8:1273-1279. PMID: 18651068. *Equal contributors (2008 Hot Article)*
58. A.E. Herr, A.V. Hatch, D.J. Throckmorton, H.M. Tran, J.S. Brennan, W.V. Giannobile, A.K. Singh. "Microfluidic immunoassays as rapid saliva-based clinical diagnostics", *Proceedings of the National Academy of Sciences USA (PNAS)*, **2007**, 104(13):5268-5273. PMID: 17374724 , PMC1828942.
59. A.E. Herr, A.V. Hatch, W.V. Giannobile, D.J. Throckmorton, H.M. Tran, J.S. Brennan, A.K. Singh. "Integrated Microfluidic Platform for Oral Diagnostics" *Ann. N.Y. Acad. Sci*, **2007**, Vol 1098: *Oral Based Diagnostics, Part VI: Horizons in Oral Diagnostics*, 362-374. PMID: 17435142, PMC2572166.
60. A.V. Hatch, A.E. Herr, D.J. Throckmorton, J.S. Brennan, A.K. Singh. "Integrated preconcentration-SDS-PAGE of proteins in microchips using photopatterned polyacrylamide", *Analytical Chemistry*, **2006**, 78(14):4976-4984. PMID: 16841920.
61. V.C. Rucker, K.L. Havenstrite, B.A. Simmons, S.M. Sickafoose, A.E. Herr, R. Shediach. "Functional antibody immobilization on 3D polymeric surfaces generated by reactive ion etching", *Langmuir*, **2005**, 21(17):7621-7625. PMID: 16089360.
62. V.C. Rucker; K.L. Havenstrite, A.E. Herr. "Antibody microarrays for native toxin detection", *Analytical Biochemistry*, **2005**, 339 (2):262-270. PMID: 15797567.
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68. A.E. Herr, J.I. Molho, J.G. Santiago, M.G. Mungal, T.W. Kenny, M.G. Garguilo. "Electroosmotic capillary flow with non-uniform zeta potential," *Analytical Chemistry*, **2000**, 72(5):1053-1057. PMID: 10739211.

AWARDS & RECOGNITION

2018-2019	Defense Science Study Group (DSSG)
2017-22	Chan Zuckerberg (CZ) Biohub Investigator
2017	Berkeley Visionary Award from the City of Berkeley Chamber of Commerce
2017	Georgina Sweet Lectureship, Australian Research Council
2017	Fellow, National Academy of Inventors (NAI) (elected)
2016	Mid-Career Achievement Award, American Electrophoresis Society (AES)
2016	Chau Hoi Shuen Foundation Women in Science Program
2016	Named to the <i>Analytical Scientist's</i> top 50 women in analytical science
2015	Fellow, American Inst. for Medical and Biological Engineering (AIMBE) College of Fellows
2015	Named to the <i>Analytical Scientist's</i> top 100 most influential people in analytical science (Power List)
2015-2018	Mary Shepard B. Upton Visiting Professorship, Cornell University
2015	Georges Guiochon Faculty Fellow (inaugural), HPLC International Series of Symposia
2015	Featured Innovator, Silicon Valley Leadership Group, West Coast USPTO opening ceremony
2014	Kavli Fellow, Brazil-US Frontiers of Science & Engineering, 1 st Joint US NAE & NAS workshop
2012	Young Innovator Award, <i>Analytical Chemistry</i> / Chemical & Biological Microsystems Society (CBMS)
2012	Thiele Lectureship, Department of Chemical & Biomolecular Engineering, University of Notre Dame
2012	Ellen Weaver Award, Association for Women in Science (AWIS, Northern California Chapters)
2012	Bioengineering Outstanding Instructor, BioE Honor Society (student vote), UC Berkeley
2012-2017	Bakar Fellow, University of California, Berkeley
2011-2016	CAREER Award, National Science Foundation (NSF)
2010-2015	New Innovator Award, National Institutes of Health (NIH), Office of the Director
2010-2012	Sloan Research Fellow (chemistry), Alfred P. Sloan Foundation
2010	Young Investigator Award in Analytical Chemistry, Eli Lilly and Company

2009-2011 Young Faculty Award, Defense Advanced Research Projects Agency (DARPA)
 2009-2012 Hellman Family Faculty Fund Award, University of California, Berkeley
 2008-2009 Presidential Chair Faculty Fellow, University of California, Berkeley
 2008 Regents' Junior Faculty Fellow, University of California
 2007 Outstanding Mentor Award, Sandia National Laboratories
 2007 NOVA Award finalist for "Individual Technical Excellence" Lockheed Martin (sole Sandia Nominee)
 2007 Individual Technical Excellence, Sandia National Laboratories' Employee Recognition Award (1 of 11)
 2006 Team Excellence, Sandia National Laboratories' Employee Recognition Award
 1997-2000 National Science Foundation Graduate Research Fellowship
 1996-1997 Bibi Jentoft-Nilsen Memorial Leadership Award, Caltech
 1996-1997 Inst. for the Advancement of Engineering, College of Fellows: Outstanding Engineering Student, Caltech
 1995-1997 Wasserman Educational Endowment Scholarship, McLean Brothers' Scholarship, and Los Angeles Philanthropic Foundation's Scholarship, Caltech

OTHER PROFESSIONAL AFFILIATIONS

2020 Chair, MicroTAS
 2017-now Director's Council, Jacobs Institute for Design Innovation, UC Berkeley
 2017-2019 Editorial Advisory Board Member, *Lab on a Chip*
 2016-now Faculty Director, Bakar Fellows Program, UC Berkeley
 2015, 2016 Co-Director, *Single Cell Analysis* Summer Course, Cold Spring Harbor Laboratory
 2015-2018 Advisory Board Member, QB3 Rosenman Institute, UCSF
 2015-2018 Editorial Advisory Board Member, *ACS Sensors*
 2014-2017 Editorial Advisory Board Member, *Analytical Chemistry*
 2013-2019 Standing Member, *Nanotechnology* (NANO) Study Section, National Institutes of Health (NIH)
 2013 Board Member, Chemical and Biological Microsystems Society (CBMS)
 2009 Chair, Gordon Research Conference (GRC) on *The Physics & Chemistry of Microfluidics*
 2007 Vice-Chair, Gordon Research Conference (GRC) on *The Physics & Chemistry of Microfluidics*

RESEARCH PRESENTATION AWARDS (* indicates presenting lab member)

2017 2nd Place Poster Award at UC Berkeley/UCSF Bioengineering Conference, Lake Tahoe, CA Hector Neira* & AE Herr
 2017 3rd Place Poster Award at UC Berkeley/UCSF Bioengineering Conference, Lake Tahoe, CA, John Kim* & AE Herr
 2016 3rd Place Poster Award at American Electrophoresis Society (AES) Symposium, AIChE, San Francisco, CA, E Rosas & AE Herr
 2016 1st Place Poster Award at 32nd Annual UC Berkeley UCSF Bioengineering Conference, Sonoma, CA, Q. Pan*, K. Yamauchi, & AE Herr
 2016 3rd Place Poster Award at 32nd Annual UC Berkeley UCSF Bioengineering Conference, Sonoma, CA, J Vlassakis & AE Herr
 2016 Agilent Technologies Best Poster Award (2nd Place) at the HPLC 2016: 44th International Symposium on High Performance Liquid Phase Separations & Related Topics, San Francisco, CA, Q. Pan*, K. Yamauchi, & AE Herr
 2014 1st Place Poster Award at 30th Annual UC Berkeley UCSF Bioengineering Conference, Yosemite, CA, E Rosas* & AE Herr
 2013 1st Place Poster Award, American Electrophoresis Society (AES), AIChE Annual Meeting, San Francisco, CA, AM Tentori*, AE Herr.
 2013 2nd Place Poster Award, American Electrophoresis Society (AES), AIChE Annual Meeting, San Francisco, CA, Y Pan*, TA Duncombe, CA Kellenberger, MC Hammond, AE Herr.
 2013 Best Poster Award from SRC Education Alliance at Techcon 2013, Austin TX, C Baradar*, TA Duncombe, AE Herr
 2012 Outstanding Poster Award at IEEE EMBS Micro & Nanoscience in Medicine (MNM), Maui, HI, MK Araz*, AA Apori & AE Herr
 2012 2nd Place Poster Award at 28th Annual UC Berkeley UCSF Bioengineering Conference, Lake Tahoe, CA TA Duncombe* & AE Herr
 2011 Widmer Poster Award, microTAS 2011, Seattle, WA, AA Apori* & AE Herr
 2011 Finalist (Top 6) for Research Poster Award at Gordon Research Conference on the Physics & Chemistry of Microfluidics, Waterville Valley, NH, K Karns* & AE Herr
 2011 1st Place Poster Award (from ~80) at Microscale Bioseparations (MSB) International Conference, San Diego, CA, AA Apori* & AE Herr
 2011 3rd Place Poster Award at UC Berkeley College of Engineering Poster Session, Berkeley, CA AK. Denisin*, K Karns, & AE Herr
 2010 1st Place Poster Award (from ~184) at Lab Automation International Conference, Palm Springs, CA. K Karns* & AE Herr

- 2009 2nd Place Poster Award at 25th Annual UC Berkeley UCSF Bioengineering Conference, Lake Tahoe, CA
K Karns* & AE Herr
- 2011, 2014 Student delegates to the Lindau Nobel Laureates meeting: Chenlu Hou, Julea Vlassakis

COMMENTARY & PERSPECTIVES (INVITED)

1. A.E. Herr, “Disruptive by design: Engineering in analytical chemistry”, Perspectives Article, *Analytical Chemistry*, **2013**, 85(16):7622-8. Invited in honor of 2012 *Analytical Chemistry* “Young Innovator” Award
2. A Wheeler & A.E. Herr, “Mission impossible to mission control: Emerging Investigators special issue”, *Lab Chip*, **2012**, 12(20):3851-2.
3. K Karns & A.E. Herr, “Microfluidic Homo- and Hetero-geneous Immunoassays: a tool to accelerate protein biomarker development”, *Bioanalysis*, **2011**, 19:2161-5.
4. BL Pruitt & A.E. Herr, “MEMS in biology and medicine” *Journal of Micromechanics and Microengineering*, **2011**, 21(5), DOI: 10.1088/0960-1317/21/5/050201
5. A Wheeler & A.E. Herr, “Intimidating yet Inspiring: Emerging Investigators special issue”, *Lab Chip*, **2010**, 10(18) pp. 2321-2.
6. A.E. Herr, “Scrutiny of Suspected Disease Biomarkers: An Opportunity for Lab-on-a-Chip Innovation”, American Electrophoresis Society, **2010** (<http://www.aesociety.org/areas/biomarkers.php>).

GUEST EDITORSHIPS

- 2018 Special Issue of *Analyst*, Single-Cell Analysis, Guest Editor with Prof. Takehiko Kitamori
- 2012 Special Issue of *Lab on a Chip*, Emerging Investigators, 12(20), Guest Editor with Prof. Aaron Wheeler
- 2011 Special Issue of *Journal of Micromechanics and Microengineering*, MEMS in Biology & Medicine, 21(5), Guest Editor with Prof. Beth Pruitt
- 2010 Special Issue of *Lab on a Chip*, Emerging Investigators, 10(18), Guest Editor with Prof. Aaron Wheeler

PLENARY, KEYNOTE, & INVITED PRESENTATIONS

- EMBL Microfluidics Conference 2018, Heidelberg, Germany, July 15-17, 2018
- American Society for Biochemistry and Molecular Biology (ASBMB), San Diego, CA, April 21-25, 2018
- The 9th International Conference on Microtechnologies in Medicine & Biology (MMB), Monterey, CA, March 26-28, 2018
- Winter qBIO Conference, Maui, HI, February 22-25, 2018
- Single Cell Analysis Symposia, Molecular Medicine Tri-Con, San Francisco, CA, February 15-16, 2018
- Emerging Nanotechnology & Drug Delivery Applications for Cancer (END2CANCER), University of Oklahoma, December 14-15, 2017
- The Neuroscience School of Advanced Studies, Single Cell Analyses in Neuroscience (James Eberwine & Scott Fraser, Directors), Siena Tuscany, Italy, September 2017
- Genetics Department Annual Retreat, Stanford University, Monterey, CA September 2017
- American Brain Tumor Association Alumni Research Network, *Ask the Experts* session, Chicago, IL, Sept 2017
- STEM Professional Directions Panel, University of Tasmania, Tasmania, Australia, June 2017
- (Plenary) Microfluidics & Nanofluidics Symposium on New Directions in Electrokinetics for Biomicrofluidic Applications, Hobart, Australia, June 2017
- Compartmentalization Workshop, "Fundamentals and Applications of Microfluidic Compartmentalization", Okinawa Institute of Science & Technology (OIST), Japan, June 12-17, 2017
- Special Symposium on Microfluidics in Medicine, University of Lund, Lund, Sweden, June 2017
- Nobel Symposium on Microfluidics, Sångå Säby, Svartsjö, Sweden, June 2017
- Richard A. Newton Lecture, UC Berkeley, Berkeley, CA April 2017
- Microanalytical Methods for Immunology Symposium, Pittcon, Chicago, IL, March 2017
- Translational Microfluidic Platforms for Clinical Diagnostics Symposium, Pittcon, Chicago, IL, March 2017
- MIT, Bioengineering Department Senior, Boston, MA February 2017
- IEEE EMBS Conference on Micro and Nanotechnology in Medicine (MNM), Waikoloa, HI, Dec 2016
- (Keynote) Advances in Biosensing, 2016 American Institute of Chemical Engineers (AIChE) Annual Meeting, San Francisco, CA, Nov 2016
- Bay Area GPS STEM symposium, UC Berkeley, Oct 2016
- (Award Plenary) SciX 2016, The Federation of Analytical Chemistry and Spectroscopy Societies, Minneapolis, Sept 2016
- Illumina, Science & Technology Seminar, South San Francisco, CA Sept 2016
- Marine Microbiology Investigator (MMI) Symposium, Gordon & Betty Moore Foundation, San Francisco, CA, July 2016
- European Molecular Biology Laboratory (EMBL) Conference Series Microfluidics, Heidelberg, Germany, July 2016
- Latsis & ETH Zurich, Personalized Medicine—Challenges and Opportunities Symposium, Zurich, Switzerland, June 2016
- (Keynote) 44th International Symposium on High Performance Liquid Phase Separations & Related Techniques (HPLC) 2016, San Francisco, CA June 2016
- (Keynote) MicroNano Systems Workshop (MSW), Lund, Sweden, May 2016
- Eli Lilly & Company, Analytical Chemistry Awardee (YIA) Symposium, Indianapolis, IN, April 2016
- University of Washington, Bioengineering Department Senior, Seattle, WA, March 2016
- Wellcome Genome Campus Scientific Conferences, Single Cell Biology Conference, Cambridge, UK, March 2016

GBSI BioPolicy Summit, *Research Reproducibility: Innovative Solutions to Drive Quality* (Panel, moderated by Richard Harris, NPR science correspondent), Washington, DC, Feb 2016

University of Alberta, Analytical Division Seminar, Department of Chemistry, Canada, November 2015

Tufts University, Department of Chemistry Seminar, Boston, MA November 2015

(Keynote) Cold Spring Harbor Laboratory meeting on Single Cell Analysis, Cold Spring Harbor, NY, November 2015

(Plenary) American Electrophoresis Society (AES) Symposium, American Institute of Chemical Engineers (AIChE) Annual Meeting, Salt Lake City, UT, November 2015

(Keynote) The 19th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2015), October 2015, South Korea

Opportunity Recognition at the Interface of Medicine and Technology Panel, Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015

World Economic Forum, Annual Meeting of the New Champions, *The Future of Precision Medicine* (Pecha kucha, moderated by Joe Palca, NPR science correspondent), Dalian, China September 2015

BioNanotechnology Summer Institute, University of Illinois Urbana-Champaign, July 2015

(Award & Keynote Lecture) Georges Guiochon Lecture, 42nd Symposium of High Performance Liquid Phase Separations & Related Techniques, Geneva, Switzerland, June 2015

Gladstone Institutes, New Technologies Seminar, San Francisco, CA May 2015

ETH Zürich, Department of Biosystems Science & Engineering (D-BSSE), Basel, Switzerland, May 2015

Preparing for Faculty Careers offered by Associate Vice Provost of Graduate Education, Stanford University, April 2015

(Keynote) NIH Single Cell Analysis Investigator Meeting, Bethesda, MD April 2015

University of North Carolina (UNC), Analytical Chemistry Seminar, Chapel Hill, NC April 2015

University of Texas Austin, Department of Bioengineering, Austin, TX Jan 2015

National University of Singapore, Mechanobiology Institute Seminar, Singapore, Dec 2014

IEEE Engineering in Biology & Medicine (EMBS), Micro & Nanotechnology in Medicine (MNM), Oahu, HI Dec 2014

University of Pennsylvania, Department of Pathology, Philadelphia, PA, Dec 2014

University of California, Berkeley, Bioengineering Seminar, Berkeley, CA Sept 2014

Lab-on-a-Chip & Microarrays World Congress, San Diego, CA Sept 2014

UC Berkeley, Science Leadership & Management Seminar (Graduate student organization), Berkeley, CA Sept 2014

Keio University & University of Tokyo, World Lecture Series on Micro/Nanofluidics, Shin-Kawasaki, Japan, August 2014

University of Tokyo, Dean's Forum Lectureship, Tokyo, Japan, July 2014

European Molecular Biology Laboratory (EMBL) Conference Series Microfluidics, Heidelberg, Germany, July 2014

Gordon Research Conference (GRC) on Bioanalytical Sensors, Salve Regina University, Newport, RI, June 2014

SPIE Sensing Technologies and Applications Symposium, Baltimore, MD May 2014

Materials Research Society (MRS) Spring Meeting, Symposium V, San Francisco, CA, April 2014

University of Washington, Department of Chemistry, Analytical Seminar, Seattle, WA, March 2014

The University of Kansas, Department of Chemistry Seminar, Lawrence, KS, February 2014

University of Pennsylvania, Department of Bioengineering, Philadelphia, PA, January 2014

National Institutes of Health (NIH), NCI-NIBIB Workshop, Point of Care Technologies for Cancer Conference, Jan 2014

Women in Medicine and Science (WIMS) Conference, Stanford University, Stanford, CA, October 2013

Google[x] Seminar, Mountain View, CA, September 2013

Biosensors Colloquium, Naval Research Labs (NRL), Bethesda, MD, May 2013

(Keynote) Association for Women in Science (AWIS) NCC Annual Awards Ceremony, South San Francisco, May 2013

UC Berkeley, College of Engineering, Dean's Society Event, May 2013

Santa Clara University, Chemistry Department Seminar, Santa Clara, CA May 2013

The University of Texas at Austin, Department of Biomedical Engineering Seminar, Austin, TX, April 2013

(Keynote) UC Berkeley, CoE/SWE New Admit Overnight host program banquet, Berkeley, CA November 2012

UC Berkeley School of Optometry, Oxyopia Vision Science Seminar Series, April 2013

UC Berkeley, College of Engineering, Design Innovation working group, Advisory Board Meeting, April 2013

UC Berkeley School of Public Health, Slum Health Colloquium, April 2013

Pittcon (Pittsburgh Conf. on Analytical Chemistry), Quantitative Biology and Medicine, Philadelphia, PA, March 2013

The Association of Bimolecular Research Facilities (ABRF), Palm Springs, CA March 2013

Stanford University Association for Multidisciplinary Medicine & Science Panel, Stanford, CA, December 2012

IEEE EMBS, Conference on Micro- and Nanoengineering in Medicine, Maui, HI, December 2012

(Keynote) UC Berkeley BMES Fall Reception, Berkeley, CA November 2012

(Award Lecture) *Analytical Chemistry/CBMS "Young Innovator"* Lecture, uTAS, Okinawa, Japan, October 2012

The Ohio State University, Mechanical Engineering Seminar, Columbus, OH, October 2012

Berkeley Stem Cell Center, Roundtable Discussion Seminar, Berkeley, CA, October, 2012

Thiele Lecture, Department of Chemical & Bimolecular Engineering, Univ. of Notre Dame, South Bend, IN, Sept. 2012

QB3 Science Lunch Faculty Seminar, Berkeley, CA, September 2012

The 8th Annual NIH Director's Pioneer Award Symposium, Bethesda, MD, September 2012

NIH National Heart, Lung, and Blood Institute (NHLBI) Systems Biology Center Lecture, Bethesda, MD, September 2012

Molecular Imaging Program at Stanford (MIPS) Annual Retreat, Stanford, CA, August 2012

Swiss Federal Institute of Technology (ETH), Research Seminar, Zurich, Switzerland, July 2012
 AIChE SBE's 6th International Conference on Bioengineering and Nanotechnology, Berkeley, CA, June 2012
 (Keynote) American Chemical Society (ACS) Colloids and Surfaces Symposium, Baltimore, MD, June 2012
 The Scripps Research Institute Florida, Institute Lecture, Jupiter, FL, March 2012
 Pittcon (Pittsburgh Conf. on Analytical Chemistry), uTAS for Bioanalysis Symposium, Orlando, FL, March 2012
 Biophysical Society Annual Meeting, Soft Lithography in Biology Symposium, San Diego, CA, February 2012
 Stanford University, E311 Guest Lecture in conjunction with the ME+ Women's Group, January 2012
 UC Irvine, Department of Pathology and Laboratory Medicine Seminar Series, Irvine, CA, December 2011
 Materials Research Society (MRS) Fall Meeting, BioMEMS Symposia, Boston, MA November 2011
 Federation of Analytical Chemistry & Spectroscopy, Reno, NV October 2011 (D. Kim presenting)
 University of California, Berkeley, Department of Bioengineering Seminar, September 2011
 Gordon Research Conference (GRC) on the Physics & Chemistry of Microfluidics, Waterville Valley, CA June 2011
 (Keynote) Microfluidic Applications and Training in Cardiovascular Health (MATCH), University of Toronto, June 2011
 University of Washington, Department of Bioengineering Seminar, June 2011
 University of California, Irvine, Department of Biomedical Engineering Seminar, May 2011
 University of Maryland, Institute for Systems Research Colloquium, May 2011
 Stanford University Medical Careers Panel, May 2011
 Microscale Bioseparations and Related Microscale Techniques Conference (MSB), San Diego, CA, May 2011
 California Institute of Technology (Caltech), Chemical Physics Seminar (CPS) series, April 2011
 UC Berkeley Society of Women Engineers (SWE), Keynote lecture, Undergraduate Admit Reception, April 2011
 Siebel Stem Institute, First Annual Workshop, Berkeley, CA March 2011
 Stanford University, Department of Bioengineering Seminar, March 2011
 University of California, Berkeley, Applied Science & Technology (AS&T) Colloquium, February 2011
 Massachusetts Institute of Technology (MIT), Mechanical Engineering Department Seminar, December 2010
 Princeton University, Quantitative and Computational at the Lewis-Sigler Institute, December 2010
 (Keynote) Microfluidics in Bioanalytical Research & Diagnostics International Conference, VTT Finland, September 2010
 University of California, Santa Barbara (UCSB), California Nanosystems Institute, November 2010
 UCSF/UC Berkeley JGGB Retreat, Lake Tahoe, CA, September 2010
 International Symposium on Capillary Electrophoresis Techniques (ITP 2010), Baltimore, MD, August 2010
 University of California, Riverside, Bioengineering Colloquium, May 2010
 Joint Bioenergy Institute (JBEI), Sandia National Laboratories, Emeryville, CA, May 2010
 Berkeley Stem Cell Center, Annual retreat, Asilomar, CA, April 2010
 Caliper Life Sciences, Research & Development Seminar, Alameda, CA, March 2010
 American Association of Clinical Chemistry (AACC), Bay Area Meeting, Berkeley, CA, February 2010
 ASME 1st Global Congress on NanoEngineering for Medicine and Biology (NEMB), Houston, February 2010
 Japanese University Network in the Bay Area (JUNBA) Technology Fair, San Francisco, January 2010
 University of California, Berkeley, Graduate Women of Engineering (GWE) Mentoring Seminar, November 2009
 University of California, Berkeley Chancellor's Forum, October 2009
 UC Center for Information Technology Research in the Interest of Society (CITRIS) Healthcare Panel, October 2009
 QB3/UCSF/UCB Cost Effective Health Care Technology Workshop, June 2009
 Berkeley HeartLab, Inc. (Celera), Clinical Research & Development Group, May 2009
 41st Annual Oak Ridge Conference, American Association of Clinical Chemistry, April 2009
 University of Alabama, Birmingham, Department of Microbiology Seminar, February 2009
 University of California, Berkeley, Celebrating Women in Engineering (CWE) outreach event, Panel, February 2008
 University of California, Berkeley, Nanoscale Science and Engineering (NSE) Seminar, February 2009
 Children's Hospital Oakland Research Institute, Institute Colloquium, February 2009
 Stanford University, Department of Mechanical Engineering (Biomechanics) Seminar, November 2008
 University of California, Berkeley Solid State Technology and Devices Seminar (EE/CS), November 2008
 University of California, Berkeley, Department of Nutrition and Toxicology Seminar, November 2008
 Stanford Genome Technology Center, SGTC Seminar, October 2008
 University of California, Berkeley, Graduate Division, Summer Institute for Preparing Future Faculty Panel, July 2008
 Defense Advanced Projects Agency (DARPA/MTO), Analytical MEMS Workshop, June 2008
 University of California, Berkeley, College of Engineering, External Advisory Board Seminar, April 2008
 University of California, Berkeley, EDGE Program, Luncheon Mentoring Seminar, April 2008
 Georgia Institute of Technology, Department of Chemical & Biological Engineering Seminar, April 2008
 University of California, Berkeley Stem Cell Center 3rd Annual Retreat, March 2008
 University of California, Berkeley, NSF Center for Underrepresented Engineering Students (CUES) Panel, March 2008
 Stanford University School of Medicine, Department of Urology, November 2007
 University of California, Berkeley, Graduate Women of Engineering (GWE) Mentoring Seminar, November 2007
 Diabetes Technology Meeting, 7th Annual Meeting, San Francisco, October 2007
 Stanford University School of Medicine, Department of Immunology, October 2007
 University of California, Berkeley, Department of Bioengineering Seminar, October 2007

University of Southern California, Division of Thoracic and Foregut Surgery, September 2007
 University of Illinois at Urbana-Champaign, Mechanical Science and Engineering Department Seminar, April 2007
 Washington State University, Mechanical and Materials Engineering Symposium, March 2007
 58th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Chicago, IL, February 2007
 American Chemical Society National Meeting & Exposition, 2006
 University of California at Berkeley, Bioengineering Department Seminar, 2006
 Cornell University, Mechanical & Aerospace Engineering Departmental Colloquia, 2006
 Association for Laboratory Automation, LabAutomation Conference, Palm Springs, CA 2006
 Gordon Research Conference on the Physics & Chemistry of Microfluidics, 2005 (presented by A.K. Singh)
 Gordon Research Conference on Salivary Glands & Exocrine Secretion, 2005 (presented by A.K. Singh)
 Stanford University, Mechanical Engineering Women's Group Seminar Series (E311A), 2005
 Association for Laboratory Automation, LabAutomation Conference, San Jose, CA 2005
 Stanford University, Mechanical Engineering MEMS Laboratory (ME342), 2004
 Palo Alto Research Center, Palo Alto, CA 2004
 Sandia Laboratory Directed Research & Development (LDRD) NNSA Review Section, Albuquerque, NM, 2003
 ACLARA Biosciences, Mountain View, CA 2002
 Thermal and Fluid Sciences Affiliates and Sponsors Conference, Mechanical Engineering, Stanford University, 2002
 EXPE'01 --The Stanford Design EXPERIENCE, Stanford University, 2001
 Target Discovery, Palo Alto, CA 2001
 Thermal and Fluid Sciences Affiliates and Sponsors Conference, Mechanical Engineering, Stanford University, 1999

CONFERENCE PUBLICATIONS & PRESENTATIONS (REFEREED):

1. Emery T. Goossens, Julea Vlassakis, Anjali Gopal, Amy E. Herr and Rebecca W. Doerge, "A Semi-Supervised Framework for Classification and Segmentation of Electrophoretic Cytometry Images", Neural Information Processing Systems (NIPS) Workshop on Machine Learning in Computational Biology, Long Beach, CA, , December 9th, 2017 (Poster and Short Talk)
2. J. J. Kim, C.-C. Kang, & A. E. Herr, "A refined taxonomy for understanding cancer drug resistance: resolving truncated isoforms in single estrogen receptor positive (ER+) breast cancer cells", 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2017), Georgia, USA, October 22-26, 2017 (Oral).
3. J. Vlassakis & A. E. Herr, "Electrophoretic cytometry reveals heterogeneity in cytoskeletal molecular states of cancer cells", 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2017), Savannah, Georgia, USA, October 22-26, 2017 (Oral).
4. H. D. Neira & A. E. Herr, "Measuring Intrinsic Kinetics of Enzymes Immobilized in Hydrogels", 21th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2017), Savannah, Georgia, USA, October 22-26, 2017 (Poster)
5. E. Su & A. E. Herr, "Integrating Micro-Environmental Cues into Single-Cell Targeted Protein Cytology", OIST Workshop on Fundamentals and Applications of Microfluidic Compartmentalization, Okinawa, Japan, June 2017 (Oral)
6. J. Vlassakis & A. E. Herr, "Quantifying Joule Heating in Electrophoretic Cytometry", Gordon Research Conference, Il Ciocco, Italy, June 2017 (Poster)
7. S. Jeeawoody, K.A. Yamauchi & A. E. Herr, "Protein Phosphorylation Cytometry Via Single Cell Isoelectric Focusing", American Electrophoresis Society (AES) Symposium, AIChE Annual Meeting, November 2016, San Francisco, CA (Oral).
8. E. Su, K. A. Yamauchi & A. E. Herr, "Integrating Micro-Environmental Cues into Single-Cell Targeted Proteomics Tools", American Electrophoresis Society (AES) Symposium, AIChE Annual Meeting, November 2016, San Francisco, CA (Oral).
9. E. Rosas A. Modzelewski, L. He, & A. E. Herr, "Following Lineage Commitment of Pre-implantation Embryos Through Single-Embryo Western Blotting", American Electrophoresis Society (AES) Symposium, AIChE Annual Meeting, November 2016, San Francisco, CA (Poster).
10. K. A. Yamauchi*, A. M. Tentori*, & A. E. Herr, "Isoform cytometry: Isoelectric focusing resolves single charge-unit differences from individual cells", 20th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2016), Dublin, Ireland, October 10-13, 2016 (Oral). **equal contributors*
11. H. D. Neira, K. A. Yamauchi & A. E. Herr, "Microfluidic immunoelectrophoresis eliminates electrotransfer-assisted immunoprobng", HPLC 2016: 44th International Symposium on High Performance Liquid Phase Separations & Related Topics, San Francisco, CA, June 19-24, 2016 (Oral).
12. Q. Pan, K. A. Yamauchi & A. E. Herr, "Minimizing dispersion during single-cell electrophoresis", HPLC 2016: 44th International Symposium on High Performance Liquid Phase Separations & Related Topics, San Francisco, CA, June 19-24, 2016 (Poster).
13. K. A. Yamauchi & A. E. Herr "Single-cell isoelectric focusing resolves isoforms of endogenous proteins" HPLC 2016: 44th International Symposium on High Performance Liquid Phase Separations & Related Topics, San Francisco, CA, June 19-24, 2016 (Oral).
14. J. Kim, E. Sinkala, A.E. Herr, "Design and optimization of a single-cell protein assay for clinical utility", Hilton Head 2016: Solid-State Sensor, Actuator & Microsystems Workshop, June 2016, Hilton Head, SC (Oral).

15. C.-C. Kang, T. M. Ward, J. Bockhorn, M.A. Pegram, & A.E. Herr, "HER2 protein isoform heterogeneity investigated by single-cell western blotting", AACR Annual Meeting, New Orleans, LA, April 2016.
16. Y. Pan, E. Sackmann, S. Datwani, & A.E. Herr, "Acoustic droplet dispensing facilitates high-throughput binding assays on mesofluidic gel electrophoresis arrays", SLAS 2016, San Diego, CA, January 24-27, 2016.
17. Todd A. Duncombe, Chi-Chih Kang, Elly Sinkala, Toby M. Ward, Mark D. Pegram, & Amy E. Herr, "Single-cell targeted proteomics for deep profiling of human breast cancer signaling", 19th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2015), Gyeongju, Korea, Oct 25-29, 2015.
18. Elisabet Rosas & Amy E. Herr, "Developing an integrated genomic & proteomic single-cell analysis tool", Gordon Research Seminar and Gordon Research Conference on the "Physics & Chemistry of Microfluidics", Mount Snow in West Dover VT, June 2015
19. Julea Vlassakis & Amy E. Herr, "Hydrogel swelling as an efficient mechanism for antibody probing of single-cell western blots", Gordon Research Seminar and Gordon Research Conference on the "Physics & Chemistry of Microfluidics", Mount Snow in West Dover VT, June 2015 (Poster at GRC; oral presentation are forgoing GRS)
20. Kevin A. Yamauchi & Amy E. Herr, "Sub-cellular western blotting of single cells", The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2014), October 26-30, 2014, San Antonio, TX (Oral; < 10% acceptance rate).
21. Elly Sinkala, Elodie Sollier, Stefanie S. Jeffrey & Amy E. Herr, "Microfluidic western blotting of rare breast cancer cells", The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2014), October 26-30, 2014, San Antonio, TX (Poster).
22. Chi-Chih Kang, Zhuchen Xu, J.-M. Lin, Sanjay Kumar, & Amy E. Herr, "Cell-to-cell variation in drug response elucidated by single-cell western blotting", AACR Precision Medicine Series: Drug Sensitivity and Resistance: Improving Cancer Therapy Special Conference, June 18-21, 2014, Orlando, FL (Poster).
23. Robert Lin, Arunan Skandarajah, Rachel E. Gerver, Daniel A. Fletcher, and Amy E. Herr, "Microfluidic Barcode Assay for Clinical Diagnostics", Hilton Head 2014: Solid-State Sensor, Actuator & Microsystems Workshop, June 2014, Hilton Head, SC (Oral).
24. Yuchen Pan, Todd A. Duncombe, Colleen Kellerberger, Ming Chen Hammond & Amy E. Herr, "Riboswitch screening enabled by microfluidic electrophoretic mobility shift assays (EMSAs)", Hilton Head 2014: Solid-State Sensor, Actuator & Microsystems Workshop, June 2014, Hilton Head, SC (Poster).
25. Todd A. Duncombe, Kevin Maurer, Amy E. Herr, "Rapid Microfluidic Prototyping of Sophisticated Protein Analysis Platforms using Grayscale Photopatterning", MEMS 2014, San Francisco, CA (Poster)
26. Yuchen Pan, Todd A. Duncombe, Colleen Kellerberger, Ming Chen Hammond & Amy E. Herr, "Riboswitch screening enabled by microfluidic electrophoretic mobility shift assays (EMSAs)", American Electrophoresis Society (AES) Symposium, AIChE Annual Meeting, November 2013, San Francisco, CA (Late News Poster).
27. Augusto M. Tentori & Amy E. Herr, "Microchannel Isoelectric Focusing (IEF): Elucidating the Separation Performance Impacts of Chemical Mobilization", American Electrophoresis Society (AES) Symposium, AIChE Annual Meeting, November 2013, San Francisco, CA (Late News Poster).
28. Alex J. Hughes, Dawn Spelke, Zhuchen Xu, and David V. Schaffer & Amy E. Herr, "Single Cell Western Blotting", The 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2013), October 27-31, 2013, Freiburg, Germany (Oral).
29. Monica Kapil, Akwasi A. Apori, & Amy E. Herr, "Kinetic Polyacrylamide Gel Electrophoresis (KPAGE): Microfluidic Binding Assay Enables Measurements of Kinetic Rates for Immunoreagent Quality Assessment", Biomedical Engineering Society (BMES) Annual Meeting, September 25-8, 2013, Seattle, WA (Oral)
30. Yuchen Pan, Todd A. Duncombe, & Amy E. Herr, "Quantitative Electrophoretic Mobility Shift Assays Enabled by Microsystems", Biomedical Engineering Society (BMES) Annual Meeting, September 25-8, 2013, Seattle, WA (Oral)
31. R. Gerver & A.E. Herr, "Microfluidic immunoblotting for probing the role of proteins in disease", Gordon Research Seminar on the Physics and Chemistry of Microfluidics., June 2013, Il Ciocco, Italy (Poster)
32. A.M. Tentori & A.E. Herr, "Multi-dimensional assays", Gordon Research Seminar on the Physics and Chemistry of Microfluidics., June 2013, Il Ciocco, Italy (Oral)
33. R.K.C. Lin, A.J. Hughes, & A.E. Herr, "High sensitivity single-cell western blotting", UC Berkeley-Stanford Siebel Stem Cell Center Symposium, March 27, 2013, Berkeley, CA (Poster)
34. A.J. Hughes, D. Spelke, R.K.C. Lin, D.V. Schaffer, A.E. Herr, "Single-cell western blotting for quantification of heterogeneous differentiation profiles in neural stem cell lineages", UC Berkeley-Stanford Siebel Stem Cell Center Symposium, March 27, 2013, Berkeley, CA (Poster)
35. A.J. Hughes, D. Spelke, R.K.C. Lin, D.V. Schaffer, A.E. Herr, "Single-cell western blotting for quantification of heterogeneous differentiation profiles in neural stem cell lineages", Single Cell Analyses Workshop, Cold Spring Harbor Laboratory, March 3-6, 2013, Cold Spring Harbor, NY (Oral)
36. A.J. Hughes & A.E. Herr, "Scalable Microfluidic Design for Multi-stage Proteomic Assays", IEEE EMBS Micro and Nanotechnology in Medicine (MNM'13) Conference, December 3-7, 2012, Maui, HI (Poster)
37. M.K. Araz, A.A. Apori, A.E. Herr, "Bar Code Confirmatory Diagnostics for the Point-of-Care: Electrophoretic Patterning of Biomolecules in 3D Hydrogels", IEEE EMBS Micro and Nanotechnology in Medicine (MNM'13) Conference, December 3-7, 2012, Maui, HI (Poster)

38. S.Q. Tia, A. J. Hughes, K. Brown, D. Chen, A. E. Herr, "Microfluidic Probed Isoelectric Focusing Allows Targeted Posttranslational Modification Analysis, BMES 2012 Annual Meeting, October 24-27, 2012, Atlanta, Georgia (Oral).
39. T.A. Duncombe, T.M. Tran, F. Benito-Lopez, D. Diamond, and A.E. Herr. "Free-standing Hydrogel Microarrays for Massively Parallel Protein Electrophoresis in a Format Compatible with Batch Downstream Sample Processing" *MicroTAS 2012*, October 28 – November 1, 2012, Okinawa, Japan (Oral).
40. A.J. Hughes & A.E. Herr, "10 Minute Western Blotting with 54-plex throughput for Clinical Confirmatory HIV Diagnosis in Human Serum." *MicroTAS 2012*, October 28 – November 1, 2012, Okinawa, Japan (Oral).
41. T.A. Duncombe, T.M. Tran, F. Benito-Lopez, D. Diamond, and A.E. Herr. "Open-Channel Microfluidics: Free-standing Hydrogel Microarrays for Protein Electrophoresis." *Hilton Head 2012: Solid-State Sensor, Actuator & Microsystems Workshop*, June 6-9, 2012, Hilton Head, SC (Oral).
42. Augusto Tentori, Alex J. Hughes and Amy E. Herr, "Advancing Next-Generation Proteomics: A Polymer-Patterned Microchamber Enables Integration of Distinct Protein Separations Comprising 2D Electrophoresis." *Hilton Head 2012: Solid-State Sensor, Actuator & Microsystems Workshop*, June 6-9, 2012, Hilton Head, SC (Poster).
43. D. Kim, K. Karns, S. Q. Tia, M. He, A.E. Herr, "Electrostatic Protein Immobilization Gel for Microfluidic Western Blotting", 14th Korean Micro Electro Mechanical Systems Conference (KMEMS), 2012, Jeju, South Korea (Oral).
44. Todd A. Duncombe and Amy E. Herr, "From Bench to Bedside: Realizing On-Chip Electrophoretic Immunoassays for Protein Biomarkers Using a Standard 9V Battery." 2012 AAAS Annual Meeting (February 16th - 20th, 2012), Vancouver, Canada
45. T. Duncombe, A.M. Tentori, C. Hou, & A.E. Herr, "From Bench to Bedside: Realizing on-chip electrophoretic immunoassays for protein biomarkers in serum using a standard 9V battery", IEEE MEMS 2012, Paris, France. (Poster)
46. K. Karns & A.E. Herr, "Ophthalmologist-on-a-Chip: Fully Integrated Microfluidic Tear Osmolarity and Protein Biomarker Quantification for Dry Eye Stratification", The 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2011), October 2-6 2011, Seattle, WA, The Printing House Inc, Stoughton, WI (Oral).
47. A. J. Hughes & A.E. Herr, "Targeted Proteomics of Cancer Biomarker Isoforms: A 'Single-channel, Multi-stage Assay Design Strategy using Photo-clickable Gels", The 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2011), October 2-6 2011, Seattle, WA, The Printing House Inc, Stoughton, WI (Oral).
48. A.A. Apori & A.E. Herr, "Brain Injury Screening Diagnostics for Emergency Medicine: Quantitation of Cerebrospinal Fluid Specific Proteins in Human Nasal Discharge", The 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2011), October 2-6 2011, Seattle, WA, The Printing House Inc, Stoughton, WI (Poster).
49. C. Hou & A.E. Herr, "On-chip Western blotting: In-situ Renaturation of SDS-Protein Complexes unifies SDS Sizing and Blotting in One Microdevice", The 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS2011), October 2-6 2011, Seattle, WA, The Printing House Inc, Stoughton, WI (Poster).
50. S. Tia, D. Kim, M. He, & A.E. Herr, "Multi-analyte native Western blotting", Gordon Kenan Research Seminar (GRS), Waterville Valley, NH (Oral)
51. K. Karns & A.E. Herr, "Autoimmune disease diagnostics using human tear fluid", Gordon Kenan Research Seminar (GRS), Waterville Valley, NH (Oral)
52. M. He & A.E. Herr, "Microfluidic Lectin Blotting for Identification of Aberrantly Glycosylated IgA1 in IgA Nephropathy", 26th International Symposium on MicroScale Bioseparations (MSB 2011), San Diego, CA. (Oral, Student Travel Support Grantee)
53. X. Chen, M. Kapil, A.H. Hughes, & A.E. Herr, "Pore limit electrophoresis based immunoassays", 26th International Symposium on MicroScale Bioseparations (MSB 2011), San Diego, CA. (Poster)
54. A.A. Apori & A.E. Herr, "Detection of cerebrospinal fluid rhinorrhea enabled with a homogeneous microfluidic immunosubtraction format", 26th International Symposium on MicroScale Bioseparations (MSB 2011), San Diego, CA. (Poster)
55. K. Karns, N. McNamara, A.E. Herr, "Development of a Microfluidic Immunoassay for Highly Alkaline Human Tear Protein Biomarkers of Sjögren's Syndrome". ARVO's 2011 Annual Meeting, Visionary Genomics, May 1-5, 2011, in Fort Lauderdale, Florida. (Poster, Student Travel Support Grantee)
56. S. Denisin, K. Karns, A.E. Herr, "Optimization of protein sample extraction from Schirmer Tear Test strips", 2011 ACS National Meeting, Analytical Chemistry, Anaheim, CA (Poster).
57. D. Kim, M. He, S.Q. Tia, A.E. Herr, "Microfluidic Western Blotting using Novel Charge Patterning of Photopolymer Features", IEEE MEMS 2011, Cancun, Mexico. (Oral)
58. K. Karns & A.E. Herr "Human Tear Fluid-based Point-of-Care Diagnostics Enabled by Integrated Microfluidic Systems", LabAutomation 2011, Palm Springs, CA. (Highlight Session Oral & Poster; Tony B. Academic Travel Grant, Finalist for Student Poster Award)
59. M. He, J. Novak, B. Julian, A. E. Herr, "On-Chip Western Blotting for Assessment of Aberrantly Glycosylated IgA1 in IgA Nephropathy", 61st Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, GA, March 13-18, 2011. (Oral)
60. K. Karns & A.E. Herr, "Human tear fluid diagnostic assessment enabled by microfluidic protein electrophoresis", *Bay Area Vision Research Day 2010*, August 17, 2010, UC Berkeley, CA (poster)

61. A. Apori & A.E. Herr, "Assessing the traumatic brain injury markers S100 and C-Reactive Protein in human cerebrospinal fluid via microfluidic immunosubtraction", *The 14th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2010)*, October 3-7 2010, Groningen, The Netherlands (Oral).
62. S. Tia, M. He, D. Kim & A.E. Herr, "On-chip multi-analyte far western blotting in two minutes", *The 14th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2010)*, October 3-7 2010, Groningen, The Netherlands (Oral).
63. A.J. Hughes & A.E. Herr "Quantitative zymography in microfluidic polyacrylamide gradient gels", *Pacificchem 2010: the International Chemical Congress of Pacific Basin Societies Sponsors*, Dec. 15-20, 2010, Honolulu, HI (Oral).
64. C. Hou & A.E. Herr, "Discontinuous nanoporous structures enable low-power electrophoretic immunoassays of serum protein biomarkers", *Hilton Head 2010: Solid-State Sensor, Actuator & Microsystems Workshop*, June 6-9, 2010, Hilton Head, SC (Oral).
65. M. He, A.E. Herr "Automated protein immunoblotting by photopatterning of polyacrylamide gel in two-dimension microdevices", *Hilton Head 2010: Solid-State Sensor, Actuator & Microsystems Workshop*, June 6-9, 2010, Hilton Head, SC (Oral).
66. K. Karns & A.E. Herr, "Human tear fluid diagnostic assessment enabled by protein electrophoresis", *Hilton Head 2010: Solid-State Sensor, Actuator & Microsystems Workshop*, June 6-9, 2010, Hilton Head, SC (Poster).
67. J. Kinney, C. Ramseier, A.E. Herr, T. Braun, J. Sugai, C. Shelburne, L. Rayburn, H. Tran, A. Singh, W. Giannobile, "Identification of Pathogen and Host-Response Markers Correlated with Periodontal Disease", *International Association for Dental Research (IADR)*, April 1-4, 2010, Barcelona, Spain (Oral).
68. A.J. Hughes & A.E. Herr "Integrated measurement of enzyme molecular weight and activity by multi-stage electrophoretic assays in polyacrylamide gradient gels", *Microfluidics and Microdevices, 2010 American Chemical Society (ACS) Spring National Meeting*, March 21-25, 2010, San Francisco, CA. (Oral)
69. M. He, C. Hou, S. Tia, & A.E. Herr "Multi-dimensional microfluidic PAGE with in-situ immunodetection for Western blotting", *Analytical Methods in Biotechnology, 2010 American Chemical Society (ACS) Spring National Meeting*, March 21-25, 2010, San Francisco, CA. (Oral)
70. M. He & A.E. Herr, "Fully-integrated Microfluidic Immunoblotting for Automated, Quantitative Western Blotting", *The 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2009)*, November 1-5, 2009, Jeju, South Korea (Oral).
71. C. Hou & A.E. Herr, "Multiplexed analysis of inflammation biomarkers using spectrally-encoded on-chip electrophoresis" *15th Int'l Conference on Sensors, Actuators, & Microsystems (Transducers '09)*, June 21-25, 2009, Denver. (Oral)
72. A. Apori & A.E. Herr, "Integrated fluorescence-labeling and polyacrylamide gel electrophoresis for analysis of protein isoforms", *The 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2008)*, October 7-11, 2008, San Diego, CA (Oral) *Awarded: Chemical & Biological Microsystems Society Travel Grant.*
73. C.T. Lo, D.J. Throckmorton, A.K. Singh, A.E. Herr, "On-chip gradient polyacrylamide gels fabricated using diffusion defined photopolymerization", *The 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2008)*, October 7-11, 2008, San Diego, CA (Poster)
74. N. Srivastava, J.S. Brennan, S. S. Branda, A.E. Herr, A.K. Singh, "Single Cell Manipulation, Flow and Imaging Cytometric Phosphoproteomic Profiling of Macrophage Response to Lipopolysaccharide using Automated, Integrated Microfluidic Technology", *The 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2008)*, October 7-11, 2008, San Diego, CA (Poster)
75. R. Novak and A.E. Herr, "Nanosieving for rapid, solution-phase immunoassays" *2008 Experimental Biology*, April 5-9, 2008, San Diego, CA. (Poster)
76. N. Srivastava, J.S. Brennan, S.S. Branda, A.E. Herr, A.K. Singh. "High throughput Single Cell Preparation, Immunofluorescent Imaging and Flow Cytometry on an Integrated Microfluidic Platform for Monitoring Innate Immunity Pathways in Macrophages" *Microscale Bioseparations Methods for Systems Biology (MSB)*, March 9-13, 2008, Berlin, Germany. (Oral)
77. A. Apori, A.E. Herr. "Fabrication of a Polymer Membrane for On-Chip Labeling during Electrophoretic Immunoassays" *Environmental & Biological Applications of Lasers Conference*, January 2008, Cairo, Egypt. (Oral & NSF student travel award)
78. N. Srivastava, J.S. Brennan, S.S. Branda, A.K. Singh, A.E. Herr. "A Microfluidic Device For Flow Cytometric Analysis Of Innate Immunity via TLR4 Signaling In Macrophage Cells" *American Institute of Chemical Engineers (AIChE) Annual Meeting*, November 5-8, 2007, Salt Lake City, UT. (Oral)
79. A.E. Herr. "The Biomarker Pipeline: Novel Microfluidic Instrumentation for Advancing Proteomic Discovery to Clinical Diagnostics" *IEEE/NIH BISTI 2007 Life Science Systems & Applications Workshop (LISSA 2007)*, November 8-9, 2007, NIH, Bethesda, MD (Oral)
80. A.V. Hatch, R.J. Meagher, D.S. Reichmuth, A.E. Herr, M.B. Sinclair, D.M. Haaland, A.K. Singh. "Hyperspectral & Spatial Multiplexing of Ultrasensitive Immunoassays for Detecting Toxin Exposure" *The 11th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2007)*, October 7-11, 2007, Paris, France (Oral, presented by A.E. Herr)
81. N. Srivastava, J.S. Brennan, S.S. Branda, A.K. Singh and A.E. Herr. "An Integrated Microfluidic Platform for Monitoring Innate Immune Response through Toll-Like Receptor-4 Signaling in Macrophage Cells" *The 11th*

- International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS2007)*, October 7-11, 2007, Paris, France (Poster)
82. N. Srivastava, J.S. Brennan, D.J. Throckmorton, S.S. Branda, Z. Zhang, A.K. Singh, and A.E. Herr. "Microfluidically-Enabled Flow Cytometry to Investigating the TLR4 Signaling Pathway in RAW264.7 Macrophage Cells" *The 14th International Conference on Solid-State Sensors, Actuators, and Microsystems* (Transducers '07), June 10-14, 2007, Lyon, France. (Oral)
 83. N. Srivastava, J.S. Brennan, D.J. Throckmorton, S.S. Branda, Z. Zhang, and A.E. Herr. "Investigating the TLR4 Signaling Pathway in Macrophage Cells Using Microfluidically-Enabled Flow Cytometry" *Society for Biological Engineering's 1st Intern'l Conference on Biomolecular Engineering*. Jan 14-18, 2007, Coronado Island, CA. (Oral)
 84. A.E. Herr, A.V. Hatch, H.M. Tran, D.J. Throckmorton, J.S. Brennan, W.V. Giannobile, A.K. Singh. "Integrated Microfluidic Platform for Oral Diagnostics" *Oral-Based Diagnostics: A New York Academy of Science Meeting*. October 10-13, 2006, Lake Lanier Islands, Georgia. (Oral)
 85. C.A. Ramseier, J.E. Kinney, A.E. Herr, T. Braun, H.M. Tran, A.K. Singh, W.V. Giannobile. "Saliva Diagnostics for Inflammatory Periodontal Diseases" *Oral-Based Diagnostics: A New York Academy of Science Meeting*. October 10-13, 2006, Lake Lanier Islands, Georgia. (Oral)
 86. A.V. Hatch, A.E. Herr, D.J. Throckmorton, J.S. Brennan, A.K. Singh. "On-chip Preconcentration of Proteins for Picomolar Detection in Oral Fluids" *The 9th International Conference on Miniaturized Systems for Chemistry and Life Sciences: μTAS2005*, October 9-13, 2005, Boston, MA. (Oral)
 87. A.E. Herr, D.J. Throckmorton, A.K. Singh. "Electrophoretic Immunoassays for Oral Diagnostics", *3rd Annual International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine & Biology*, May 12-14, 2005, Oahu, Hawaii. (Poster)
 88. A.E. Herr, D.J. Throckmorton, A.K. Singh. "Development of On-Chip Gel Electrophoresis-based Immunoassays for Clinical Diagnostic Applications" *Association for Laboratory Automation: LabAutomation 2005*, January 30 – February 3, 2005, San Jose, CA. (Oral)
 89. A. E. Herr, D.J. Throckmorton, A.K. Singh. "On-Chip Immunoassay of Tetanus Toxin Antibody Using UV-Initiated Polyacrylamide Gel Electrophoresis" *American Institute of Chemical Engineers (AIChE) Annual Meeting*, November 7-12, 2004, Austin, TX. (Oral)
 90. A.E. Herr, D.J. Throckmorton, A.K. Singh. "On-Chip Immunoassay of Tetanus Toxin Antibody Using UV-Initiated Polyacrylamide Gel Electrophoresis" *The 8th International Conference on Miniaturized Systems for Chemistry and Life Sciences: μTAS2004*, September 2004, Malmo, Sweden, pp 219-221. (Poster)
 91. A. E. Herr, A.A. Davenport, A. K. Singh. "Rapid On-Chip Separation of Proteins and Immune Complexes Using UV-Initiated Polyacrylamide Gels" *Hilton Head 2004: Solid-State Sensor & Actuator Workshop*, Hilton Head Isl., SC, June 6-10, 2004, Transducers Research Foundation, Cleveland, pp.71-74 . (Oral)
 92. R. Shediach, S.A. Pizarro, A.E. Herr, A.K. Singh. "Ultrafast On-Chip Separations of Cytokines By SDS-PAGE Using UV-Initiated Polyacrylamide", *The 7th International Conference on Miniaturized Systems for Chemistry and Life Sciences: μTAS2003*, Squaw Valley, CA, Oct 2003, 51-53. (Poster)
 93. A.E. Herr, J.C. Mikkelsen, J.G. Santiago, T.W. Kenny. "Two-Dimensional Chip-Based Protein Analysis using Coupled Isoelectric Focusing and Capillary Electrophoresis" *Hilton Head 2002: Solid-State Sensor & Actuator Workshop*, South Carolina, 2002, 361-3. (Oral)
 94. A.E. Herr, J.I. Molho, R. Bharadwaj, J.G. Santiago, T.W. Kenny, D.A. Borkholder, M.A. Northrup. "Miniaturized Isoelectric Focusing (μIEF) as a Component of a Multi-Dimensional Microfluidic System", *The 5th International Conference on Miniaturized Systems for Chemistry and Life Sciences: μTAS2001*, Monterey, CA, October 2001, pp.51-53. (Oral)
 95. A.E. Herr, J. Mikkelsen, J.G. Santiago, T.W. Kenny, D.A. Borkholder, M.A. Northrup. "Electroosmotic Flow Suppression and the Implications for a Miniaturized Full-Field Detection Approach to Capillary Isoelectric Focusing," *IMECE 2000 Microfluidics Symposium, 2000 ASME International Mechanical Engineering Congress and Exposition*, Orlando, Nov. 5-10, 2000, p.515-8. (Oral)
 96. A.E. Herr, J.I. Molho, J.G. Santiago, T.W. Kenny, D.A. Borkholder, G.J. Kintz, P. Belgrader, M.A. Northrup. "Investigation of a Miniaturized Capillary Isoelectric Focusing (cIEF) System Using a Full-Field Detection Approach," *Hilton Head 2000: Solid-State Sensor & Actuator Workshop*, Hilton Head, South Carolina, June 2000, pp.115-119. (Poster)
 97. J.I. Molho, A.E. Herr, B.P. Mosier, J.G. Santiago, T.W. Kenny, R.A. Brennen, G.B. Gordon, "A Low Dispersion Turn for Miniaturized Electrophoresis," *Hilton Head 2000: Solid-State Sensor & Actuator Workshop*, June 2000, Hilton Head, South Carolina.
 98. J.I. Molho, A.E. Herr, B.P. Mosier, J.G. Santiago, T.W. Kenny, R.A. Brennen, G.B. Gordon, "Designing Corner Compensation for Electrophoresis in Compact Geometries," *The 4th International Conference on Miniaturized Systems for Chemistry and Life Sciences: μTAS2000*, May 2000, Enschede, The Netherlands.
 99. A.E. Herr, J.I. Molho, J.G. Santiago, T.W. Kenny, D.A. Borkholder, G.J. Kintz, P. Belgrader, M.A. Northrup. "Miniaturized Capillary Isoelectric Focusing (cIEF): Towards a Portable High-Speed Separation Method," *The 4th International Conference on Miniaturized Systems for Chemistry and Life Sciences: μTAS2000*, Enschede, The Netherlands, March 2000, pp. 367-370. (Poster)

100. A.E. Herr, J.I. Molho, T.W. Kenny, J.G. Santiago, M.G. Mungal, M.G. Garguilo. "Variation of Capillary Wall Potential in Electrokinetic Flow," *Transducers '99*, Sendai, Japan, June 6-10, 1999. (Poster)
101. J.I. Molho, A.E. Herr, T.W. Kenny, M.G. Mungal, P.M. St. John, M.G. Garguilo, P.H. Paul, M. Deshpande, and J.R. Gilbert. "Fluid Transport Mechanisms in Microfluidic Devices", *1998 ASME International Mechanical Engineering Congress and Exposition*. (Poster)
102. P.M. St. John, M. Deshpande, J.I. Molho, M.G. Garguilo, *et al.* 1998, "Metrology and Simulation of Chemical Transport in Microchannels," *1998 Solid-State Sensor and Actuator Workshop*, Hilton Head Island, S.C., June 1998, pp. 106-111. (Oral)
103. A.E. Herr, J.I. Molho, T.W. Kenny, M.G. Mungal, M.G. Garguilo. "Electrokinetic Capillary Flow with Non-Uniform Wall Boundary Conditions", *The 3rd International Conference on Miniaturized Systems for Chemistry and Life Sciences: μ TAS 1998*, Banff, Canada, October 13-16, 1998. (Poster)

BOOK CHAPTERS

1. E. Sinkala & A.E. Herr, "Single-cell western blotting" in *Single Cell Protein Analysis* to be published in the *Methods in Molecular Biology* series, **2015**, A.K. Singh & A. Chandrasekaran (Eds), Springer, 10.1007/978-1-4939-2987-0_1.
2. A.A. Apori & A.E. Herr. "Chip based immunoassays" in *Clinical Applications of Capillary Electrophoresis, Methods in Molecular Biology*, **2013**, T. Phillips (Ed), Humana Press, 919:233-48.
3. A.H.B. Wu & A.E. Herr, "Need for point-of-care testing devices for cardiac troponin in patients with acute coronary syndromes" in *Personalized Medicine: Principles and Practices* 4th Ed., **2012**, Gualberto Ruaño (Ed), CRC Press (ISBN: 9781439874646).
4. L. Wusirika. Z. Iqbal, A.E. Herr, "Chapter 4. Microfluidic equilibrium & non- equilibrium electrophoresis for bioengineering assays" in *Methods in Bioengineering: Biomicrofabrication and Biomicrofluidics*, **2010**, Jeffry D. Zahn (Ed), Artech House, pp. 83-108.
5. A.E. Herr, "Protein Microarrays for the Detection of Biothreats" in *Microarrays: Preparation, Microfluidics, Detection Methods, and Biological Applications*, **2009**, K. Dill, R. Liu, P. Grodzinsky (Eds), Springer, pp.169-190.

TECHNICAL SERVICE

- | | |
|------------|---|
| 2020 | Chair, <i>microTAS: International Conference on Miniaturized Systems for Chemistry & Life Sciences</i> |
| 2018-2020 | Member, Executive Technical Program Committee, <i>microTAS: International Conference on Miniaturized Systems for Chemistry & Life Sciences</i> |
| 2018 | Member, Technical Program Committee, Hilton Head: Solid State Sensors, Actuators & Microsystems Workshop |
| 2016 | Member, Technical Program Committee, Hilton Head: Solid State Sensors, Actuators & Microsystems Workshop |
| 2016-2019 | Chair, Awards Committee, Chemical & Biological Microsystems Society (CBMS) |
| 2016 | Session Organizer, SLAS 2016, San Diego, CA |
| 2015 | Panelist, NIH Workshop on <i>Reproducibility in Science</i> , convened by Directors of NIGMS & NHGRI |
| 2015, 2016 | Co-Director, Cold Spring Harbor Laboratory "Single Cell Analysis" Course |
| 2015, 2016 | Co-Instructor, Cold Spring Harbor Laboratory "Single Cell Analysis" Course |
| 2015 | Technical Advisor, "Enabling Future Health Care: the Role of Micro and Nano Technologies" Napa Institute Workshop, August 2015 |
| 2015 | Chair, Conference Technical Workshops Committee, <i>Transducers 2015</i> |
| 2015 | Member, Executive Technical Program Committee (ETPC), <i>Transducers 2015</i> |
| 2014 | Technical Committee, IEEE EMBS Conference on Micro/Nanotech in Medicine |
| 2014 | Associate Track Chair, Society for Laboratory Automation (SLAS) Annual Conference |
| 2013-2014 | Chair, Sponsorship Committee, 2014 <i>microTAS: International Conference on Miniaturized Systems for Chemistry & Life Sciences</i> |
| 2013 | Member, Nominations Committee, <i>microTAS: International Conference on Miniaturized Systems for Chemistry & Life Sciences</i> |
| 2013 | Executive Program Committee, <i>Transducers: Int'l Conf. Solid-State Sensors, Actuators, & Microsystems</i> |
| 2013 | Discussion Leader, Gordon Research Conference (GRC) "Physics & Chemistry of Microfluidics" |
| 2013 | Discussion Leader, Gordon-Kenan Research Seminar (GRS) "Physics & Chemistry of Microfluidics" |
| 2013 | Session organizer, MicroScale Bioseparations (MSB) 2013 |
| 2013 | Session organizer, Society for Laboratory Automation & Screening (SLAS) |
| 2013 | Co-chair, Annual Meeting of the American Electrophoresis Society (AES), Topical Conference at AIChE |
| 2012 | University of California delegation to Capitol Hill, "UC in DC Day 2012" |
| 2012-2013 | Editorial Board, <i>Electrophoresis</i> |
| 2012 | Organizing committee, University of California Bioengineering Symposium |
| 2011 | Member, IEEE BioMEMS Technical Committee |
| 2011 | Vice-chair, Development & Grant Support, <i>microTAS</i> |
| 2011 | Member, Program Committee, <i>IEEE Sensors Conference</i> |
| 2011 | Member, Local Organizing Committee, <i>Microscale Bioseparations and Related Microscale Techniques Conference (MSB)</i> ; Poster judge for student poster presentations |

- 2011 Forum Organizing Committee, American Society of Mechanical Engineers (ASME), Micro/Nano Technology Forum
- 2010 Co-Chair, UC Berkeley & Wheeler Center for Emerging and Neglected Diseases *Global Health Diagnostics Innovation Summit*
- 2010 Guest Editor, Institute of Physics (IOP) journal *Journal of Micromechanics and Microengineering*
- 2010, 2012 Guest Editor, Royal Society of Chemistry (RSC) journal *Lab on a Chip* Special Issues
- 2010 Micro/Nano Track Reviewer, *Biomedical Engineering Society (BMES) Annual Meeting*
- 2008-2012 Member, Executive Technical Program Committee, *microTAS: Inter'l Conference on Miniaturized Systems for Chemistry & Life Sciences*
- 2009-2011 Advisory Panel, *Analytical Chemistry* "News & Features" (A-pages)
- 2010, 2011 Member, Technical Program Committee, *IEEE Sensors*
- 2010 Member, Scientific Advisory Board, "Grand Challenge" LDRD, Sandia National Laboratories
- 2009 Conference Chair, Gordon Research Conference, *Physics & Chemistry of Microfluidics* (Elected)
- 2008, 2010 Program Committee, Hilton Head: Solid State Sensors, Actuators & Microsystems Workshop
- 2007 Conference Vice-Chair, Gordon Research Conference, *Physics & Chemistry of Microfluidics* (Elected)
- 2005, 2007, 2011 Member, Program Committee, *Transducers: Int'l Conference on Solid-State Sensors, Actuators, & Microsystems*
- 2006-2007 Session Organizer, *American Institute of Chemical Engineers (AIChE) Annual Meeting*
- 2005-2006 Session Organizer, *LabAutomation* Conference
- 2003 Session Chair, *uTAS: Inter'l Conference on Miniaturized Systems for Chemistry & Life Sciences*

WORKSHOP INVITEE

- 2017 National Science Foundation (NSF), Systematic Approach to Robustness, Reliability, and Rigor in Research, convened by the Directorate for Mathematical & Physical Sciences (MPS) in collaboration with the Division of Molecular and Cellular Biosciences (MCB) in the Directorate for Biological Sciences (BIO) and the Division of Advanced Cyberinfrastructure (ACI) in the Directorate for Computer and Information Science and Engineering (CISE)
- 2015 National Institutes of Health (NIH) Office of the Director's *Reproducibility in Science*
- 2014 Brazil-US Frontiers of Science & Engineering, convened by the US National Academy of Sciences and US National Academy of Engineering (NAE), in partnership with the Brazilian Academy of Sciences
- 2012 National Institutes of Health (NIH) Common Fund discussion on *Disruptive Proteomic Technologies*
- 2010 National Academy of Engineering, Indo-American Frontiers of Engineering Symposium *invitee, declined*
- 2008 National Academies *Keck Futures Initiative invitee*
- 2008 PATH Foundation & University of Washington, Point-of-Care Diagnostics for Global Health *invitee*
- 2007 National Academy of Sciences "Frontiers in Science" Symposium *invitee*

PATENTS

- 9,029,169 Protein renaturation microfluidic devices and methods of making and using the same
- 9,002,654 Multi-analyte analysis of saliva biomarkers as predictors of periodontal and pre-implant disease
- 8,921,123 Multi-directional microfluidic devices comprising a pan-capture binding region
- 8,524,060 Microchannel gel electrophoretic separation systems and methods for preparing and
- Several provisional, pending, and licensed patents at UC Berkeley.

ADVISEES

CURRENT RESEARCH GROUP MEMBERS

Dr. Yizhe Zhang, Postdoctoral Fellow (PhD Harvard University), 2016-now
 Dr. Mohammad Azim, Postdoctoral Fellow (PhD University of Alberta), 2017-now
 Dr. Burcu Gumuscu Sefunc, Postdoctoral Fellow (PhD, University of Twente), 2017-now
 Dr. Samantha Grist, NSERC Postdoctoral Fellow (PhD University of British Columbia), 2017-now

Ms. Julea Vlassakis, Bioengineering Graduate Student, NSF Fellow & SLAS Fellows, 2013-present
 Ms. Elisabet Rosas, Bioengineering Graduate Student, La Caixa Foundation & CIRM Fellow, Siebel Scholar, 2014-now
 Mr. Hector Neira, Bioengineering Graduate Student & Ford Foundation Predoctoral Fellow, 2014-present
 Mr. John Kim, Bioengineering Graduate Student, NSF Fellow & Kang Family Fellow, 2014-present
 Ms. Elaine Su, Bioengineering Graduate Student, NSF Fellow, 2016-present
 Ms. Shaheen Jeawoody, Bioengineering Graduate Student, NSF Fellow, 2016-present
 Ms. Anjali Gopal, Bioengineering Graduate Student, NSERC Fellow, 2016-present
 Ms. Kristine Tan, Bioengineering Graduate Student, 2017-present
 Ms. Alison Su, Bioengineering Graduate Student, NSF Fellow, 2017-present
 Ms. Alisha Geldert, Bioengineering Graduate Student, NDSEG Fellow, 2017-present

Mr. Joshua Vic Chen, Public Health Undergraduate & Assistant Lab Manager, 2016-present
 Ms. Lauryn Jordan, BEGROw Researcher, Summer 2017

VISITORS TO RESEARCH GROUP

Dr. Peggy Chan, Lecturer (similar to US Assistant Professor but tenured), Chief Investigator, Australia Research Council Discovery Project (similar to NSF), Swinburne University of Technology, Australia, April 2016-2017
Mr. Nils Helge Skovgaard Andersen, University of Copenhagen, Advisor Prof. Jorg Kutter, Fall 2014 – Spring 2015
Mr. Kevin Maurer, ETH Zurich MS student, ETH Advisor Prof. Andrew de Mello, Summer 2013
Dr. Fernando Benito Lopez, Dublin City University, June-December 2011
Ms. Maria Cunniffe, NSF Research Experience for Teachers with NSF COINS, June-August 2011, 2012
Mr. Jonathan Asfaha, Cal Teach & UC Berkeley undergraduate, June-August 2011
Mr. Mathieu Ackermann, EPFL MS student, 2010
Ms. Le Yee, Amgen Scholar, MIT Undergraduate Student, Summer 2009
Ms. Laura Mazzuchetti, Politecnico of Turin, NSF COINS International MS Student Visitor, 2009

RESEARCH GROUP ALUMNI

POSTDOCTORAL SCHOLAR & RESEARCH STAFF ALUMNI

Dr. Philippe Abdel Sayed, Postdoctoral Fellow (Ecole Polytechnique, Swiss National Science Foundation), 2015-now
Dr. Chi-Chih (Ginny) Kang, Staff Scientist (PhD Academia Sinica & National Tsing Hua Univ), 2013-15; 2015-17
Dr. Elly Sinkala, NIH DSP Postdoctoral Fellow (PhD University of Illinois, Chicago), 2013-2015
Dr. Robert Lin, NIH T32 Fellow & Siebel Postdoctoral Fellow (PhD UC Irvine, BME), 2011-2014
Dr. Minsub Chung, (PhD Stanford, Applied Physics), 2011-2013, now Asst. Prof. at Hangyun University, Korea
Dr. M. Kursad Araz, (PhD Cornell, Electrical & Computer Engineering), 2011-2013
Dr. Dohyun Kim, (PhD UCLA, Electrical Engineering) 2009-2012, now Asst. Prof. at Myongji University, Korea
Dr. Mei He, (PhD University of Alberta, Chemistry) 2008-2011
Dr. Xiaofang Chen, (PhD UC Irvine, Bioengineering) 2010-2011
Dr. Nimisha Srivastava, (University of Michigan, Chemical Engineering) 2006-2008
Dr. Victor C. Rucker, (Caltech, Chemistry) 2003-2005
Dr. Catherine T. Lo, Graduate Summer Intern, 2006, Yale University

GRADUATE STUDENT RESEARCHER ALUMNI

Dr. Qiong Pan, Bioengineering Graduate Student (PhD Peking University), 2015-2017.
Dr. Kevin A. Yamauchi, Bioengineering Graduate Student, NSF Fellow, Lloyd Graduate Fellow, & Siebel Scholar, 2013-2017
Dr. Yuchen “Peter” Pan, Bioengineering Graduate Student & Kang Fellowship, 2012-2016
Dr. Augusto M. Tentori, Bioengineering Graduate Student, Siebel Scholar, California Research Coordinating Committee Fellow, & DHS ORISE Fellow, 2010-2015
Dr. Todd A. Duncombe, Bioengineering Graduate Student, NSF Fellow, 2011-2015
Dr. Monica Kapil, Bioengineering Graduate Student, NSF Fellow & UC Dissertation Year Fellow, 2010-2015
Dr. Rachel E. Gerver, Bioengineering, NSF Fellow, 2012-15, now Stanford Biodesign Fellow
Dr. Alex J. Hughes, Bioengineering, Siebel Scholar & DoD NDSEG Fellow, 2009-13, now UCSF Postdoc
Dr. Samuel Q. Tia, Bioengineering, NSF Fellow, 2008-2013, not CTO Correlia Biosciences
Dr. Kelly (Karns) Gardner, Bioengineering, NSF Fellow, 2009-12, now CEO Zephyrus Biosciences
Dr. Akwasi A. Apori, Bioengineering, DoD NDSEG Fellow, UNCF/Merck Dissertation Fellow, Siebel Scholar, 2007-2012, now CEO Correlia Biosciences
Dr. Chenlu Hou, Electrical Engineering/Computer Science, Intel & NSF Fellow, 2007-11, now at Illumina

MASTER’S STUDENT RESEARCHER ALUMNI

Ms. Tara Armand, Masters of Engineering Student, 2016-2017
Mr. Oliver Lin, Masters of Engineering Student, 2016-2017
Ms. Martha Lesniewski, Bioengineering Graduate Student, NSF Fellow, 2012-2015
Mr. Wein Chien, Bioengineering Graduate Student (Masters), 2013
Ms. Sharon Hsu, Bioengineering Graduate Student (Masters), 2009

UNDERGRADUATE STUDENT RESEARCHER ALUMNI

Ms. Sierra Monk, Visiting Undergraduate Researcher, Summer 2017
Ms. Ashlee Heuston, BEGROw Researcher & Undergraduate Researcher, 2016-2017
Ms. Ami Thakrar, Bioengineering Undergraduate, 2016
Mr. Sean Purcell, Chemical Biology Undergraduate & SMART Scholar (Summer 2015), 2015-2016
Ms. Liyin Chen, Bioengineering Undergraduate, 2014-2016
Ms. Joana Cabrera, Bioengineering Undergraduate & BEGROw Scholar (Summer 2015), 2014-2016
Ms. Erika Cruz, Bioengineering Undergraduate & BEGROw Scholar (Summer 2015), 2015-2016
Ms. Sravani Kondapavulur, “MagnetoFilter” with QB3 Rosenman Institute and Steven Hetts, M.D., UCSF, 2015
Mr. Darren Liu, “MagnetoFilter” with QB3 Rosenman Institute and Steven Hetts, M.D., UCSF, 2015

Mr. Sudershan Srinivasan, “Retrieving the Transcatheter Aortic Valve” with QB3 Rosenman Institute, Dr. Elaine Tseng UCSF Medicine, and Dr. Liang Ge UCSF Surgery, 2015

Mr. Hong Joo Kim, “Retrieving the Transcatheter Aortic Valve” with QB3 Rosenman Institute, Dr. Elaine Tseng UCSF Medicine, and Dr. Liang Ge UCSF Surgery, 2015

Mr. Cameron Baradar, Undergraduate Student, SRC Fellow & Rose Hill Scholar, Bioengineering, 2012-2014

Mr. Darren Lim, Bioengineering Undergraduate Student, 2012-2014

Mr. Peter Mains, Bioengineering Undergraduate Student & Stem Cell Center Fellow, 2013-present

Mr. Zhuchen Xu, Junior Research Specialist, (BS UC Berkeley, Bioengineering 2012), 2013-2014

Ms. Angela Zhang, Bioengineering Undergraduate Student, QUEST Scholar, 2013

Ms. Martina Brozynski, Undergraduate Student, Bioengineering, 2012-2013

Ms. Jane Tam, Undergraduate Student, Molecular & Cell Biology, 2012-2013

Mr. Shawn Li, Undergraduate Student, Bioengineering, 2012

Ms. Alessandra Denisin, Bioengineering Undergraduate Student & SRC Research Scholar, 2009-2012, now in graduate school at Stanford Bioengineering, NSF GRF

Mr. Navpreet Ranu, Chemistry Undergraduate Student, Haas Scholar (with R. Mathies), 2011-2012, now in graduate school at MIT Bioengineering, NSF GRF

Mr. Byungsoo Min, Electrical Engineering & Computer Science Undergraduate Student, 2011

Mr. Edward Jung, Chemical Engineering Undergraduate Student, 2011

Mr. James Che, Bioengineering Undergraduate Student, 2011

Mr. Marko Spasic, Molecular & Cell Biology Undergraduate Student, 2008-2010

Ms. Mimi Le, UC Berkeley Undergraduate Student, Summer 2009

Ms. Suruchi Anand, Bioengineering Undergraduate Student, Regents & Chancellor’s Scholar, 2007-2009

Ms. Lavanya Wusirika, Bioengineering Undergraduate Student, Regents & Chancellor’s Scholar, 2007-2009

Ms. Zohora Iqbal, Bioengineering Undergraduate Student, 2008-2009

Mr. Allen Rodriguez, URAP Undergraduate Student, Regents and Chancellor’s Scholar, 2008

Ms. Gina H. Cremona, Undergraduate Summer Intern, 2006, DHS Fellowship, Cornell & Georgia Tech

Mr. Craig T. Forest, 2004-present, Massachusetts Institute of Technology (Sandia Technical Mentor)

Ms. Valerie L. Curtis, Graduate Summer Intern, 2005, DHS Fellowship, Cornell University

Ms. Karen H. Havenstrite, Undergraduate Summer Intern, 2004, Cornell University

Mr. Andrew A. Davenport, Undergraduate Summer Intern, 2003, Stanford University

Graduate Research Assistants (Rotation terms): Mr Andoni Mourdoukoutas (2017), Ms. Kristine Tan (2017), Ms. Alisha Geldert (2016), Ms. Anushka Gupta (2016), Ms. Yiqi Cao (2016), Mr. Thomas Carey (2016), Ms. Shaheen Jeeawoody (2016), Mr. Jesse Zhang (2016), Ms. Anjali Gopal (2016), Ms. Callista Jerman (2015), Ms. Hikaru Miyazaki (2015), Dr. Qiong Pan (PhD from Peking University), Mr. Roberto Falcon (2015), Mr. Ari Joffe (2015), Ms. Christina Fuentes (2015), Ms. Jinny Sun (2014), Ms. Sally Winkler (2014), Mr. Zhi Wei Tay (2014), Ms. Elisabet Rosas (2014), Mr. Jorge Marchand (Chemical Biology, 2014), Mr. Alex Chien (Biophysics, 2014), Mr. John Kim (2014), Mr. Marc Chooljian (2014), Mr. Hector Neira (2013), Ms. Amy Liao (2013), Mr. Kevin Yamauchi (2013), Mr. Daniel Hensley (2013), Mr. Dave Korenchan (2013), Mr. Parsa Nafisi (2013), Mr. Mike Kang (2013), Mr. Wein Chien (2013), Ms. Jean Kim (2012), Ms. Julea Vlassakis (2012), Ms. Rachel Gerver (2012), Ms. Catherine Shea Thompson (2012), Ms. Guanqing “Grace” Ou (2012), Ms. Martha Lesniewski (2012), Mr. Yuchen “Peter” Pan (2012), Mr. Shaun Lim (2012), Mr. Juren “Jaren” Sia (2012, IEO), Mr. Tuan Tran (2011), Mr. Simon Lee (2011), Ms. Zohora Iqbal (2011), Mr. Todd Duncombe (2011), Mr. Peter Soler (2010, ChemEng), Mr. Charlie Yeh (2010), Mr. Augusto Tentori (2010), Mr. Thomas Murray (Biophysics, 2010), Mr. Arunan Skandarajah (2010), Mr. Torin Yager (2010), Mr. Mark Sena (2010), Ms. Monica Kapil (ME, 2009), Ms. Sharon Hsu (2008, MS degree granted), Mr. Richard Henrikson (2007), Mr. Richard Novak (2007)

QUALIFYING EXAM COMMITTEE MEMBERSHIP

2017 Roberto Falcon, UC Berkeley, Bioengineering, 2/22/2017

2016 Joy Jiang, UC Berkeley, Mechanical Engineering, 10/21/16

2015 Maria Pace, UC Berkeley Mechanical Engineering, 5/13/15

2015 Hope R. Henderson, UC Berkeley Molecular & Cell Biology, 5/8/15

2014 Lilla Smith, UC Berkeley Mechanical Engineering, 4/14/2014

2014 Yu-Fang Angela Hsieh, UC Berkeley Chemistry, 5/9/2014

2014 David Rolfe, UC Berkeley Mechanical Engineering, 5/12/2014

2014 Margaret Hwang, UC Berkeley Chemical & Biomolecular Engineering, 9/19/2014

2013 Danny Wen-Chin Huang, UC Berkeley/UCSF Graduate Group in Bioengineering, 1/9/13

2013 David Spichiarich, UC Berkeley Chemistry, 2/13/13

2013 Harrison Liu, UC Berkeley/UCSF Graduate Group in Bioengineering, 5/2013

2013 Grace Ou, UC Berkeley/UCSF Graduate Group in Bioengineering, 9/2013

2011 Torin Yager, UC Berkeley/UCSF Graduate Group in Bioengineering, 11/30/11

2010 Richard Novak, UC Berkeley/UCSF Graduate Group in Bioengineering, 11/13/10

2010 Allison Berke, UC Berkeley/UCSF Graduate Group in Bioengineering, 04/23/10

2010 Eric Jabart, UC Berkeley/UCSF Graduate Group in Bioengineering, 5/14/10

- 2010 John Waldenstein, UC Berkeley/UCSF Graduate Group in Bioengineering, 11/30/10
- 2009 Chenlu Hou, EECS, 2/18/09
- 2009 Elizabeth Schneider, UC Berkeley/UCSF Graduate Group in Bioengineering, 5/11/09
- 2009 Justin Valley, EECS, 04/20/09
- 2009 Mistuni Ghosh, NS&T, 6/17/09
- 2009 Sisi Chen, UC Berkeley/UCSF Graduate Group in Bioengineering, 4/30/09
- 2009 Jaehyun Park, EECS, 09/11/09
- 2008 Patrick Goodwill, UC Berkeley/UCSF Graduate Group in Bioengineering, 5/20/08
- 2008 Jonathan Foley, UC Berkeley/UCSF Graduate Group in Bioengineering, 9/29/08
- 2008 Samantha Cronier, UC Berkeley/UCSF Graduate Group in Bioengineering, 10/10/08

DISSERTATION COMMITTEE MEMBERSHIP (* INDICATES COMMITTEE CHAIR)

- 2016 Margaret Hwang, UC Berkeley/UCSF Graduate Program in BioE, Song Li Group, UC Berkeley (Member)
- 2016 Thomas Murray, “Microfluidic Chips for Structural and Functional Investigations of Biological Macromolecules”, Molecular & Cell Biology, James Berger Group, UC Berkeley (Member)
- 2015 Lilla Smith, “A Micro Loop Heat Pipe Thermal Management System with an Interline Optimized Evaporator and a Coherent Porous Silicon Wick”, Mechanical Engineering, Al Pisano Group, UC Berkeley (Reader)
- 2015 David Rolfe, “Templated Dry Printing of Conductive Metal Nanoparticles”, Mechanical Engineering, Al Pisano Group, UC Berkeley (Reader)
- 2015 Todd A. Duncombe*, “Microfluidic Bioanalytical Device and Assay Development for High-Throughput Electrophoretic Protein Analysis”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2015 Augusto M. Tentori*, “Novel microfluidic tools & theoretical fundamentals: a synergistic approach for untangling proteomics”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2015 Monica A. Kapil*, “Microfluidic technologies for rapid, high-throughput screening and selection of antibodies for disease diagnostics and novel therapeutics”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2015 Rachel E. Gerver*, “Novel Microfluidic Tools to Advance Protein and Protein Isoform Detection in Biological Samples”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2014 Yufei Liu, “Insights into Cellular Stress Revealed by SIRT7”, Molecular & Cell Biology, Danica Chen Group with Ellen Robey Co-chair, UC Berkeley (Member)
- 2014 Kosuke Iwai, “Droplet-Based Microfluidic Systems: Finger-Powered Pumps, Reactors and Magnetic Capsules”, Mechanical Engineering, Liwei Lin Group, UC Berkeley (Member)
- 2014 Karthik Balakrishnan, “Node-Pore Sensing: A Robust, High Dynamic Range Method For Multi-Parametric Screening Of Biological Samples”, Mechanical Engineering, Lydia Sohn Group, UC Berkeley (Member)
- 2013 Kelly Karns Gardner*, “Microfluidic Homogeneous Mobility Shift Assays at the Bench and the Bedside”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2013 Alex J. Hughes*, “Microfluidic Immunoblotting using Multi-Purposed Soft Materials”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2013 Anthony Tran, “Innovative Testing Strategies for the Diagnosis of Syphilis”, UC Berkeley School of Public Health (Dr.P.H.) (Member)
- 2012 Tim Brackbill, “Polymer microfluidic device for high-throughput single-cell encapsulation, lysis, and biological assay”, Mechanical Engineering, Al Pisano Group, UC Berkeley (Reader)
- 2012 Mistuni Ghosh, “Nanodisk: A versatile drug delivery platform”, Nutritional Science & Toxicology, Ryan Group (CHORI), UC Berkeley (Reader)
- 2012 Samuel Q. Tia*, “Microfluidic Frameworks for Immunoanalysis of Multiple Proteins”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2011 Akwasi A. Apori*, “Total Integrated Sample Preparation for Microfluidic Immunoassays in Complex Biological Matrices”, UC Berkeley/UCSF Graduate Program in Bioengineering, Herr Lab, UC Berkeley (Chair)
- 2011 Justin Valley, “Light-induced Electrokinetics: A path to a versatile micro total analysis system”, EECS, Ming Wu Group, UC Berkeley
- 2011 Richard Rymer, “Studies on the Substrate Interactions of the Bacterial Primase”, Molecular & Cell Biology, James Berger Group, UC Berkeley (Reader)
- 2010 Jaehyun Park, “Oxidative Microgradients for Cell Culture”, EECS, Michel Maharbiz Group, UC Berkeley
- 2010 Chenlu Hou*, “Photopatterned Polyacrylamide Gels Enable Efficient Microfluidic Protein Assays”, EECS (with Ming Wu), Herr Lab, UC Berkeley (Chair)
- 2007 Sebastien Payen, “Integration of Hydrogels and Plastics into Microfabrication Processes towards a MEMS RF-Interrogated Biosensor”, Mechanical Engineering, Al Pisano Group, UC Berkeley (Reader)

MASTER’S THESIS ADVISOR (* INDICATES COMMITTEE CHAIR)

- 2017 Tara Armond*, “Thermocycler for Performing In-Gel Nucleic Acid Amplification”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree

- 2017 Oliver Lin*, “Thermocycler for Performing In-Gel Nucleic Acid Amplification”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree
- 2015 Martha Lesniewski*, “Investigation of In-Chip Photoactive Polyacrylamide Gel-based Electrophoretic Assays for Protein and Nucleic Acid Detection”, UC Berkeley/UCSF Bioengineering Masters Degree (MS)
- 2015 Zijian Meng, “The Design and Commercialization of a Point-of-Care Platform for Neonatal Complete Blood Count”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree, L. Sohn Advisor.
- 2015 Shilpi Mathrani, “The Design and Commercialization of a Point-of-Care Platform for Neonatal Complete Blood Count”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree, L. Sohn Advisor.
- 2015 Matthew Hart, “The Design and Commercialization of a Point-of-Care Platform for Neonatal Complete Blood Count”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree, L. Sohn Advisor.
- 2015 Lung-Yin Lu, “The Design and Commercialization of a Point-of-Care Platform for Neonatal Complete Blood Count”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree, L. Sohn Advisor.
- 2014 Ian Legaspi*, “Portable, low-voltage power supply to enable free-standing polyacrylamide gel electrophoresis for point-of-care diagnostics device”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree
- 2014 Hui Ling Koh*, “Deployment of Freestanding Polyacrylamide Gel Electrophoresis Platform for Point-of-Care Diagnostic Applications”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree
- 2014 Michael Y.S. Chai*, “Optical readout in a freestanding polyacrylamide gel point-of-care diagnostic for global health”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree
- 2014 Douglas Webster, “The Ocular CellScope Capstone Project”, UC Berkeley Fung Institute for Engineering Leadership, Master of Engineering (MEng) Degree (Reader)
- 2013 Kevin Maurer*, “Production of a cheap, mass-producible plastic platform capable of doing polyacrylamide gel electrophoresis (PAGE) protein separations”, ETH Master’s Degree
- 2013 Wei-Yin (Wein) Chien*, “Preliminary Characterization of Photoactive Polyacrylamide Gel for Microfluidic Western Blotting Platforms”, UC Berkeley Bioengineering Master’s Degree
- 2012 Jared Higbee*, “Schisto FluidX: An Epidemiologic surveillance tool for Schistosomiasis”, UC Berkeley/UCSF Graduate Program in Bioengineering, Masters of Translational Medicine (MTM) Degree
- 2012 Harika Nanduri*, “Schisto FluidX: An Epidemiologic surveillance tool for Schistosomiasis”, UC Berkeley/UCSF Graduate Program in Bioengineering, Masters of Translational Medicine (MTM) Degree
- 2012 Mona Mohindra*, “Schisto FluidX: An Epidemiologic surveillance tool for Schistosomiasis”, UC Berkeley/UCSF Graduate Program in Bioengineering, Masters of Translational Medicine (MTM) Degree
- 2010 Mathieu Ackermann*, “Continuous monitoring of secreted proteins from stretched cardiomyocytes”, EPFL Microengineering Department Master’s Thesis
- 2008 Sharon Hsu*, UC Berkeley Bioengineering Master’s Degree

REVIEWER

Journals: *Proceedings of the National Academy of Sciences USA, Nature Methods, Nature Communications, ACS Chemical Biology, ACS Biomaterials Science & Engineering, Nature Medicine, Nature Biomedical Engineering, Scientific Reports, Analytical Chemistry, Electrophoresis, Lab-on-a-Chip, Journal of Microelectromechanical Systems (JMEMS), Journal of the American Chemical Society, Langmuir, Journal of Diabetes Technology, IEEE Sensors Journal, Microfluidics and Nanofluidics, Journal of Periodontology, Biomedical Microdevices, Biomicrofluidics, Sensors, Proteomic, J. of Chromatography A, Proteomics.*

Funding agencies (ad hoc): National Institutes of Health (*Standing member* Nanotechnology Study Section, 2013-9), National Science Foundation (2004-2006 Fluids, 2009 CBET, 2010 CBET, 2011 CSDM, 2011 CAREER), W.M. Keck Foundation (2015), Army Research Office (2005), Department of Energy (2005), National Institutes of Health (*Ad hoc* Nanotechnology Study Section, 2012 & 2013, *Ad hoc* Instrumentation & Systems Development Study Section, 2009), UC Davis/LLNL Point of Care Diagnostics Center (2010), California Institute of Regenerative Medicine (CIRM) Training Grant for UC Berkeley Technology Applicants (2010, 2011), Dr Hadwen Trust for Humane Research (2013).

DEPARTMENTAL, COLLEGE, & UNIVERSITY SERVICE

- 2016-present Faculty Director, Bakar Fellows Program in the Vice Chancellor for Research Office, UC Berkeley
- 2016-present Vice Chair for Engineering Engagement, Department of Bioengineering, UC Berkeley
- 2016-present Director’s Council, Jacobs Institute for Design Innovation, UC Berkeley
- 2017 Chancellor’s Advisory Committee on Biology, “Future of Biology” Working Group
- 2017 IGI Advisory Board
- 2017 UC Berkeley Internal Moore Inventor Fellow Selection Committee

2012-15, 09-11 Executive Committee Member & Acting Chair (2015), UC Berkeley/UCSF Graduate Program in Bioengineering

2014-2015 Member, Translational Bioengineering Faculty Search Committee, UC Berkeley

2014 Member, Hellman Faculty Fellowship Selection Committee, UC Berkeley

2013-2014 Member, Faculty Search, Professor + Director Jacobs Institute, College of Engineering, UC Berkeley

2013 Member, Faculty Search Committee, Lecturer w/ Security of Employment, Bioengineering, UC Berkeley

2012-2013 Co-Chair, Graduate Admissions Committee, UC Berkeley/UCSF Graduate Program in Bioengineering

2013-2014 Member, Graduate Affairs Committee, Bioengineering, UC Berkeley

2013 Member, Masters of Translational Medicine (MTM) Projection Selection Committee, UC Berkeley/UCSF

2013 Member, Design Innovation Task Force, College of Engineering, UC Berkeley

2011-present Research Area Graduate Advisor, “BioMEMS, microfluidics, & nanotechnology”, UC Berkeley/UCSF Graduate Program in Bioengineering

2012-2014 Executive Committee Member, Engineering Science Committee, College of Engineering

2009-2013 Member, Summer Undergraduate Program in Engineering Research (SUPERB), College of Engineering

2012, 2015 Reviewer, UC Berkeley selection committee for HHMI International Graduate Student Fellowship

2008-present Member, Graduate Admissions Committee, UC Berkeley/UCSF Graduate Program in Bioengineering

2008-present Member, BNC Educational Laboratory *ad hoc* committee

2008-present Faculty Advisor, Society of Women Engineers (SWE) UC Berkeley chapter

2008-present Member, UC Berkeley Undergraduate Transfer Admissions Committee, College of Engineering

2007-present Member & Emphasis Lead (2009-now), Undergraduate Curriculum Committee, Dept. of Bioengineering

2010-2011 Member, Bioengineering Undergraduate Awards Committee, Dept. of Bioengineering

2010-2011 Member, Faculty Search Committees, Department of Bioengineering

2010 Member, UC Dissertation-Year Fellowship Review Committee, UC Berkeley

2009-2011 Member, Admissions Committee for SHARP summer undergraduate research program

2009 Organizer, Fall Semester Seminar Series, Department of Bioengineering

2008-2011 Member, Admissions Committee summer undergraduate research program, NSF COINS

TEACHING & INSTRUCTION

BIOENGINEERING, UNIVERSITY OF CALIFORNIA BERKELEY

2007-PRESENT INSTRUCTOR & DEVELOPER, BIOE 192 “CAPSTONE SENIOR BIOENGINEERING DESIGN”

2008-PRESENT INSTRUCTOR & DEVELOPER, BIOE 251/151 “MICRO/NANOFLUIDICS FOR BIOENGINEERING”

2008: Awarded UC Berkeley Committee on Teaching Educational Equipment purchase grant

2008: UC Berkeley Graduate Division “Teaching with GSI’s” Workshop

2008-09: Appointed UC Presidential Chair Faculty Fellow & awarded instructional enrichment funds

2009: National Effective Teaching Institute (Nominated by UCB Dean of CoE to attend), Austin, TX

2008-12: Finalist, Outstanding Teaching Award, Bioengineering Honor Society (BioEHS)

2009: Awarded National Collegiate Inventors & Innovators Alliance (NCIIA) 3-yr course grant

2009: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: E. Essock-Burns (2011 Mayfield Fellow)

2010: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: R. Novak

2010: Undergraduate Learning Student Initiatives (ULSI) evaluation pilot lead (BioE 192)

2011: 2nd Place, CITRIS Big Ideas @ Berkeley, “The State of Ear Health and Rise of Tympanocentesis”, (J. Che, E. Lee, T. Bartlett, & F. Chen), BioE 192 senior project

2011: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: D. Adamson

2011: National Institutes of Health (NIBIB) R25 Immersive Team Based Learning 5 year grant

2012: 1st Place, CITRIS Big Ideas @ Berkeley, “Portable, Affordable, and Accurate Means of Assessing Hemoglobin Levels in Resource-Poor Settings” (P. DeCorwin-Martin, A. Kwong, X. X. Lin, N. Siddiqui), BioE 192 senior project

2012: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: B. Koelsch (2013 Mayfield Fellow)

2013: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: A.M. Tentori

2013: Honorable Mention (second of top three awards given), NIH DEBUT Challenge: N. Barzarian, N. Ray, S. Nagaraj, J. Yang with Joseph Forrester, M.D.

2014: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: A. Skandarajah

2015: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: K. Yamauchi

2017: UC Berkeley Graduate Division Outstanding Graduate Student Instructor: H. Neira

1999-2000 DESIGN TEAM COACH, DEPARTMENT OF MECHANICAL ENGINEERING, STANFORD UNIVERSITY

Responsible for mentoring four-student graduate student teams in MEMS laboratory course (2006) and coaching of a team in the Smart Product Design (ME 318A,B) sequence (1999, 2000).

1998-2002 ME/E 311 SEMINAR, DEPARTMENT OF MECHANICAL ENGINEERING, STANFORD UNIVERSITY

Instrumental in establishing seminar forum in which role models in engineering and science provide perspectives on experiences, lessons, and vision related to their professional and personal growth (1998-2002). Funding secured from School of Engineering, Alumni Association, and industrial sources. Seminar has been offered winter quarter continuously since 1998. www.stanford.edu/group/mewomen/

ADVISOR FOR UNDERGRADUATE BIOENGINEERING SENIOR DESIGN PROJECTS

1. Victor Tieu, Tra Pham Thanh Tran, Tanay Nandgaonkar, **2016**, “Increasing Freedom-of-Movement of ICU Patients”, Arash Afshinnik, MD, Assistant Professor, Division of Neurology, UCSF School of Medicine, Fresno.
2. Justin Choe, Andrew Hild, Anisha Kumar, Dhruv Kothari, **2016**, “Monitoring Respiratory Function in Outpatients with Chronic Obstructive Pulmonary Disease”, Arash Afshinnik, M.D. UCSF Assistant Clinical Professor of Medicine (Neurology).
3. Sara Sampson, Karthik Prasad, Aran Bahl, Matthew Chan, **2016**, “Vital Sign Monitoring in the Low Resource Clinical Settings”, Ricky Wang, MD, Pulmonary Fellow, Division of Pulmonary and Critical Care, San Francisco General Hospital & UCSF; George Su, MD, Associate Professor, Division of Pulmonary and Critical Care, San Francisco General Hospital & UCSF.
4. Jeffrey Feng, Darya Fadavi, Noreen Wauford, **2016**, “Quantitative Assessment of Degree and Spatial Extent of Pain Block”, Matthew Haight, D.O., UCSF Associate Clinical Professor (Anesthesia).
5. Priya Bhattacharjee, Richard Xu, Maxine Arnush, Joshua Chen, **2016**, “Screening for Autonomic Nervous System Disorders in Pediatric Patients”, Parvin Azizi, MD, Assistant Professor of Pediatric Neurology, UCSF Fresno.
6. Botao Peng, Tyler Davis, Alison Long, **2016**, “Pain Monitoring in Extraclinical Settings”, Christine Ritchie, M.D., UCSF Clinical Professor of Medicine (Geriatrics) & Nicole Thompson, Clinical Research Coordinator, UCSF Office of Population Health.
7. Anne Zeng, Giang Ha, Katelyn Greene, **2016**, “Assisted Automobile Access for Seniors”, Janice Schwartz, M.D., UCSF Clinical Professor of Medicine (Geriatrics) and Research Director of the Jewish Home of San Francisco.
8. Ashlee Horn, Jeff Hsiao, Alex Takahashi, Katherine Spack, **2016**, “Convenient Monitoring of Parkinson’s Symptoms”, Cong Zhi Zhao, MD, Assistant Professor, Division of Neurology, UCSF School of Medicine, Fresno.
9. Amy Chang, Jessica Hsueh, Daniel Hu, Eric Wang, **2015**, “The Sturdy Swivel: Helping the Elderly Safely Enter & Exit Cars”, Janice Schwartz, M.D. UCSF Clinical Professor of Medicine (Geriatrics). (*Sabbatical*)
10. Amanda Haack, Ian Lin, Zian Liu, Ashutosh Shrestha, **2015**, “Corneal Abrasion Treatment Suitable for Low-Resource Settings”, Daniel Chao, M.D., Ph.D., Clinical Instructor and Vitreoretinal Fellow UCSF School of Medicine. (*Sabbatical*)
11. Annika Carlson, Lucy Hu, Michael Manguinao, Roy Park, **2015**, “Percutaneous Nephrology”, Thomas Chi, M.D. Assistant Professor, Department of Urology at UCSF (*Sabbatical*)
12. Hillary Chen, Lars Gustafson, Mandy Li, Prasanna Rajan, **2015**, “Work of Breathing Measurement Device for COPD Outpatient Monitoring”, George Su, M.D., Assistant Professor of Medicine (Pulmonology & Critical Care) at San Francisco General Hospital, UCSF. (*Sabbatical*)
13. Alex Najibi, Anna Garachtchenko, Arnav Dugar, Cheng (Kim) Li, **2015**, “A Continuous, Non-Invasive Blood Pressure Monitor”, Margaret Vartanian, MD, Resident Physician, Department of Anesthesia, UCSF. (*Sabbatical*)
14. Amanda Vu, Kartiga Selvaganesan, Joshua Nowak, Arun Pingali, **2015**, “Dynamic Cardiac Phantom for DENSE-MRI Sequence Validation”, Mark Ratcliff, M.D., Director of the Cardiac Biomechanics Laboratory at UCSF. (*Sabbatical*)
15. Amy Lyden, Neha Kumar, Kyle Joyner, Alexander Runke, **2015**, “Sugisun: A surgical light for the developing world”, Richard Gosselin, M.D., Associate Clinical Professor, Co-Director, Institute for Global Orthopedics and Traumatology, Doctors without Borders. (*Sabbatical*)
16. Anand Dharia, Carol Lee, Caleb Kim, Arjun Mukundan, **2015**, “Reduction of Motion Artifacts in MRI Scans of the Spinal Cord”, William Stern RT, Lead Research MRI Technician Department of Neurology, UCSF. (*Sabbatical*)
17. Ariel Wang, HongJoo Kim, Prithi Bomdica, **2014**, “Improving POC Analysis for Hematuria” with Thomas Chi, MD, Assistant Professor, Department of Urology, UCSF School of Medicine.
18. Jon Silberstein, Connor Ludwig, Deepika Bhatnagar, Sahithi Rani, **2014**, “Portable, Low-Cost 3-D Retinal Imaging Device” with Michael Ward, MD, PhD, Assistant Professor of Neurology & Ophthalmology, UCSF School of Medicine.
19. Sabrina Levy, Chris Deeble, Sravani Kondapavulur, Sivan Marcus, **2014**, “Devising a Synchronized Phrenic Nerve Pacer for ALS Treatment” with Björn Oskarsson, MD, Assistant Professor of Clinical Neurology, Director of UC Davis Multidisciplinary ALS clinic, University of California Davis Medical Center.
20. Hannah Adelsberg, Celia Cheung, Eric Katz, Suzanne Chou, **2014**, “Safe Solution to Answer Door for People with Limited Mobility” with Janice Schwartz, MD, UCSF Clinical Professor of Medicine, Research Director of the Jewish Home of San Francisco.
21. Shalmalee Pandit, Weina Chen, Ryan Zolyomi, Sudershan Srinivasan, **2014**, “Drug Delivery System for Asthma Treatment” with John Fahy, MD, Msc, Professor of Pulmonary Medicine, UCSF School of Medicine, Director of the CVRI Airway Clinical Research Center
22. Vivian Shen, Toan Nguyen, Helen Park, Derek Liu, **2014**, “Proper Endotracheal Tube (PET) Detector” with John T. Li, MD, Pediatric Critical Care Physician, UCSF Benioff Children’s Hospital.
23. Asad Akbany, Kasper Kuo, Nicholas Leung, Karen Cheng, **2014**, “Detecting Operational Status of LPG Stoves (Developing Countries)” with Lisa Thompson, FNP, MS, PhD, Assistant Professor at the Clinical and Translational Science Institute KL2, Global Health Sciences Faculty Scholar in Family Health Care Nursing, UCSF.

24. Ashley Tsai, Daniel Corbett, Aritro Mukherjee, Anna Ngo, **2014**, “*Improving Hair Sample Preparation for Detecting ARV Levels*” with Monica Gandhi, MD, MPH, Associate Professor of Medicine in the Division of HIV/AIDS and Infectious Disease at UCSF, Director of AIDS Consult Service at San Francisco General Hospital.
25. Brian Dick, Vinayak Viswanadham, Yumi Suh, Adrian Tabula, **2013**, “*Detecting Narcotics-Induced Respiratory Depression*” with Art Wallace, MD, PhD, Director of VAMC Anesthesia Preoperative Evaluation Clinic and Professor in Residence, UCSF Anesthesia & Perioperative Care.
26. Vicki Ni, Jeremy Whang, Michael Hwang, Elias Sideris, **2013**, “*Monitoring the Amount of FVN Individuals Eat*” with Lenny Lesser, MD, MSHS, Research Physician, Palo Alto Medical Foundation Research Institute.
27. Marie Biscarrat, Robert Chen, Manali Sawant, Nimmi Bhatt, **2013**, “*A Non-Invasive Means of Accurately Determining the Oxygen Saturation of the Central Venous System*” with John Chorba, MD, UCSF Cardiology Fellow.
28. Noah Goldman, Geonyoung Kim, Robin Parrish, Andrea Dickey, **2013**, “*Detection of a Fall Among Elderly at Home*” with Janice Schwartz, MD, UCSF Clinical Professor of Medicine, Research Director of the Jewish Home of San Francisco.
29. Rahul Nayak, Amanpreet Virk, Norman Bae, Brooke Liang, **2013**, “*Monitoring Behavior Change Related to Exposures to Household Air Pollution from Cooking Fires (Developing Countries)*” with Lisa Thompson, FNP, MS, PhD, Assistant Professor at the Clinical and Translational Science Institute KL2, Global Health Sciences Faculty Scholar in Family Health Care Nursing, UCSF.
30. Peter Mains, Emmalyn Chen, Rachel Cheng, Ernest Lai, **2013**, “*Wearable Sleep Cycle Monitors to Co-ordinate Healthcare Delivery*” with Peter Than, MD, Postdoctoral Research Fellow, Stanford University Department of Surgery.
31. Ryan Akiyama, Shilpi Mathrani, Shen Li, Julie Haduong, **2013**, “*Automated Zebrafish Feeding System*” with Su Guo, PhD, Professor, UCSF School of Pharmacy.
32. Anshum Sood, Haley Costigan, Neha Teekappanavar, Helen Sun, **2013**, “*Pelvic Pain Diagnostics (Developing Countries)*” with Joanne L. Perron, MD, FACOG, Postdoctoral Fellow, UCSF Program on Reproductive Health and the Environment.
33. Supada Sritanyaratana, Kenneth Gao, Albert Lin, Homayun Mehrabani, **2012**, “*Reducing Intravenous Catheter Infections*” with Hobart Harris, MD, MPH, Professor and Chief, Division of General Surgery at UCSF.
34. Nasim Barzaniyan, Neil Ray, Sakthivel Nagaraj, Jeffrey Yang, **2012**, “*Enabling a Laparoscopic Imaging Device to Overcome the Need for Continual Clean Up*” with Joe Forrester, MD, MSc, Stanford University Department of Surgery.
35. Robert Chen, Shayan Fakurnejad, Ha Sung (Leo) Moon, Kimberly Chan, **2012**, “*Imaging of mouse model retinas to identify early markers of Alzheimer’s Disease*” with Michael Ward, MD, PhD, Resident Physician of Neurology at UCSF; Ari Green, MD, Assistant Professor of Clinical Neurology at UCSF.
36. Connor Landgraf, Sneha Thatipelli, Sachin Rangarajan, Zhuchen Xu, **2012**, “*Noninvasive measuring of jugular vein pressure*” with John Chorba, MD, Resident Physician at UCSF.
37. Sandeep Prabhu, Atri Choksi, Alish Manandhar, Rebecca Farr, **2012**, “*Measurement and controlled application of pressure during postpartum hemorrhage in low resource settings*” with Suellen Miller, PhD, CNM, Principal Investigator of the LifeWrap Project and Director of Safe Motherhood Program at UCSF; Elizabeth Butrick, MSW, MPH, LifeWrap project director at the Safe Motherhood Program at UCSF.
38. Inbal Epstein, Tak Yau, Susanna Ly, Arthur King, **2012**, “*An emergency medical transport solution for developing countries*” with Rai Vohra, MD, Assistant Clinical Professor of Emergency Medicine at UCSF – Fresno.
39. Olga Miakicheva, Michael Nasr, Devi Khoday. Hosna Akhlaghpour, **2012**, “*Portable newborn health screening devices*” with Lisa Thompson, RN, PhD, FNP-C, Assistant Professor in School of Nursing at UCSF.
40. Kellen Chen, Helen Wan, Richard Hwang, **2012**, “*Reduce malaria transmission by killing mosquitos without insecticides*” with Bryan Greenhouse, MD, Assistant Adjunct Professor at UCSF.
41. Wanging Du, Vincent Liu, Pamela Tiet, Hanson Zhao, **2011**, “*Embryo Delivery Device for Greater In Vitro Fertilization Success*” with Paolo Rinaudo, M.D., Ph.D., Assistant Professor, UCSF School of Medicine.
42. Bryant Chu, Hoaming Huang, Eric Johnson, Jessie Tung, **2011**, “*Transforming Patient Handling*”, with David Rempel, M.D., Ph.D., UC Berkeley.
43. Philippe Decorwin-Martin, Austin Kwong, Xin Xin Lin, Nawal Siddiqui, **2011**, “*Portable Assessment of Hemoglobin Levels in Resource Poor Settings*” with Megan Huchko, M.D., M.P.H Advisor for Jacaranda Health & Nick Pearson, Founder and managing Director for Jacaranda Health.
44. Charvi Shetty, Vinidhra Mani, Jay Kumar, **2011**, “*A Home Monitoring: Early Detection of Asthma Flares*” with John Hixson, M.D. Clinical Neurologist, Assistant Professor, - Pulmonary Function Test Lab, UCSF Medical Center.
45. Saba Khalilmaji, Brian McRae, Chengwin Saepanh, Libing Wang, **2011**, “*Improve Breastfeeding Latching Assessment*” with Carol Miller, M.D., UCSF Clinical Professor, Pediatrics, Medical Director, Well Newborn Nursery.
46. Raymond Lee, Aleo Mok, Jessica Wen, Elaine Su, **2011**, “*Point of Care CellScope Diagnostics for Tuberculosis*” with Asa Tapley, UCSF School of Medicine, UC Berkeley School of Public Health Joint Program & Lina Nilsson, Ph.D., UC Berkeley.
47. Gary Chan, Albert Lan, Kathleen Lo, Tiffany Truong, **2011**, “*The Branched Thoracic Catheter; Efficient Hemothorax Drainage Through Localization Targeting*” with Rais Vohra, M.D., UCSF – Fresno Emergency Medicine Physician & Steven Cheung, M.D., UCSF Head and Neck Surgeon.
48. Aleksandra Denisin, Davis Li, Pauline Luong, Chris Alabastro, **2011** “*SqueakPeak: Mouse Pup Birth Detector for Research Laboratories*” with David Copenhagen, Ph.D, UCSF Ophthalmology & Physiology.

49. Jonathan Chang, Youcef Ouadah, and Daniel Yang, **2010**, “*Alveolar Breath Collection Device for Study of Lung Cancer Biomarkers in Volatile Organic Compounds*” with Cyrill Hornuss, M.D., UCSF research fellow in anesthesiology.
50. Danielle Beeve, Karthik Kothandapani, Christopher Richardson, Syed Abdul Aziz, **2010**, “*Appropriate technology for a mobile maternity clinic*” with Nick Pearson, Entrepreneur, Nairobi, Kenya & - Megan Huchko, M.D, MPH, Department of Obstetrics, Gynecology & Reproductive Sciences, UCSF.
51. Trisha Bartlett, James Che, Francis Chen, and Elaine Lee, **2010**, “*Tympanocentesis Device for Use in Pediatric Exams*” with Wilbur Lam, MD, PhD, UCSF Division of Pediatric Hematology/Oncology Pediatric Oncology Specialist.
52. Amy Chang, Wynne Chyou, Nickesh Viswanathan, Bryan Williams, **2010**, “*Ultrasound Probe Assist For Ultrasound Guided Central Line*” with John Stein, M.D., Asst. Clinical Professor of Emergency Medicine, Director, Emergency Ultrasound, UCSF.
53. Salar Assadian, Rose K. Leu, Brian K. Dang, **2010**, “*Revamping the Polyp Snare*” with Ma Somsouk, M.D, Assistant Professor at UCSF, Medicine/Gastroenterology.
54. Mihir Bawal, Aaron Ho, Gaber Saleh, Jasper Shau, **2010**, “*At-Home Seizure Detection*” with John Hixson, M.D., UCSF, Asst Prof of Clinical Neurology.
55. Larry Liu, Seyed Bozorgi, Daniel Chen, Eri Takam, **2010**, “*Developing an Alcohol Consumption Monitoring Device for Behavioral Research Settings*” with Howard Fields, M.D., Ph.D, UCSF Professor of Neurology Director, Wheeler Center for the Neurobiology of Addiction, Ernest Gallo Clinic and Research Center & Elyssa Margolis, PhD, UCSF Assistant Adjunct Professor Gallo Center.
56. Brian Pham, Vinh Ho, Jason Gomez, **2009**, “*Hearing Deficits: Improved Deep Brain Probe Fixturing Compatible with Current Probes*” with Ben Bonham, PhD, Associate Adjunct Professor, Otolaryngology, UCSF.
57. Tina Chan, Tiara Franklin, Roger Lowe, **2009**, “*Disposable Manometer*” with James Hardy, M.D., UCSF, Emergency Medicine Specialist.
58. Janna Serbo, Michelle Tsai, Oliver Tilk, Brandon Miller, **2009**, “*Stem Cell Delivery to the Brain*” with Daniel Lim, M.D., Ph.D., Department of Neurological Surgery, UCSF.
59. Cynthia Chuang, David Fanjung, Victor Olivas, Nina Revko, **2009**, “*Pain Minimization of Child Vaccination Procedure*” with Wilbur Lam, MD, PhD, Pediatric Hematology-Oncology, UCSF.
60. Edward Ha, Iris Jiang, Kim Nguyen, **2009**, “*Anesthesia & Perioperative Care: Multi-animal Anesthesia Delivery With Conserved Stereotaxic Accuracy*” with Jennifer Shih, Stratman Lab, UCSF.
61. Jeff Kang, Angela Ren, Mia Shanholtzer, **2009**, “*Minimally Invasive Blood Draw System for Use in Neonates*” with Wilbur Lam, MD, PhD, Pediatric Hematology-Oncology, UCSF.
62. Traci Fitzharris, Scott Grubb, Monica Sevilla, **2009**, “*Innovations in Congenital Diaphragmatic Hernia (CDH) Treatment*” with Doug Miniati, MD, Pediatric Surgeon, UCSF.
63. Dana Donnenwirth, Dean Nehama, Dan Rosen, **2008**, “*Measure Beat Rate of Cardiac Myocytes in Cell Culture*” with Wito Richter, Associate Researcher UCSF Department of Gynecology, Obstetrics, and Reproductive Sciences.
64. Chian Gong, Merline Hidayat, Robert Lamorena, **2008**, “*Newborn Dehydration*” with Carol Miller, MD Clinical Professor, Pediatrics, UCSF.
65. Alisa Dong, Atul Urs, Eric Phoumthippavong, **2008**, “*Foreign Body Retrieval Basket*” with Dennis Nielson, MD, UCSF Pediatrics.
66. P Singh, S Geissler, S Wang, and R Johnson, **2008**, “*Project Airway*” with James Hardy, M.D., UCSF Emergency Medicine Specialist.
67. Ye Qie, Atul Saxena and Eric Stone, **2008** “*Cerumen Removal*” with Wilbur Lam, MD, PhD, Pediatric Hematology-Oncology, UCSF.
68. Matthew Johnson, Elena Liang, Aron Lau, **2008**, “*Cartilage Bioreactor*” with Alfred Kuo, MD, Orthopaedic Surgery, UCSF.

DIRECTOR FOR BIODESIGN IMMERSION EXPERIENCE SUMMER PROGRAM (NIH R25, A.E. HERR, PI)

- **SUMMER 2017:** Sara Sampson (Fellow), Jeffrey Feng (Fellow), Katherine Spack (Fellow), Giang Ha (Fellow), Ashlee Horn (Fellow), Keith Kim, Ashish Samaddar, Hannah Tang, Nikki Tjahjono, Joshua Deng, Irene Kim, Jin Tanizaki
- **SUMMER 2016:** Annika Carlson (Fellow), Jessica Hsueh (Fellow), Michael Manguinao (Fellow), Karthik Prasad, Sara Sampson, Katherine Spack, Priya Bhattacharjee, Matthew Chan
- **SUMMER 2015:** Celia Cheung (Fellow), Sravani Kondapavulur (Fellow), Sabrina Levy (Fellow), Helen Park (Fellow), Mandy Li, Michael Manguinao, Roy Park, and Annika Carlson
- **SUMMER 2014:** Helen Sun (Fellow), Adrian Tabula (Fellow), Vinayak Viswanadham (Fellow), Suzanne Chou, Derek Liu, Toan Nguyen, Lakshmisahithi Rani, Vivian Shen
- **SUMMER 2013:** Nasim Barzarian (Fellow), Alisha Manandhar (Fellow), Karen Burt, Geonyoung (G.Y.) Kim, Brooke Liang, Manali Sawant, Neha Teekapannavar, Vinayak Viswanadham
- **SUMMER 2012:** Libing Wang (Fellow), Charvi Shetty (Fellow), Jessie Lee (Fellow), Philippe DeCorwin-Martin (Fellow), Sneha Thatipelli (Fellow), Jeffrey Yang, Albert Lin, Nasim Barzarian, Inbal Epstein, Sandeep Prabhu