

Nancy Allbritton, M.D., Ph.D.
Kenan Distinguished Professor
Joint Department of Biomedical Engineering, UNC Chapel Hill/NC State University
UNC Departments of Chemistry and Applied Physical Sciences
NC State Department of Materials Science and Engineering
Fellow: AAAS, AIMBE, and NAI

Nancy L. Allbritton is a Kenan Distinguished Professor at the University of North Carolina at Chapel Hill (UNC) and North Carolina State University (NC State). Her research utilizes principles and techniques from engineering, chemistry, physics, and materials science to develop enabling technologies and platforms for biomedical research and clinical care. Current focus areas include multiplexed single-cell assays, microfabricated platforms for high-content cytometry combined with cell sorting, and microengineered stem-cell-based systems for recapitulating human organ-level function. Her work has resulted in over 180 full-length journal publications and patents and led to 15 commercial products. Her research program has been well funded with over \$60 million in extramural grant funding since 2000.

Four companies have been formed based on her research discoveries: Protein Simple (acquired by Bio-Techne in 2014 for over \$0.3 billion), Intellego (subsequently integrated into International Rectifier), Cell Microsystems (www.cellmicrosystems.com), and Altis Biosystems (www.altisbiosystems.com). Cell Microsystems currently has world-wide distribution of its unique cell sorting platform through an agreement with the biotechnology company Qiagen.

As an educator, Dr. Allbritton has been a leader in the creation of novel partnerships crossing traditional academic boundaries. As Chair of the Joint Department of Biomedical Engineering, she built a department spanning two universities and three colleges and developed and obtained approval of a novel framework, or Charter, to guide the inter-institutional education, research and administrative activities of the Joint Department. As part of this effort, she led the creation of ground-breaking joint degrees providing the Joint Department's undergraduate and graduate students with full access to all assets and activities of both UNC and NC State and culminating in a jointly-issued diploma. The UNC chancellor has characterized this new operational model as "an exemplar of de-siloing in US higher education." Additionally, Dr. Allbritton has received excellence in teaching awards along with consistently outstanding student evaluations for her courses while guiding over 60 undergraduate students, advising 42 graduate students, and training 33 postdoctoral fellows. Her trainees have gone on to successful, independent careers in academia, government, and industry.

Dr. Allbritton is a Fellow of the American Association for the Advancement of Science, the American Institute for Medical & Biological Engineering, and the National Academy of Inventors. Among other awards, she is a 2015 recipient of the NIH Director's Transformative Award for her pioneering work in building functional microscale replicas of the digestive tract, the 2016 recipient of the ACS Award in Chemical Instrumentation, the 2017 Edward Kidder Graham Leadership Award, and the 2017 recipient of the UNC "Inventor of the Year" Award. She has served on multiple advisory and editorial boards such as that for the Arnold and Mabel Beckman Foundation, Analytical Chemistry and Annual Reviews of Analytical Chemistry. She has co-organized multiple scientific meetings including the Tissue Engineering and Regenerative Medicine International Society Meeting, Nanomedicine and Drug Delivery Symposium, and Cold Spring Harbor Single Cell Analysis Meetings. She is highly recognized for her work, with over 270 invited speaking engagements at both national and international venues.

Nancy Allbritton obtained her B.S. in physics from Louisiana State University, M.D. from Johns Hopkins University, and Ph.D. in Medical Physics/Medical Engineering from the Massachusetts Institute of Technology, with a postdoctoral fellowship at Stanford University.

Curriculum Vitae: Nancy L. Allbritton, MD, PhD

Kenan Distinguished Professor

Joint Department of Biomedical Engineering, University of North Carolina, Chapel Hill,
and North Carolina State University, Raleigh,

Departments of Pharmacology, Applied Physical Sciences and Chemistry, University of North Carolina,
Chapel Hill

Department of Materials Science & Engineering, North Carolina State University, Raleigh, NC

PROFESSIONAL ADDRESS

Chapman Hall, Rm 241, Campus Box 3216, University of North Carolina, Chapel Hill, NC 27599-3290
4140 Engineering Building III, North Carolina State University, Raleigh, NC 27695-7115

E mail: nlallbri@unc.edu, nlallbri@ncsu.edu

ADDITIONAL AFFILIATIONS

Lineberger Comprehensive Cancer Center, Center for Gastrointestinal Biology and Disease, and
Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC

EDUCATION

1987 Ph.D. Medical Physics/Medical Engineering, Health Sciences and Technology, Massachusetts
Institute of Technology, Cambridge, MA; Supervisor: Dr. Herman Eisen
1985 M.D. Medicine, Johns Hopkins University School of Medicine, Baltimore, MD
1979 B.S. Physics, Louisiana State University, Baton Rouge, LA

POSITIONS/EMPLOYMENT

2015 - current Kenan Endowed Chair, UNC
2013 - current Distinguished Professor, Division of Molecular Pharmaceutics, Eshelman School of
Pharmacy, UNC
2011 - 2013 Chair, Curriculum in Applied Sciences and Engineering, UNC
2010 - current Professor, Dept. of Materials Science & Engineering, NC State
2009 - current Chair, Joint Dept. of Biomedical Engineering, UNC and NC State
2009 - current Distinguished Professor, Joint Dept. of Biomedical Engineering, UNC and NC State
2008 - current Distinguished Professor, Dept. of Pharmacology, UNC
2007 - current Distinguished Professor, Dept. of Chemistry, UNC
2004 - 2007 Professor, Dept. of Physiology and Biophysics, Biomedical Engineering, Chemistry,
and Chemical Engineering and Materials Science, UCI (Univ. of Calif., Irvine)
2000 - 2004 Associate Professor, Dept. of Physiology and Biophysics, and Biomedical Engineering,
UCI
1994 - 2000 Assistant Professor, Dept. of Physiology and Biophysics, UCI
1989 - 1994 Postdoctoral Fellow with Dr. Lubert Stryer, Dept. of Cell Biology, Stanford University
1988 - 1989 Postdoctoral Fellow with Dr. Herman Eisen, Center for Cancer Research, MIT

PROFESSIONAL AWARDS/RECOGNITION

2019 - 2021 Advisory Board, Center for Subcellular Genomics, University of Pennsylvania,
Philadelphia, PA

2019 - 2021 External Advisory Board, Dept. of Biomedical Engineering, University of Florida, Gainesville, FL

2018 Distinguished Lecturer, North Carolina Section of the American Chemical Society

2018 - 2021 Beckman Foundation Scientific Advisory Board

2017 - 2018 Chair, NIH Transformative Grant Editorial Review Board

2017 Recipient of Edward Kidder Graham Award for Leadership and Service to UNC and the State of North Carolina

2017 - 2020 Elected as a member of the Electorate Nominating Committee (ENC) of the Section on Medical Sciences in AAAS

2017 - 2020 Advisory Board, Coulter Dept. of Biomedical Engineering at Georgia Tech and Emory University

2017 UNC "Inventor of the Year" Award

2018 Nominated for NAE Gordon Prize based on building a truly integrated cross-university department and student experience

2016 - 2021 Editorial Board, Annual Reviews in Analytical Chemistry

2016 - 2021 External Advisory Board, Dept. of Bioengineering, Imperial College, London

2016 - 2017 Chair, NIH Transformative Grant Editorial Review Board

2016 Charles M. Knight Lecturer at The University of Akron

2016 ACS Division of Analytical Chemistry, Award in in Chemical Instrumentation

2015 Elected as a Fellow, AAAS

2015 IEEE Life Sciences Leadership Award (NC Division)

2015 Member, NIH Advisory Panel to Assess Bioengineering/Computational Biology Study Sections (NIH/CSR Intra IRG/Cross SRG Ranking Pilot EBIT/EBT/MI study group)

2015 Top Scoring Transformative Grant; Featured in NIH Director Collin's Blog
<https://directorsblog.nih.gov/2016/09/22/creative-minds-making-a-miniature-colon-in-the-lab/>

2015 UNC Chancellor Carol Folt lists BME's Joint BS as one of her top 6 accomplishments.

2015 Elected as a Fellow, National Academy of Inventors

2014 Allbritton start-up company Protein Simple acquired by Bio-Techne for \$308 M

2013 - 2016 Member, Scientific Advisory Committee, Beckman Foundation

2012 - 2014 Analytical Chemistry Editorial Advisory Board

2011 - 2013 Society Programs Committee, Biophysical Society

2011 Science News Interview and Commentary, "Singled Out", October 8, p26-29

2010 - 2013 National Councilor Member, Biophysical Society

2010 Elected as a Fellow, American Institute for Medical & Biological Engineering

2009 Mary K. and Velmer A. Fassel Award, Dept. of Chemistry, Iowa State University

2006 Featured Scientist in Orange County Registrar (3/17/2006), Science Section

2004 UCI College of Medicine Excellence in Teaching Award

2003 UCI Midcareer Research Award

1995 Searle Scholar Award

1995 Beckman Young Investigator Award

1990 - 1993 NIH Individual Postdoctoral Award

1982 - 1985 Massachusetts Institute of Technology, Health Sciences and Technology Fellowship

ENTREPRENEURIAL ACTIVITIES

2015 Scientific Founder Altis Biosystems, Chapel Hill, NC
 Commercialization of novel assays using an *ex vivo* intestinal epithelium platform
<https://altisbiosystems.com/>

2015 - current Consulting Scientist, Altis- Products for intestinal and microbiome applications.

- 2010 Altis has 7 ongoing confidential partnerships with pharma/biotech companies.
Scientific Founder of Cell Microsystems, Research Triangle Park, NC
<https://cellmicrosystems.com/>
Commercialization of an array-based cell sorting platform.
Selling product worldwide- US, Australia, Europe
Corporate partnership with the German biotech company Qiagen (Distribution in combination with Qiagen's kits for single-cell genetic analysis).
Featured technology- Cold Spring Harbor Labs Single-Cell Analysis Course, past 4 y & Cold Spring Harbor Labs Advanced Techniques in Molecular Neurosciences Course.
2018 revenue: >\$4 M
- 2010 - current Consulting Scientist, Cell Microsystems, Research Triangle Park, NC
- 2009 Scientific Founder of Intellego, Irvine, CA
Commercialization of a laser-based cell sorting system.
Technology licensed to International Rectifier, a \$30 billion electronics firm.
- 2009 - 2011 Consulting Scientist, Intellego, Irvine, CA and Research Triangle Park, NC
- 2003 Scientific Founder of Protein Simple (Cell Biosciences), Palo Alto, CA
<https://www.proteinsimple.com/>
Commercialized enzyme assay and protein measurement tools for small-scale samples.
Protein Simple acquired by Bio-Techne for \$308 million in 2014.
- 2003 - 2008 Consulting Scientist, Cell Biosciences, Palo Alto, CA

PUBLICATIONS (>270 IN TOTAL)

FULL LENGTH JOURNAL PUBLICATIONS (170+ IN TOTAL)

- Proctor, A. Wang, Q., Lawrence, D.S., Allbritton, N.L. 2019. Selection and Optimization of Enzyme Reporters for Chemical Cytometry. *Methods in Enzymology*. In Press.
- Dutton, J.S., Hinman, S.S., Kim, R., Wang, Y., Allbritton, N.L. 2019. Primary Cell-Derived Intestinal Models: Recapitulating Physiology. *Trends in Biotechnology*. In Press.
- Proctor, A., Allbritton, N.L. 2019. "Fix and Assay": Separating in-cellulo sphingolipid reactions from analytical assay in time and space using an aldehyde-based fixative. *Analyt.* 144:961 - 971.
- Wang, Y., Kim, R., Hwang, S.J., Dutton, J., Sims, C.E., Allbritton, N.L. 2018. Analysis of Interleukin 8 Secretion by a Stem-Cell-Derived Human Intestinal Epithelial Monolayer Platform. *Anal. Chem.* 90:11523-11530.
- Gunasekara, D.B., Speer, J., Wang, Y., Nguyen, D.L., Reed, M.I., Smiddy, N.M., Parker, J.S., Fallon, J.K., Smith, P.C., Sims, C.E., Magness, S.T., Allbritton, N.L. 2018. A monolayer of primary colonic epithelium generated on a scaffold with a gradient of stiffness for drug transport studies. *Anal. Chem.* 90:13331-13340.
- Benjamin, P.K., Barrow, J.B., Kazgan, N., Shah, N.D., Gipson, G.R., Pitman, W.A., Saxena, S.J., Wolber, E.A., Schaner, M.S., O'Connor, M.H., Trad, O.K., Kanke, M., Toyonaga, T., Chaumont, N., Sadiq, T.S., Koruda, M.J., Cotney, P.A., Allbritton, N.L., Trembath, D.G., Sylvester, F., Furey, T.S., Sethupathy, P., Sheikh, S.Z. 2018. Association Between Colonic Level of microRNA 31 and Subtypes of Adult and Pediatric Crohn's Disease. *JCI Insight.* 3:e122788.
- Kim, R., Wang, Y., Hwang, S.J., Attayek, P.J., Smiddy, N.M., Reed, M.I., Sims, C.E., Allbritton, N.L. 2018. Formation of arrays of planar, murine, intestinal crypts possessing a stem/proliferative cell compartment and differentiated cell zone. *Lab Chip.* 18:2202-2213.
- Williamson, I.A., Arnold, J.W., Samsa, L.A., Gaynor, L., DeSalvo, M., Cocchiara, J., Carroll, I., Azcarate-Peril, A., Rawls, J., Allbritton, N.L., Magness, S.T. 2018. A High-Throughput Organoid Microinjection Platform to Study Gastrointestinal Microbiota and Luminal Physiology. *Cellular and*

Molecular Gastroenterology and Hepatology. 6:301–319.

- DiSalvo, M., Harris, D.M., Kantesaria, S., Peña, A.N., Allbritton-King, J.D., Cole, J.H., Allbritton, N.L. 2018. Characterization of Tensioned PDMS Membranes for Imaging Cytometry on Microraft Arrays. *Anal. Chem.* 90:4792–4800.
- Vickerman, B.M., Anttila, M.M., Peterson, B.V., Allbritton, N.L.*, Lawrence, D.S.* 2018. Design and Application of Sensors for Chemical Cytometry. (*co-communicating authors) *ACS Chemical Biology.* 13:1741–1751.
- Fadero, T.C., Gerbich, T.M., Rana, K., Suzuki, A., Schaefer, K., DiSalvo, M., Peifer, M., Allbritton, N.L., Gladfelter, A.S., Maddox, A.S., Maddox, P.S. 2018. LITE microscopy: Tilted light-sheet excitation of model organisms offers high resolution and low photobleaching. *Journal of Cell Biology.* 217:1869-1882.
- Wang, Y., Kim, R., Hinman, S.S., Zwarycz, B., Magness, S.T., Allbritton, N.L. 2018. Bioengineered Systems and Designer Matrices to Regulate the Physical Niche of the Intestine. *Cellular and Molecular Gastroenterology and Hepatology.* 5:440–453.
- Fayer, E.F., Gilliland, W.M., Ramsey, J.M., Allbritton, N.L., Waters, M.L. 2018. N-Gemini peptides: cytosolic protease resistance via N-terminal dimerization of unstructured peptides. *Chemical Communications.* 54:204-207.
- Gunasekara, D.B., DiSalvo, M., Wang, Y., Nguyen, D.I., Reed, M.I., Speer, J., Sims, C.E., Magness, S.T., Allbritton, N.L. 2018. Development of arrayed colonic organoids for screening of secretagogues associated with enterotoxins. *Anal. Chem.* 90:1941–1950.
- Bhatt.A.P., Gunasekara, D.B., Speer, J., Reed, M.I., Peña, A.N., Midkiff, B.R., Magness, S.T., Bultman, S.J., Allbritton, N.L.*, Redinbo, M.R.* 2018. NSAID-Induced Leaky Gut Modeled Using Polarized Two Dimensional Primary Human Intestinal Epithelial Cell Monolayers. (*co-communicating authors) *ACS Infectious Diseases.* 4:46–52.
- Wang, Y., Gunesakara, D.B., Reed, M.I., DiSalvo, M., Nguyen, D.L., Bultman, S.J., Sims, C.E., Magness, S.T., Allbritton, N.L. 2018. Formation of Human Colonic Crypt Array by Application of Chemical Gradients across a Shaped Epithelial Monolayer. *Cellular and Molecular Gastroenterology and Hepatology.* 5:113–130.
- Wang, Y., Gunesakara, D.B., Reed, M.I., DiSalvo, M., Nguyen, D.L., Dutton, J., Bultman, S.J., Sims, C.E., Magness, S.T., Allbritton, N.L. 2017. *In vitro* Generation of Mouse Colon Crypts. *ACS Biomaterials Sci. Eng.* 3, 2502–2513.
- Waybright, J, Huang, W, Proctor, A, Wang, X, Allbritton, NL, Zhang, Q. 2017. Required Hydrophobicity of Fluorescent Reporters for Phosphatidylinositol Family of Lipid Enzymes. *Anal. Bioanal. Chem.* 409, 6781–6789.
- Wang, Y., DiSalvo, M., Gunesakara, D.B., Dutton, J., Proctor, A., Lebhar, M.S., Williamson, I.A., Speer, J., Howard, R.L., Smiddy, N.M., Bultman, S.J., Sims, C.E., Magness, S.T., Allbritton, N.A. 2017. A self-renewing monolayer of primary colonic epithelial cells. *Cellular and Molecular Gastroenterology and Hepatology.* 4, 165–182.
- Proctor, A., Sims, C.E., Allbritton, N.L. 2017. Chemical fixation to arrest phospholipid signaling for chemical cytometry. *J. Chromat. A.* 1523, 97-106.
- Attayek, P.J., Waugh, J.P., Hunsucker, S.A., Grayeski, P.J., Sims, C.E., Armistead, P.M., Allbritton, N.L. 2017 Automated microraft platform to identify and collect non-adherent cells successfully generated with CRISPR-Cas9. *Biosensors Bioelectronics.* 91, 175-182.
- Wang, Y., Gunesakara, D.B., Reed, M.I., DiSalvo, M., Bultman, S.J., Sims, C.E., Magness, S.T., Allbritton, N.L. 2017. A microengineered collagen scaffold for generating polarized crypt-villus architecture of human small intestinal epithelium. *Biomaterials.* 128, 44-55.
- Houston, K.M., Melvin, A.T., Woss, G.S., Fayer, E.L., Waters, M.L., and Allbritton, N.L. 2017. Development of ornithine-rich β -hairpin peptides as sensors for in vitro ubiquitination. *ACS Omega.* 31, 1198-1206.

- Ornoff, D.M., Wang, Y., Proctor, A., Shah, A.S., Allbritton, N.L. 2016. Co-fabrication of chitosan and epoxy photoresist to form microwell arrays with permeable hydrogel bottoms. *Biomaterials*. 74:77-88.
- Melvin, A.T., Dumberger, L.D., Woss, G.S., Waters, M.L., Allbritton, N.L. 2016. Identification of a p53-based portable degron based on the MDM2-p53 binding region. *Analyst*. 141:570 - 578.
- Koh, J., Allbritton, N.L., Sosa, J.A. 2016. Single-cell approaches for molecular classification of endocrine tumors. *Curr. Opin. Oncol.* 28:43-49.
- Turner, A.H., Lebhar, M.S., Proctor, A, Wang, Q., Lawrence, D.S., Allbritton, N. L. 2016. Rational design of a dephosphorylation-resistant reporter enables single-cell measurement of tyrosine kinase activity. *ACS Chem. Bio.* 11, 355–362.
- Koh, J., Hogue, J.A., Wang, Y., DiSalvo, M., Allbritton, N.L., Shi, Y., Olson, J.A., Sosa, J.A. 2016. Single-cell functional analysis of parathyroid adenomas reveals distinct classes of calcium sensing behavior in primary hyperparathyroidism. *J. Cell Mol. Med.* 20, 351-359.
- Attayek, P.J. Ahmad, A.A., Wang, Y., Williamson, I., Sims, C.E., Magness, S.T., Allbritton, N.L. 2016. In vitro Polarization of Colonoids to Create an Intestinal Stem Cell Compartment. *Plos One*. 11, e0153795.
- Welch, J.D., Williams, L.A, DiSalvo, M., Brandt, A.T., Marayati. R., Sims, C.E., Allbritton, N.L., Prins, J.F., Yeh, J.J., Jones, C.D. 2016. Selective Single Cell Isolation for Genomics Using Microraft Arrays. *Nucleic Acids Research*. 44, 8292-8301.
- Mainz, E.R., Serafin, S.D., Nguyen, T.T., Tarrant, T.K., Sims, C.E., Allbritton, N.L. 2016. Single Cell Chemical Cytometry of Akt Activity in Fibroblast-like Synoviocytes Reveals Heterogeneity in Responses of Rheumatoid Arthritis Subjects to Tumor Necrosis Factor α . *Anal. Chem.* 88, 7786-7792.
- Proctor, A., Zigoneanu, I.G., Wang, Q., Sims, C.E., Lawrence, D.S. and Allbritton, N.L. 2016. Development of a protease-resistant reporter to quantify BCR-ABL activity in intact cells. *Analyst*. 141, 6008-6017.
- Mainz, E.R., Wang, Q., Lawrence, D.S., Allbritton, N.L. 2016. An Integrated Chemical Cytometry Method: Shining a Light on Akt Activity in Single Cells. *Angewandte Chemie*. 128,13289–13292.
- Attayek, P.J., Hunsucker, S.A., Sims, C.E., Allbritton, N.L., Armistead, P.M. 2016. Identification and isolation of antigen-specific cytotoxic T lymphocytes with an automated microraft sorting system. *Integrative Biology*. 8, 1208-1220.
- Gracz, A.D., Williamson, I.A., Johnston, M.J., Wang, F., Wang, Y, Attayek, P.J., Balowski, J., Liu, X.F., Laurenza, R.J., Sims, C.E., Galanko, J.A., Li, L., Allbritton, N.L., Magness, S.T. 2015. A high throughput platform for stem cell-niche co-cultures and downstream gene expression analysis. *Nature Cell Biology*. 17:340-349.
- Niedringhaus, M., Dumitru, R., Mabb, A.M., Wang, Y., Philpot, B.D., Allbritton, N.L., Taylor, A.M. 2015. Transferable neuronal mini-cultures to accelerate screening in primary and induced pluripotent stem cell-derived neurons. *Sci. Rep.* 5: 8353.
- Dickinson, A.J., Meyer, M., Pawlak, E.A., Gomez, S., Jaspers, I., Allbritton, N.L. 2015. Analysis of Sphingosine Kinase Activity in Single Natural Killer Cells from Peripheral Blood. *Integr. Biol.* 7: 392-401.
- Mainz, E.R., Dobes, N.C., Allbritton, N.L.. 2015. Pronase E-Based Generation of Fluorescent Peptide Fragments: Tracking Intracellular Peptide Fate in Single Cells. *Anal. Chem.* 87:7987–7995.
- Wilson, J.E., Petrucelli, A.S., Chen, L., Koblansky, A.A., Truax, A.D., Oyama, Y., Rogers, A.B., Brickey, W.J., Wang, Y., Schneider, M., Mühlbauer, M., Chou, W.C., Barker, B., Jobin, C., Allbritton, N.L., Ramsden, D.A., Davis, B.K., and Ting, J.P.Y. 2015. Inflammasome-independent role of AIM2 in suppressing colon tumorigenesis by interfering with DNA-PK-dependent Akt activation. *Nature Medicine*. 21:906-913.
- Gordon, K.R., Wang, Y., Allbritton, N.L., Taylor, A.M. 2015. Magnetic Alignment of Microelements

- Containing Cultured Neuronal Networks for High-Throughput Screening. *J. Biomolec. Screen.* 1-10.
- Ahmad, A.A., Wang, Y., Sims, C.E., Magness, S.T., Allbritton, N.L. 2015. Optimizing Wnt-3a and R-spondin1 concentrations for stem cell renewal and differentiation in intestinal organoids using a gradient-forming microdevice. *RSC Advances.* 5:74881-74891.
- Attayek, P.J., Hunsucker, S.A., Wang, Y., Sims, C.E., Armistead, P.A., Allbritton, N.L. 2015. An array-based platform to select, release and capture EBV-infected cells based on intercellular adhesion. *Anal. Chem.* 87:12281-9.
- Zigoneanu, I.G., Sims, C.E., Allbritton, N.L. 2015. Separation of peptide fragments of a protein kinase C substrate fused to a β -hairpin by capillary electrophoresis. *Anal. Bioanal. Chem.* 407:8999-9008.
- Gach, P.C., Attayek, P.J., Whittlesey, R.L., Yeh, J.J., Allbritton, N.L. 2014. Micropallet Arrays for the Capture, Isolation and Culture of Circulating Tumor Cells from Whole Blood of Mice Engrafted with Primary Human Pancreatic Adenocarcinoma. *Biosensors & Bioelectronics.* 54: 476-483.
- Kovarik, M.L., Dickinson, A.J., Roy, P., Poonnen, R.A., Fine, J.P., and Allbritton, N.L. 2014. Response of Single Leukemic Cells to Peptidase Inhibitor Therapy Across Time and Dose Using a Microfluidic Device. *Integr. Biol.* 6: 164-174.
- Phillips, R.M., Dailey, L.A., Bair, E., Samet, J.M., Allbritton, N.L. 2014. Ex Vivo Chemical Cytometric Analysis of Protein Tyrosine Phosphatase Activity in Single Human Airway Epithelial Cells. *Anal. Chem.* 86: 1291-1297.
- Huang, W., Proctor, P., Sims, C.E., Allbritton, N.L., Zhang, Q. 2014. Fluorous Enzymatic Synthesis of Phosphatidylinositides. *Chem. Commun.* 50: 2928-2931.
- Wang, Y., Ahmad, A.A., Sims, C.E., Magness, S.T., Allbritton, N.L. 2014. In vitro generation of colonic epithelium from primary cells guided by microstructures. *Lab on Chip.* 14: 1622 - 1631.
- Ahmad, A.A., Wang, Y., Gracz, A., Sims, C.E., Magness, S.T., Allbritton, N.L. 2014. Optimization of 3-D Organotypic Colon Cultures on Chip. *J Bioeng.* 8:9-19.
- Grohman, J.K., Gorelick, R.J., Kottegoda, S., Allbritton, N.L., Rein, A., Weeks, K.M. 2014. A retroviral genome packaged in a kinetically trapped intermediate state. *J. Virology.* 88: 6061-6068.
- Proctor, A., Herrera, G.S., Wang, Q., Lawrence, D.S., Yeh, J.J., Allbritton, N.L. 2014. Measurement of Protein Kinase B Activity in Single Primary Human Pancreatic Cancer Cells. *Anal. Chem.* 86: 4573-4580.
- Shah, P.K., Herrera, G.S., Sims, C.E., Yeh, J.J., Allbritton, N.L. 2014. Small Sample Sorting of Primary Adherent Cells by Automated Micropallet Imaging and Release. *Cytometry A.* 85: 642-649.
- Shah, P.K., Walker, M.P., Sims, C.E., Major, M.B., Allbritton, N.L. 2014 Characterization of β -catenin activated reporter dynamics and evolution by massively parallel clonogenic screening. *Integr. Biol.* 6: 673-684.
- Dickinson, A.J., Hunsucker, S.A., Armistead, P.M., Allbritton, N.L. 2014. Single-Cell Sphingosine Kinase Activity Measurements in Primary Leukemia. *Anal. Bioanal. Chem.* 406: 7027-7036.
- Pai, J.H., Kluckman, K., Cowley, D.O., Bortner, D.M., Sims, C.E., Allbritton, N.L. 2013. Efficient Division and Sampling of Cell Colonies Using Microcup Arrays. *Analyst.* 138: 220-228.
- Ornoff, D.M., Wang, Y., Allbritton, N.L. 2013. Characterization of freestanding photoresist films for biological and MEMS applications. *J. Micromech. Microeng.* 23: 025009.
- Dobes, N.C., Dhopeswarkar, R., Henley, W.H., Ramsey, J.M., Sims, C.E., Allbritton, N.L. 2013. Laser-Based Directed Release of Array Elements for Efficient Collection into Targeted Microwells. *Analyst.* 138: 831-838.
- Melvin, A.T., Woss, G.S., Park, J.H., Waters, M.L., Allbritton, N.L. 2013. Measuring activity in the ubiquitin-proteasome system: From large scale discoveries to single cells analysis, *Cell Biochem. Biophys.* 67:75-89.
- Dickinson, A.J., Armistead, P.M., and Allbritton, N.L. 2013. Automated Capillary Electrophoresis System for Fast Single-Cell Analysis. *Anal. Chem.* 85: 4797-4804.
- Kovarik, M.L., Shah, P.K., Armistead, P.M., Allbritton, N.L. 2013. Microfluidic Chemical Cytometry of

- Peptide Degradation in Single Drug-Treated Acute Myeloid Leukemia Cells. *Anal Chem.* 85: 4991–4997.
- Wang, Y., Phillips, C.N., Herrera, G.S., Sims, C.E., Yeh, J.J., Allbritton, N.L. 2013. Array of Biodegradable Microrrafts for Isolation and Implantation of Living, Adherent Cells. *RSC Advances.* 3: 9264-9272.
- Balowski, J.J., Wang, Y., Allbritton, N.L. 2013. Fabrication of 3-D Microstructures from the Interactions of Immiscible Liquids with a Structured Surface. *Advanced Materials.* 10.1002/adma.201301658.
- Phillips, R.M., Bair, E., Lawrence, D.S., Sims, C.E., Allbritton, N.L. 2013. Measurement of Protein Tyrosine Phosphatase Activity in Single Cells by Capillary Electrophoresis. *Anal Chem.* 85: 6136–6142.
- Yang, S., Proctor, A., Cline, L.L., Houston, K.M., Waters, M.L., Allbritton, N.L., 2013. β -Turn Peptides Promote Stability of Peptide Substrates for Kinases. *Analyst.* 138: 4305-4311.
- Gach, P.C., Attayek, P.J., Herrera, G., Yeh, J.J., Allbritton, N.L. 2013. Isolation and in vitro culture of rare cancer stem cells from patient-derived xenografts of pancreatic ductal adenocarcinoma. *Anal Chem.* 85: 7271–7278.
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PATENTS (ISSUED + PENDING: 43)

>15 COMMERCIALIZED PRODUCTS BASED ON PATENTS

PENDING

- Allbritton, N., Wang, Y. In Vitro Cell Culture Mucus Systems. US PCT Pending. #62/768,259
- Allbritton, N., Kim, R., Wang, Y. Formation of Arrays of Planar, Intestinal Crypts. US PCT Patent Application #62/676,418.
- Allbritton, N., Kim, R., Wang, Y., Attayek, P. Generating Self-Sustaining Hypoxic Conditions and Gaseous and Non-Gaseous Chemical Gradients for In Vitro Cell Culture. US PCT Patent Application #62/671,638
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Allbritton, N., Sims, C., Wang, Y. Array of ultra-low-autofluorescence magnetic microrrafts micromolded from glass resin. Provisional patent application #62/300,983.

Allbritton, N., Sims, C., Wang, Y., Gunasekara, D. Methods to Generate Polymer Scaffolds Having a Gradient of Crosslinking Density. Provisional patent #62/367,339.

Allbritton, N., Sims, C., Wang, Y., Gunasekara, D. Methods to Generate Polymer Scaffolds Having a Gradient of Crosslinking Density. Various International. 2017/043601.

Allbritton, N., Armistead, P., Attayek, P. Identification and Isolation of Antigen Specific Cytotoxic T Lymphocytes with an Automated Microrraft Sorting System. Provisional patent application #62/416,773.

Allbritton, N., Armistead, P., Attayek, P. Automated Microrraft Platform to Identify and Collect Non-Adherent Cells Successfully Gene-Edited with CRISPR-Cas9. Provisional patent application #62/416,775.

Allbritton, N., Armistead, P., Attayek, P., Gebhart, S., McClelland, R., Trotta, N. Automated Collection of a Specified Number of Cells. US PCT Patent Application #17/059979.

Allbritton, N., Wang, Y., DiSalvo, M. Mated Assembly for Large Scale Microrraft-Based Cell Sorting. Provisional patent application #62/405,404.

Allbritton, N., Wang, Y., Sims, C., Dissolution guided wetting of structured surfaces. Australia. 2013267227.

Allbritton, N., Wang, Y., Sims, C., Dissolution guided wetting of structured surfaces. Japan. 2015-515226.

Allbritton, N., Wang, Y., Sims, C., Dissolution guided wetting of structured surfaces, Europe. 13796502.6

Allbritton, N., Wang, Y., Sims, C., Dissolution guided wetting of structured surfaces. US PCT Patent Application #15/995,360.

Allbritton, N., Sims, C., Wang, Y., Shah, P. Array of micromolded structures for sorting adherent cells. Canada. 2,789,761.

Allbritton, N., Sims, C., Wang, Y., Shah, P. Array of micromolded structures for sorting adherent cells. Europe. 11745150.0.

Allbritton, N., Sims, C., Wang, Y., Shah, P. Array of micromolded structures for sorting adherent cells. US PCT Patent Application #15/945,294.

ISSUED

Allbritton, N., Sims, C., Wang, Y., Shah, P. Array of micromolded structures for sorting adherent cells. Canadian Patent #2,789,761

Allbritton, N., Wang, Y., Sims, C., Dissolution guided wetting of structured surfaces. US Patent #9,765,805.

Allbritton, N., Wang, Y., Sims, C., Dissolution guided wetting of structured surfaces. US Patent #9,994,805.

Allbritton, N., Sims, C., Wang, Y., Shah, P. Array of micromolded structures for sorting adherent cells. US Patent #9,963,666.

Allbritton, N., Sims, C., Wang, Y., Shah, P. Array of micromolded structures for sorting adherent cells, US Patent #9,765,291.

Wang, Y. , Allbritton, N.L. Micro-patterned plate composed of an array of releasable elements surrounded with solid or gel walls. US Patent #9,487,745.

Allbritton, N.L., Wang, Y., Sims, C.E. Array of Micromolded Structures for Sorting Adherent Cells. US Patent #9,068,155.

Wang, Y., Bachman, M., Sims, C.E., Li, G.P., Allbritton, N. Micro-bubble plate for patterning biological

and non-biological materials. (CIP to 8,383,378) U.S. Patent #9,012,193.

Pai, J., Wang, Y. Sims, C., Bachman, M., Li, G.P., Allbritton, N. Use of Photosensitized Epon Epoxy Resin 1002F for MEMS and BIOMEMS Applications. US Patent #8,748,085.

Wang, Y., Bachman, M., Sims, C.E., Li, G.P., Allbritton, N. Micro-bubble plate for patterning biological and non-biological materials. U.S. Patent #8,383,378.

Li, G.P., Bachman, M., Allbritton, N., Sims, C., Jensen-McMullin, C. Automated, programmable, high throughput, multiplexed assay system for cellular and biological assays. U.S. Patent #7,951,580.

Allbritton, N., Sims, C., Wang, Y., Bachman, M., Li, G.P., Stanbridge, E.J. Systems and methods for efficient collection of single cells and colonies of cells and fast generation of stable transfectants. U.S. Patent #7,759,119.

Bachman, M., Li, G.P., Allbritton, N., Sims, C. Micropatterned plate with micro-pallets for addressable biochemical analysis. U.S. Patent #7,695,954.

Allbritton, N.L., Sims, C.E. Method to measure the activation state of signaling pathways in cells. U.S. Patent #7,236,888.

Allbritton, N.L., Sims, C.E., Berns, M.W., Meredith, G.D., Krasieva, T.B., Tromberg, B.J. Method and apparatus for detecting enzymatic activity using molecules that change electrophoretic mobility. (CIP to 6,335,201) U.S. Patent #7,157,223.

Allbritton, N., Sims, C., Wang, Y., Bachman, M., Li, G.P., Stanbridge, E.J. Systems and methods for efficient collection of single cells and colonies of cells and fast generation of stable transfectants. U.S. Patent #7,759,119.

Allbritton, N.L., Sims, C.E. Method and apparatus for detecting cancerous cells using molecules that change electrophoretic mobility. U.S. Patent #6,740,497.

Allbritton, N.L., Sims, C.E., Berns, M.W., Meredith, G.D., Krasieva, T.B., Tromberg, B.J. Method and apparatus for detecting enzymatic activity using molecules that change electrophoretic mobility. U.S. Patent #6,335,201.

Allbritton, N.L., Sims, C.E., Berns, M.W., Meredith, G.D., Krasieva, T.B., Tromberg, B.J. Fast controllable laser lysis of cells for analysis. U.S. Patent #6,156,576.

Kuhn, M.A., Meyer, T., Allbritton, N.L. Bifunctional chelating polysaccharides. U.S. Patent #5,773,227.

INVITED PRESENTATIONS (Professional Meetings/Educational Institutions/Companies)

Total >270

2020 (scheduled)

30th World Congress on Biosensors, Biosensors 2020, Busan, South Korea

Micro-physiological models: From organoids to organ-on-chips. Cargèse, Corsica, France

2019 (scheduled)

Department of Mechanical Engineering, Iowa State University, Ames, IA

Department of Chemistry, University of Virginia, Charlottesville, VA

Department of Chemistry, University of Pittsburgh, Pittsburgh, PA

Micro and Nanotechnologies for Next Generation Precision Medicine, Pittcon 2019, Philadelphia

Biomaterials and Tissue Engineering Gordon Research Conference, Castelldefels, Spain

Organ-on-Chip & Tissue-on-Chip Europe, Rotterdam, Netherlands

Organ-on-Chip World Congress, San Diego, CA

CSHL Single Cell Analyses Course 2018, Cold Spring Harbor, NY

Copenhagen Bioscience Conference on 'Intestinal epithelial organoids, metabolism and microbiome', University of Copenhagen, Denmark

Center for Gastrointestinal Research, University of Michigan, Ann Arbor, MI

Department of Pharmaceutical Sciences, Northeastern University, Boston, MA

2019 Society for Laboratory Automation and Screening (SLAS2019), Washington DC

Society of Chemists and Biochemists, University of Minnesota, Duluth, MN

Toxicology Program, North Carolina State University, Raleigh, NC
Francis Clifford Phillips Lecture, University of Pittsburgh, Pittsburgh, PA
Gastronauts, Duke University, Durham, NC

2018 IEEE EMBS Micro and Nanotechnology in Medicine Conference, Kauai, Hawaii
INSERM Organ-on-Chip Workshop, Bordeaux, France
Organ-on-a-Chip and 3D-Printing World Congress, San Diego, CA
Department of Biomedical Engineering, Boston University, Boston, MA
10th Annual Lab-on-a-Chip and Microfluidics World Congress 2018, San Diego, CA
CSHL Single Cell Analyses Course 2018, Cold Spring Harbor, NY
Department of Chemistry & Biochemistry, University of Notre Dame, Notre Dame, IN
Nanotechnology and Single Cell Analysis in Biology and Medicine: Next Frontier, American
Chemical Society National Meeting, Boston, MA
Biomedical and Biosystems Conference, New York University, NY
HPLC2018, Washington DC
Department of Medicine Grand Rounds, University Of North Carolina, Chapel Hill
Genomic Sciences, Becton Dickinson Technologies, Research Triangle Park, NC
EUROPT(R)ODE XIV Biosensors Meeting, Naples, Italy
Voices of Discovery Science Speaker Series, Elon College, Elon, NC
BioreclamationIVT Corp., Research Triangle Park, NC
Department of Biomedical Engineering, University of Texas, Austin, TX
Department of Biomedical Engineering, University of Rochester, Rochester, NY
Keystone Symposia on Organs- and Tissues-on-Chips, Big Sky, MT
Organoids and Engineered Organ Systems, Digestive Disease Week 2018, Washington DC
Biomedical Engineering Club, University of Southern Florida, Tampa, FL
Division of Hematology and Oncology, University Of North Carolina, Chapel Hill
Oral Biology Seminar Series, School of Dentistry, University Of North Carolina, Chapel Hill

2017 Department of Pharmacology, University Of North Carolina, Chapel Hill
3rd Annual Next Generation Sequencing & Single Cell Analysis Congress, Boston, MA
CSHL Single Cell Analyses Course 2017, Cold Spring Harbor, NY
Omics 2017, Varadero, Cuba
Nanotechnology and Single Cell Analysis in Biology and Medicine, American Chemical Society
National Meeting, Washington DC
BME Leadership Seminar Series, University of Florida, Gainesville, FL
Common Fund Office and HRHR Working Group, National Institutes of Health, Rockville, MD
Department of Chemistry, Lehigh University, Bethlehem, PA
Analyzing chemical signals across biological kingdoms, Pittcon 2017/ACS, Chicago, IL
Single Cell Technologies for Infectious Disease Workshop, Division of Microbiology and
Infectious Diseases, NIAID, Bethesda, MD
2nd International Organ-on-Chip Symposium (IOOCS2017), Ecole Polytechnique Fédéral de
Lausanne (EPFL), Switzerland
“Kathryn C. Hach Award for Entrepreneurial Success: Symposium in honor of David R. Walt”
American Chemical Society National Meeting, San Francisco
Science Series, St. Paul’s School for Girls, Baltimore, MD
Biotechnology Seminar, University of Virginia, Charlottesville, VA
Department of Chemical, Biological and Bioengineering, NC A&T, Greensboro, NC

2016 Adams Award Session, Pittcon 2016, Atlanta, GA
Assaying Single Cells as a Diagnostic Tool, Pittcon 2016, Atlanta, GA
Lab On A Chip, Madrid, Spain
Organ-on-a-Chip World Congress 2016, Boston, MA

CSHL Single Cell Analyses Course 2016, Cold Spring Harbor, NY
 American Chemical Society National Meeting, Philadelphia, PA
 9th Annual Lab-on-a-Chip and Microfluidics Congress, San Diego, CA
 American Electrophoresis Society, Minneapolis, MN
 27th 2016 International Symposium on Micro-NanoMechatronics and Human Science, Nagoya, Japan
 Department of Biomedical Engineering, Arizona State University, Tempe, AZ
 Charles M. Knight Lecture, Department of Chemistry, University of Akron, Akron, OH
 Scripps Research Institute, Jupiter, FL
 Department of Biomedical Engineering, University of Wisconsin, Madison
 Department of Bioengineering, University of Illinois at Urbana-Champaign
 UNC Board of Trustees
 2015 Department of Ophthalmology, Duke University, Durham, NC
 Department of Bioengineering at Northeastern University, Boston, MA
 Department of Applied Chemistry, Nagoya University, Nagoya, Japan
 Department of Chemistry, Colorado State University, Colorado Springs, CO
 NC State Board of Trustees
 Triangle-Wide Endocrine Neoplasia Colloquium, Durham, NC
 Microelectrodes, Microfluidics and Microdevices Symposium, Pittcon 2015, New Orleans
 Microfluidic Innovations to Advance Molecular Analysis of Disease Pathways Symposium, Pittcon 2015, New Orleans
 Wellman Center and MIT Lester-Wolfe Workshop, Boston, MA
 Single Cell Transcriptomics Course, University of Pennsylvania, Philadelphia
 Gastroenterology Research Group Symposium, Washington, DC
 North Carolina Advanced Technologies Review, Raleigh, NC
 Challenges in Bioanalytical Chemistry, American Chemical Society National Meeting, Boston, MA
 74th Annual Meeting of the Japanese Cancer Association, Nagoya, Japan
 19th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2015), Gyeongju, South Korea
 CSHL Single Cell Analyses Course 2015, Cold Spring Harbor, NY
 Cold Spring Harbor Single Cell Analysis Meeting, Cold Spring Harbor, NY
 Symposium on Single-Cell Analysis & Biosensors, Pacificchem 2015, Honolulu, HA
 Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms, Pacificchem 2015, Honolulu, HA
 2014 Sensors in Medicine 2014, London, England
 Single Cell Biology Symposium, Penn Genome Institute, University of Pennsylvania, Philadelphia, PA
 Advances in Microfluidics and Nanofluidics 2014, Academia Sinica, Taipei
 CSHL Single Cell Analyses Course 2014, Cold Spring Harbor, NY
 Single Cell Genomics and Transcriptomics Congress Asia, Singapore
 Single Cell Analysis, Cold Spring Harbor Asia, Suzhou, China
 Society for Scientific Advancement, Kingston, Jamaica
 Advanced Diagnostics & Therapeutics Annual Symposium, Notre Dame, IN
 Center for Systems Biology, Duke University, Durham, NC
 Department of Bioengineering, Rice University, Houston, TX
 School of Nano-Bioscience and Chemical Engineering, UNIST, Ulsan, South Korea
 Dept of Bio and Brain Engineering, KAIST, Daejeon, South Korea
 Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan

- School of Anatomy, Physiology and Human Biology, The University of Western Australia,
Crawley, Australia
- Department of Biomedical Engineering, University of California, Davis
School of Chemistry and Chemical Engineering, Nanjing University, China
Hamner Institute, Research Triangle Park, NC
- 2013 Dept. of Biomedical Engineering, University of Michigan, Ann Arbor
Dept. of Bioengineering, Imperial College, London, England
Dept. of Biology, University of North Carolina, Chapel Hill
Dept. of Pharmacology, University of North Carolina, Chapel Hill
Analytical Measurements in Living Systems: Single Cells to Whole Animals, Pittcon,
Philadelphia, PA
Third Annual Circulating Tumor Cells: Future of Cancer Management Conference, San Francisco,
CA
UNM/SNL Symposium and Workshop on Single Cell and Single Molecule Imaging and
Biochemistry, Albuquerque, NM
Cold Spring Harbor Single Cell Analysis Meeting, Cold Spring Harbor, NY
2013 NIH Common Fund Single Cell Analysis Workshop, Bethesda, MD
Cold Spring Harbor Single Cell Workshop, Cold Spring Harbor, NY
Seventh Annual q-bio Conference (q-bio7), Santa Fe, NM
Single Cell Analysis Summit, San Diego, CA
Frontiers in Single Cell Analysis, Stanford, CA
CSHL Single Cell Analyses Course, Cold Spring Harbor, NY
- 2012 Roche Tucson Symposium, Tucson, AZ
NIH Single Cell Analysis (SCA) Workshop Series, Bethesda, MD
13th Annual UC Systems Bioengineering Symposium, Berkeley, CA
Systems Biology Symposium, University of Massachusetts, Amherst
Single Cell Analysis Summit 2012, San Diego, CA
BioTechniques' 2nd annual "Virtual" Symposium
Dept. of Chemistry, University of Maryland, College Park, MD
Dept. of Mechanical Engineering, Seoul National University, Seoul, North Korea
Dept. of Biomedical Engineering, Georgia Institute of Technology/Emory University, Atlanta, GA
WISE: Women in Science and Engineering, UNC
UNC Board of Trustees
- 2011 MD, PhD Seminar Series, University of North Carolina, Chapel Hill, NC
Department of Biomedical Engineering, University of Virginia, Charlottesville
Center for Bio/Molecular Science and Engineering, Naval Research Lab, Washington DC
HHMI Translational Medicine Training Program, Chapel Hill, NC
Dept. of Chemistry and Biochemistry, University of Arizona, Tucson
Dept. of Chemistry, University of California, Riverside, CA
Dept. of Chemical & Systems Biology, Stanford University, Stanford, CA
Dept. of Materials Science & Engineering, North Carolina State University, Raleigh, NC
CSB230: Current Topics in Proteomics, Stanford University, Stanford, CA
Dept. of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL
Dept. of Chemistry, University of Texas, Austin, TX
North Carolina Society of Engineers, Mid-Pines, NC
Radio InVivo Talk, WCOM-FM Carrboro, NC
North Carolina Society of Engineers, Southern Pines, NC
U.S. Human Proteome Organization, Raleigh, NC
"Interfaces Between Cells and the Outside World: Bioengineering Meets Biophysics", Biophysical

- Society 55th Annual Meeting, Baltimore
- "Nano and Microfluidic Systems in Bioanalysis", Pittcon 2011, Atlanta
- "Physics and chemistry of microfluidics" Gordon Research Conference, Waterville Valley, NH
- International Society of Analytical Cytometry, XXVI International Congress, Baltimore, Md
- "Cellular Systems Biology" Gordon Research Conference, Davidson, NC
- Advanced Methodologies & Technologies, NC TraCS Institute, Chapel Hill, NC
- NanoBiotech, Montreux, Switzerland
- 4th Chemical Sciences Symposium, NC A&T State, Greensboro, NC
- 2010 Keynote Speaker, "Micro- and nanofluidics for cell biology", Leiden, Netherlands
- Pittcon2010, Symposium in Separation Science, Orlando, FL
- Gordon Research Conference on "Bioanalytical Sensors", New London, NH
- Faraday Discussions of the Royal Society of Chemistry, Analysis for Healthcare Diagnostics and
Theranostics, Edinburgh, Scotland
- Pacificchem 2010, "Microfluidic and Nanofluidic Devices for Chemical and Biochemical
Experimentation", Honolulu, HA
- Dept. of Chemistry, Indiana University, Bloomington, IN
- Dept. of Chemistry, Northeastern University, Boston, MA
- Dept. of Cell and Developmental Biology, UNC
- Agilent, Santa Clara, CA
- Dept. of Chemical and Biomolecular Engineering, NCSU
- School of Pharmacy, Molecular Therapeutics Division, UNC
- Peking University, Beijing, China
- China Agricultural University, Beijing, China
- Institute for Chemistry, Chinese Academy of Science, Beijing, China
- Dept. of Biomedical Engineering, Duke University
- Dept. of Pathology, UNC
- Raleigh Engineering Club, Raleigh, NC
- NC State Board of Trustees
- 2009 Dept. of Chemistry, Michigan State University, Lansing, MI
- Mary K. and Velmer A. Fassel Lecture, Dept. of Chemistry, Iowa State University, Ames, IA
- Dept. of Biomedical Engineering, NC State-UNC
- "Analytical Diagnostics of Disease from Cellular Signals" Pittcon2009, Chicago, IL
- "Cellular and Sub-Cellular Separations" Pittcon2009, Chicago, IL
- Materials Research Society Annual Meeting, Raleigh, NC
- 2008 4th International Conference on "Analysis of Microbial Cells at the Single Cell Level", Dresden,
Germany
- "Single Cell Analysis", Pittcon2008, New Orleans, LA
- "Microfluidic Systems for Cellular Assays", Pittcon2008, New Orleans, LA
- "32nd International Symposium on Capillary Chromatography", Riva Del Garda, Italy
- Bioanalytical-Cellular Analysis Symposium, FACSS 2008, Reno, NV
- Seventh Annual AACR Conference on Frontiers in Cancer Prevention Research, Washington DC
- Dept. of Chemistry, University of Minnesota, Minneapolis, MN
- Carolina Center of Cancer Nanotechnology Excellence, University of North Carolina, Chapel Hill,
NC
- Dept. of Chemistry, University of Florida, Gainesville, FL
- 2007 Dept. of Chemistry, Santa Clara University, Santa Clara, CA
- Dept. of Physical Chemistry and Microtechnology, Chalmers University of Technology,
Gothenburg, Sweden
- Center for LifeChips IGERT Seminar, University of California, Irvine, CA

Dept. of Pharmacology, , University of North Carolina, Chapel Hill, NC
 Dept. of Pathology Grand Rounds, University of North Carolina, Chapel Hill, NC
 Lineberger Cancer Center, University of North Carolina, Chapel Hill, NC
 “Microanalytical Techniques: A Perspective on the Added Benefit of Better Detection and More Efficient Separations”, LabAutomation2007, Palm Springs, CA
 “Exploring Single Cells with Microanalytical Tools”, Pittcon2007, Chicago, IL
 2006 “Biosensors”, American Chemical Society Western Regional Meeting, Anaheim
 Gordon Conference on Biosensors, Ventura, CA
 “Unraveling the Secrets of the Brain with More Sensitive and Smaller Analytical Techniques”, Pittcon2006, Orlando, FL
 “Harnessing the power of biology: Utilizing biological signaling for chemical analysis”, Pittcon2006, Orlando, FL
 “International Symposium on LifeChips”, National Academy of Sciences, Irvine
 Symposium on Perspectives on Chemistry Research (PERCRUM), University of Michigan, Ann Arbor, MI
 “Interfacing Biology with Lab-on-a-Chip Devices”, National Meeting of the American Chemical Society, Sept., San Francisco, CA
 “Partnership & Commercialization of Next-Generation High-Content Biomedical Systems”, Sino-American Biotechnology and Pharmaceutical Association, Irvine, CA
 “Chips to Hits” Meeting, Sept., Boston, MA
 Proteomics Interest Group, NIH, Bethesda, MD
 Dept. of Chemistry, University of Pittsburgh, Pittsburgh, PA
 Dept. of Chemistry, California State University, Los Angeles, CA
 Dept. of Chemistry, University of North Carolina, Chapel Hill
 University High School Science Club, Irvine, CA
 2005 Department of Chemistry, Louisiana State University, Baton Rouge, LA
 Cancer Center, Washington University, Saint Louis, MO
 Dept. of Chemistry, UCI
 Pharmaceutical Sciences, University of Wisconsin, Madison, WI
 Program in Nanotechnology, University of Washington, Seattle, WA
 18th International Symposium on MicroScale Bioseparations, New Orleans, LA
 American Society for Pharmacology and Experimental Therapeutics, San Diego
 IEEE-MBS Conference on Microtechnologies, Honolulu, HA
 “Methods to Analyze Cellular Processes” Pacifichem, Honolulu, HA
 2004 “Analyzing the Single Cell”, American Association for Cancer Research Annual Meeting, Orlando, FL
 American Chemical Society National Meeting, Anaheim, CA
 Nanotechnologies in Biology, American Society of Mechanical Engineers, Irvine, CA
 Federation of Analytical Chemistry and Spectroscopy Societies, Portland, OR
 XXII Congress of the International Society for Analytical Cytology, Montpellier, France
 NCI Innovative Molecular Analysis Technologies, San Diego, CA
 UC Systemwide Bioengineering Symposium, Irvine, CA
 Department of Biomedical Engineering, UCSD, San Diego, CA
 IGB Systems Biology Forum, UCI, Irvine, CA
 2003 Medical College of Wisconsin, Milwaukee, WI
 Dept. of Biological Chemistry, UCI
 Dept. of Chemistry, University of Pittsburgh, PA
 Novartis, San Diego, CA
 Pittcon 2003, Orlando, FL

- Symposium on "Merging Chemistry and Biology: Perspectives, Progress, and Innovations",
University of Minnesota, Minneapolis, MN
- 26th International Symposium on Capillary Chromatography and Electrophoresis, Las Vegas, NV
- SmallTalk Microfluidics Meeting, San Jose, CA
- 6th International Symposium on Mass Spectrometry, San Francisco, CA
- Assays and Cellular Targets Meeting, Boston, MA
- Society of Analytical Chemists of Pennsylvania Meeting, Pittsburgh, PA
- 2002 Protein Phosphorylation and Mechanisms of Cellular Regulation, Keystone Symposium, Taos,
NM
- Calcium and Cell Function, FASEB Meeting, Salt Lake City, Utah
- 26th International symposium on High Performance Liquid Phase Separations & Related
Technologies, Montreal, Quebec, Montreal, Quebec
- UCI Nanofabrication Symposium, Beckman National Academy of Science, Irvine, CA
- Dept. of Molecular Biology and Biochemistry, UCI
- Cancer Center Seminar Series on Growth Factors and Signaling, UCI
- 2001 Department of Chemistry, University of Kansas, Lawrence
- Department of Chemistry, University of California, Riverside
- Myriad Genetics, Salt Lake City, UT
- Signal Pharmaceuticals, San Diego, CA
- Applied Biosystems, Foster City, CA
- Dynavax, Berkeley, CA
- ARBF Annual Meeting, San Diego, CA
- High Throughput Screening, San Diego, CA
- National Cancer Institute Innovative Technologies, Washington DC
- NIST Advanced Technology Program, Washington DC
- Federation of Analytical Chemists, Detroit, MI
- BioMEMS and Biomedical Nanotechnology, Columbus, OH
- UCI Engineering Symposium, Beckman National Academy of Sciences
- 2000 American Chemical Society National Meeting, San Francisco, CA
- Assay Development, San Diego, CA
- Optical Society, Miami, FL
- Department of Chemistry, University of Wisconsin, Madison
- LAMMP External Advisory Board, Beckman Laser Institute, UCI
- Beckman Laser Institute Board Meeting, UCI
- Eos Biotechnology, South San Francisco, CA
- Rigel, South San Francisco, CA
- Roche Bioscience, Palo Alto, CA
- Roche Discovery Technologies, Nutley, NJ
- Eli Lilly, Indianapolis, IN
- Glaxo-Wellcome, Research Triangle Park, NC
- Schering-Plough, Kenilworth, NJ
- Johnson and Johnson, Raritan, NJ
- 1999 Department of Physiology, Univ. of Texas, San Antonio
- Department of Chemistry, Univ. of Texas, Austin
- Department of Biological Chemistry, UCI
- Beckman-Coulter Instruments, Fullerton, CA
- Cytovia, San Diego, CA
- Smith-Kline-Beecham, King of Prussia, PA

- 12th International Symposium on High Performance Electrophoresis and Related Microscale Techniques, Palm Springs, CA
 Calcium Signalling, Gordon Conference, Henniker, NH
 Analytical Chemistry, Gordon Conference, Henniker, NH
 Frederick Conference of Capillary Electrophoresis, Frederick, MD
 1998 Workshop on Calcium Dynamics in Cells, Institute for Mathematics and Its Applications, Minneapolis, MN
 UCI Cancer Center Retreat, Palm Springs, CA
 Board of Advisors, Beckman Laser Institute
 1997 Workshop of the Mechanisms of the Fertilization Calcium Wave, Institute for Theoretical Dynamics, Fallen Leaf Lake, CA
 Seminar, California State University, Fullerton, CA
 1996 Seminar, Oakridge National Laboratory, Oakridge, TN
 1994 Calcium and Cell Function, FASEB Conference, Saxtons River Vermont
 1993 Calcium Signaling, Gordon Conference, Henniker, NH
 Workshop: Nonlinear Mechanisms in Calcium Oscillations and Waves, Tamales Bay, CA

MEETING CHAIR/ORGANIZER

2020

Associate Track Chair for Cellular Technologies, Society for Laboratory Automation and Screening (SLAS2020), San Diego, CA

2019

Organizer, Cold Spring Harbor Single Cell Analysis Meeting, Cold Spring Harbor, NY

2018

Organizing Committee, HPLC2018, Washington, DC

2017

Organizer, Cold Spring Harbor Single Cell Analysis Meeting, Cold Spring Harbor, NY
 Scientific Advisory Committee, Tissue Engineering and Regenerative Medicine International Society Americas (TERMIS-AM) 2017 Charlotte, NC

2016

Scientific Advisor, 17th Annual Conference of the North Carolina Tissue Engineering and Regenerative Medicine Society, Wake Forest, NC
 Organizer, North Carolina Tissue Engineering and Regenerative Engineering Society Meeting, Chapel Hill, NC

2015

Organizer, Cold Spring Harbor Single Cell Analysis Meeting, Cold Spring Harbor, NY

2014

Organizer, Cold Spring Harbor Asia, Single Cell Biology, Suzhou, China
 Organizer, 12th Nanomedicine and Drug Delivery Symposium (NanoDDS'14), NC

2013

Organizer, NIH Single Cell Analysis (SCA) Workshop Series, Bethesda, MD
 Organizer, Single Cell Analyses, Cold Spring Harbor Laboratory, NY

2012

Organizer, "Material Science Meets Biology", Biophysical Society 56th Annual Meeting, San Diego, CA
 Organizer, "Soft Lithography for Biology", Biophysical Society 56th Annual Meeting, San Diego, CA
 Organizer, NIH Single Cell Analysis (SCA) Workshop Series, Bethesda, MD

2010

Moderator, "Engineering Better Medicines" National Academy of Engineering Grand Challenges Summit

Organizer/Moderator, "Interfaces Between Cells and the Outside World: Bioengineering Meets Biophysics", Biophysical Society 55th Annual Meeting, Baltimore, MD

2006

Organizer, "California: Prosperity Through Technology Symposium", National Academy of Sciences, Irvine, CA

Organizer, "International Symposium on LifeChips", National Academy of Sciences, Irvine, CA

2004

"Analyzing the Single Cell" American Association of Cancer Researchers National Meeting. Orlando, FL

2003

"Ultramicroscale Genomics/Proteomics" Session- Gordon Conference on Analytical Chemistry, New London, CT

"Single Cell Assays" Session- SmallTalk Microfluidics Meeting, San Jose, CA

2002

"New Technologies" Session- Protein Phosphorylation & Mechanisms of Cellular Regulation, Keystone Symposium, Taos, NM

"Bioanalytical Separations" Session- 26th International symposium on High Performance Liquid Phase Separations and Related Technologies, Montreal, Quebec

RESEARCH FUNDING (EXCLUDING NIH TRAINING AND CENTER GRANTS & STUDENT AWARDS/FELLOWSHIPS)

Dr. Allbritton's research program has been awarded >\$60 M in grant funding.

<u>Current</u>	<u>Role</u>	<u>Total Costs</u>	<u>Dates</u>
NIH R01CA203032	Lawrence (P.I.) Allbritton (co-I.)	\$3,000,000	2/16 - 1/21
<i>Single Cell Sampling of Signaling Activity in Triple Negative Breast Cancer</i>			
NIH R01 DK109559	Allbritton (P.I.)		
<i>Development of Human Intestinal Simulacra</i>		\$5,300,000	9/15 - 7/20
NIH R01 EY024556	Allbritton (P.I.)	\$3,034,000	9/14 - 8/19
<i>Generation of a Gene-Targeted Human iPS Cell Library for Macular Degeneration</i>			
NIH R01 CA177993	Allbritton (P.I.)	\$3,002,557	8/14 - 7/19
<i>Single-Cell Measurement of Lipid Signaling in Colorectal Cancer</i>			
NIH R42 AI126905	Allbritton (co-P.I. with P. Armistead)	\$234,375	03/17 - 6/19
<i>CellRaft Array for Screening and Isolation of Highly Effective Cytotoxic T Cells</i>			
NIH R01 CA224763	Allbritton (P.I.)	\$3,087,909	4/18 - 3/23
<i>Profiling signaling activity and gene expression in single, pancreatic adenocarcinoma cells using CE-RNA-Seq</i>			
NIH R01 GM123542	Allbritton (P.I. UNC subcontract)	\$255,160	9/18 - 8/20
<i>Magnetically directed single cell transcriptome analysis in HIV latency</i>			

<u>Past</u>	<u>Allbritton Role</u>	<u>Total Costs</u>	<u>Dates</u>
NIH R41 AI126905 <i>CellRaft Array for Screening and Isolation of Highly Effective Cytotoxic T Cells</i>	Allbritton (P.I.)	\$134,870	7/16 - 7/17
NIH R42GM106421 <i>The CellRaft AIR System: Workflow Automation for Stem Cell Isolation and Recovery</i>	Allbritton (P.I.)	\$1,482,713	2/16 - 1/18
NIH subaward- Duke <i>Single cell analysis of intratumoral heterogeneity in parathyroid neoplasia</i>	Allbritton (P.I.)	\$43,296	1/15 - 12/16
NIEHS <i>Partnership to enhance studies on pollutant-innate immune response interactions</i>	Jaspers (P.I.) Allbritton (co-P.I.)	\$1,013,231	8/13 - 6/16
NCBC 182190/Duke Subcontract North Carolina Biotechnology Center <i>Modeling, microfluidics and quantitative single cell signaling dynamics</i>	Allbritton (P.I.)	\$249,000	2/12 - 2/14
University Cancer Research Fund Innovation Award <i>Colon on a Chip</i>	Magness (P.I.) Allbritton (co-P.I.)	\$200,000	6/11 - 5/13
NIH R01 EB012549 <i>Arrays for Cloning Growth Suppressed Cells</i>	Allbritton (P.I.)	\$1,359,048	2/11 - 1/15
NIH R01 HG004843-S1 <i>Supplement to Rapid Genetic Engineering of Stem Cells</i>	Allbritton (P.I.)	\$410,702	2/11 - 1/14
NCBiotech IDG Grant <i>Advanced Micromachining Capabilities for Creating State-of-the-Art Biomedical Microdevices</i>	Allbritton (P.I.)	\$252,250	1/11 - 12/11
NIH R01 EB011763 <i>Protectides: A tool for drug target assays in myeloma</i>	Allbritton (P.I.)	\$2,356,242	4/10 - 1/15
NIH R01HG004843-01S1 <i>Supplement to Rapid Genetic Engineering of Stem Cells</i>	Allbritton (P.I.)	\$296,000	9/09 - 8/11
NIH R01 CA140173 <i>Signaling Network Dynamics in Metastatic Prostate Cancer</i>	Lawrence (P.I.) Allbritton (co-P.I.)	\$2,184,676	5/09 - 4/15
University Cancer Research Fund North Carolina <i>An Integrated Radiation System for Selective Tumor Killing and Normal Tissue Sparing</i>	Chang (P.I.) \$190,000		4/09 - 3/11
NIH R01 CA139599 <i>Multiplexed Measurement of Kinase Activity in Single Cancer Cells</i>	Allbritton (P.I.)	\$2,892,904	3/09 - 1/15

NIH R01 HG004843	Allbritton (P.I.)	\$1,553,698	2/09 - 1/14
<i>Rapid Genetic Engineering of Stem Cells</i>			
Carolina Center of Cancer Nanotechnology Excellence Subaward to Allbritton	Juliano (P.I.)	\$37,250	2/08 - 8/10
University Cancer Research Fund Innovation Award North Carolina	Allbritton (P.I.)	\$190,000	2/08 - 6/09
<i>Kinase Reporters for Clinical Oncology</i>			
NIH R01 EB007612	Allbritton (P.I.)	\$1,829,942	4/07 - 3/12
<i>Micropallet Arrays for Separation of Single Cells and Colonies</i>			
NIH R03 TW007323	Allbritton (P.I.)	\$142,080	7/05 - 06/07
<i>An Automated Platform for Kinase Assays on Patient Cells</i>			
NIH R01 EB004597	Allbritton (P.I.)	\$1,480,000	4/05 - 3/10
<i>Rapid Analysis of Signaling in Adherent Cells</i>			
NIH R01 CA104214	Stanbridge (P.I.)	\$1,213,600	1/05 - 12/08
<i>Single Cell Analysis of Cross Talk Among Kinase Pathways</i>			
NIH R01 GM067905	Ramsey (P.I.)	\$2,568,697	9/04 - 8/10
<i>Microfluidic Devices for High Throughput Measurements of Cellular Signaling Cascades</i>			
NSF 0404057 (NIRT)	Collins (P.I.)	\$1,628,000	9/04 - 8/08
<i>NIRT: Direct Electronic Sensing of Biomolecular Activity and Signaling</i>			
NIH R01 EB004436	Allbritton (P.I.)	\$2,533,476	8/04 - 5/09
<i>An Automated Platform for Kinase Assays on Patient Cells</i>			
NIH R21 AI057900	Fruman (P.I.)	\$444,000	4/04-6/06
<i>PI3K Signaling in Single Lymphocytes Analyzed by LMS</i>			
NIH R33 CA91216 (Supplement 2)	Allbritton (P.I.)	\$236,800	6/03 - 5/05
<i>Development and Application of Membrane-Permeant Reporters for Primary Lymphocytes</i>			
NIH R33 CA91216	Allbritton (P.I.)	\$1,935,143	6/02 - 5/06
<i>Profiling Ras-Activated Signal Transduction Pathways</i>			
NIH R33 CA91216 (Supplement 1)	Allbritton (P.I.)	\$118,400	6/02 - 5/03
<i>Fast Electrical Lysis of Single Cells</i>			
UCI Academic Senate Council on Research	Jeon (P.I.) Allbritton (co-P.I.)	\$25,000	7/01 - 6/02

NIH R21 CA91216	Allbritton (P.I.)	\$148,000	6/01 - 5/02
<i>Profiling Ras-Activated Signal Transduction Pathways</i>			
NIH R01 GM57015	Allbritton (P.I.)	\$910,202	9/00 - 8/05
<i>Signal Transduction Through Calcium Waves</i>			
NIH R01 NS/MH39310	Allbritton (P.I.)	\$1,072,744	12/99 - 11/03
<i>Dissecting Enzymatic Networks in Single Neurons</i>			
NIH R24 RR/CA14892	Berns (P.I.) Allbritton (co-P.I.)	\$3,369,140	10/99 - 9/04
<i>Integrated Platform for Chemical Analysis of Live Cells</i>			
NIH R55 RR13314	Allbritton (P.I.)	\$118,400	10/98 - 9/00
<i>Subcellular Measurement of Kinase Activity in Oocytes</i>			
NCI R01 CA78858	Allbritton (P.I.)	\$1,865,361	9/98 - 9/02
<i>Measurements of Kinase Activities in Single Tumor Cells</i>			
NIH R01 GM57015	Allbritton (P.I.)	\$564,336	9/97 - 8/00
<i>Signal Transduction Through Calcium Waves</i>			
Calif. Cancer Research Coordinating Committee	Allbritton (P.I.)	\$30,000	7/97 - 6/98
<i>Glass Chip-Based Measurements of Kinase Activity</i>			
UCI Cancer Center	Allbritton (P.I.)	\$12,500	2/97 - 6/97
<i>Glass Chip-Based Measurements of Kinase Activity</i>			
UCI Faculty Desk Comp	Allbritton (P.I.)	\$2,000	1/97 - 6/97
Searle Scholar Award	Allbritton (P.I.)	\$162,000	7/95 - 6/98
<i>Activation of Protein Kinase C by Calcium Spikes</i>			
Beckman Foundation	Allbritton (P.I.)	\$200,000	7/95 - 6/97
<i>Single Cell Enzyme Assays and Second Messenger Biosensors</i>			
Irvine Faculty Research	Allbritton (P.I.)	\$8,000	1/95 - 5/95
<i>Development of a Detector for the Second Messenger, IP₃</i>			

RESEARCH PROPOSAL REVIEW

2019: NIH Pioneer Awards Review Panel
2018: NIDDK ZDK1 GRB-9 Special Emphasis Panel
2017-2018: Chair, NIH Transformative Grant Editorial Review Board
2017: Bioengineering Member Conflict Review Panel, ZRG1 BST-X (02)M
2016-2017: Chair, NIH Transformative Grant Editorial Review Board
2015-2016: Member, NIH Transformative Grant Editorial Review Board
2014: Chair, study section for NIH Physical Sciences and Oncology Centers

2013-2014: Beckman Young Investigator Awards
2013: Ad-Hoc Member of NIH study section, ISD- Instrumentation and Systems Design
2008-2009: Reviewer for University Cancer Research Fund Innovation Awards, UNC
2008: University Cancer Research Fund
2007-2009: Chair, NIH Study Section, EBT- Enabling Bioanalytical and Biophysical Technologies
2005: External Reviewer for Canada Research Chairs
2004-2009: Permanent Member, NIH Study Section, EBT- Enabling Bioanalytical and Biophysical Technologies
2003-2007: Study section member, California Cancer Research Coordination Committee
2003: Ad-Hoc Member of NIH study section, BECM- Bioanalytical Engineering & Chemistry
2003: Ad-Hoc Member of NCI study section: Innovative Molecular Analysis Technologies
2002: Ad-Hoc Reviewer for NSF
2002: Ad-Hoc Member of NCI study section: Innovative Molecular Analysis Technologies
2000: Ad-Hoc Member of NCI study section: Innovative Molecular Analysis Technologies
1998-1999: Beckman Foundation
1998: Dept. of Energy, Genome Instrumentation Program

EDITORIAL AND AWARD PANELS AND BOARDS

2018-2019 Guest Editor, Single-Cell Techniques for Biochemical Assays. Methods in Enzymology
2018-2021 Award Jury for the ACS Analytical Division Award in Chemical Instrumentation
2018-2021 Beckman Foundation Scientific Advisory Board
2017 Guest Editor, American Gastroenterology Association Journal Cellular and Molecular Gastroenterology and Hepatology
2016-2021 Editorial Board, Annual Review of Analytical Chemistry
2012-2014 "Analytical Chemistry" Editorial Advisory Board
2004-2005 A-Page Advisory Panel for "Analytical Chemistry"

REVIEWER OF MANUSCRIPTS

American Journal of Physiology, Biophysical Journal, Journal of Biological Chemistry, Nature Biotechnology, Analytical Chemistry, Proceedings of the National Academy of Science, Cell Calcium, Electrophoresis, Journal of Cell Biology, Journal of Chromatography, Journal of Physiology, Biophysical Journal, Journal of Biological Chemistry, Journal of Biomedical Optics, Bioconjugate Chemistry, Langmuir, Lab On Chip, Journal of Separation Science, Analyst, Cellular and Molecular Gastroenterology and Hepatology, Annual Reviews of Analytical Chemistry

PROFESSIONAL SOCIETY MEMBERSHIP:

Biomedical Engineering Society; Biophysical Society; American Chemical Society; American Association for the Advancement of Science

TEACHING

2004 UCI College of Medicine Excellence in Teaching Award

Courses Taught In Entirety

<u>Course #</u>	<u>Title</u>	<u>Years</u>	<u>Enrollment</u>
UNC BMME890	BME Graduate Student Colloquium	2010 - 2012	50+
UNC CHEM744	Analytical Microscopy	2009	15

Average Performance Evaluation: 4.5 with a scale of 1 (poor) - 5 (outstanding)

Team-Taught Courses

<u>Course #</u>	<u>Title</u>	<u>Years</u>	<u>Enrollment</u>
UNC MOPH738	Nanomedicine	2009 - 2010	11
UCI CHEM243	Advanced Instrumental Analysis	2005 - 2007	7+
UCI BME1	Introduction to Biomedical Engineering	2003 - 2006	138+
UCI 252	Introduction to Proteomics	2003 - 2006	10
UCI 176	Engineering Optics	2001 - 2002	10
UCI 204	Concepts in Biophysics	1997 - 1999	3+

Average Performance Evaluation: 4.8 with a scale of 1 (poor) - 5 (outstanding)

UCI 147C	Physics in Medicine	1997 - 1998	8
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Average Performance Evaluation: 4.2 with a scale of 1 (poor) - 5 (outstanding)

UCI 206	Medical Physiology	1995 - 2007	100+
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Average Performance Evaluation: 6.4 with a scale of 1 (poor) - 7 (outstanding)

UCI 203	Literature Review	1995 - 2002	16+
UCI 202	Cell & Mol. Neuro.	1995 - 1998	100+

STUDENTS

Undergraduate Students Supervised: 14 students (UCI); >50 students (UNC)

Medical Student Researchers

2011- Lila Farrag (Howard Holderness Distinguished Medical Scholars Program)

Service on Graduate Thesis Committees: 16 students (UCI); >70 students (UNC)

Other Thesis Committees/Exams

2008- Ph.D. Thesis Committee, Amy Hellman, Dept. of Biomedical Engineering, University of California in San Diego, San Diego, CA

2007- Ph.D. Thesis Opponent for Jessica Olofsson, Dept. of Chemical and Biomedical Engineering, Chalmers University of Technology, Goteborg, Sweden

Master's Students (Completing Thesis in Allbritton Lab): Total # 8

<u>Student</u>	<u>Years</u>	<u>Subject</u>	<u>Subsequent Position</u>
Taylor Harris	2013-2015	Chemistry	Staff Scientist, KBI Biopharma, Durham
Phil Gach	2007-2009	Chemistry	Scientist, Argonne National Lab
Kyung Mo Khang	2007-2009	BME	Quality Engineer, Dentium USA, Cypress, CA
Mike Brenner	2007-2009	Chemistry	Student, Michigan State College of

Shadi Lahham	2006-2007	BME	Osteopathic Medicine Medical School, UCI
Shan Yang	2006-2007	Physiology/Biophysics	Graduate School at UNC
Grace Young	2006-2007	Materials Science	Engineer, Edwards Life Sciences
Katherine Lee	2005-2006	BME	Medical School, Univ. of Toledo

Ph.D. Students (Completing Thesis in Allbritton Lab): Total # 35

<u>Student</u>	<u>Years</u>	<u>Subject</u>	<u>Subsequent Position</u>
Meryem Ok (MD/PhD)	2017-present	BME	
Nicole Smidy	2016-present	Chemistry	
Luke Gallion	2016-present	Chemistry	
Matthew Anttila	2016-present	Chemistry	
Cody LaBelle	2016-present	BME	
Brae Peterson	2015-present	Chemistry	
David Abrahams	2015-present	Chemistry	
Johanna Dutton	2015-present	BME	
Logan Howard	2015-present	Materials Science	
Hannah Nowartowski	2014-present	Chemistry	
Jennifer Speers	2014-present	Chemistry	
Sebastian Mestril	2014-present	BME	
Matt DiSalvo	2013-2018	BME	Postdoc, Allbritton Lab
Pete Attayek	2011-2016	BME	Staff Scientist, Allbritton Lab
Emilie Mainz	2011-2016	Chemistry	Scientist, Becton-Dickinson
Greg Woss	2011-2016	Chemistry	Scientist, KBI Biopharma
Asad Ahmad	2011-2015	BME	Associate Consultant, Campbell Alliance, San Francisco
Doug Ornoff (MD/PhD)	2010-2014	Pharmacology	Residency, Univ. of Colorado
Abigail Turner	2009-2015	Chemistry	Postdoctoral Fellow, NIST
Jazz Dickinson	2009-2014	Chemistry	Postdoctoral Fellow, Duke University
Pavak Shah	2009-2014	BME	Assistant Professor, UCLA
Nick Dobes	2009-2013	Chemistry	Staff Scientist, Cell Microsystems
Ryan Phillips (MD/PhD)	2008-2013	Pharmacology	Residency, Johns Hopkins Hospital
David Detwiler	2008-2012	Pathology	Scientist, Research Triangle Institute
Angie Proctor	2007-2012	Chemistry	Staff Researcher, Allbritton Lab
Phil Gach	2007-2012	Chemistry	Scientist, Argonne National Lab
Shan Yang	2007-2011	Chemistry	
Paul Marc	2005-2008	BME	Telemedicine & Biomedical Development Manager, CaliT2, UCI
Frank Pai	2005-2007	Materials Science	Process Engineer, Cree
Gina Salazar	2004-2008	BME	Assistant Professor, University of Tsukuba, Japan
Neychelle Fernandez	2004-2008	Chemical Engineering	Staff Scientist, Kythera Biopharmaceuticals
Hsuan-Hong Lai	2002-2007	Materials Science	Research Scientist, ScinoPharm Taiwan, Ltd
Joeseeph Soughayer	1996-2002	Biophysics	Senior Scientist, IonOptix LLC
Chao-Lin Lee	1996-1999	Biophysics	Assistant Professor, Institute of Aerospace Medicine, National Defense Medical Center, Taiwan

Veronica Luzzi	1995-2000	Biophysics	Asst. Professor, Washington University, St. Louis, MO
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Postdoctoral Fellows (Employed in Allbritton Lab): Total # 33

<u>Student</u>	<u>Years</u>	<u>Subsequent Position</u>
Belen Cortes-Llanos	2018-present	
Matt DiSalvo	2018-present	
Jennifer Huling	2017-present	
Sam Hinman	2017-present	
Raehyun Kim	2016-present	
Dulan Guneseekara	2014-2018	Staff Scientist, Catalent, RTP, NC
Pete Attayek	2016-2017	Research Associate, Allbritton Lab
Imola Zigoneanu	2012-2015	Staff Scientist, Intel, Portland, OR
Angie Proctor	2012-2013	Research Associate, Allbritton Lab
Phil Gach	2012-2013	Scientist, Argonne National Lab
Adam Melvin	2010-2013	Assistant Professor, Louisiana State University
Kelong Wang	2010-2013	Scientist, Pfizer, New Haven, CT
Frank Pai	2009-2013	Process Engineer, Cree, Inc., Durham, NC
Michelle Kovarik	2009-2013	Assistant Professor, Trinity College, Hartford, CT
Yuli Wang	2009-2010	Research Associate, Allbritton Lab
Dechen Jiang	2008-2011	Assistant Professor, Nanjing University, China
Hsuan-Hong Lai	2008-2010	Research Scientist, ScinoPharm Taiwan, Ltd
Rahul Dhopeswarkar	2008-2010	Senior Systems Engineer, Illumina, San Diego, CA
Hamed Shadpour	2007-2010	Staff Scientist, GenMark Diagnostics, Carlsbad, CA
Sumith Kottegoda	2007-2010	BD Technologies, Research Triangle Park, NC
Laura Borland	2007-2008	Senior Chemist, Booz Allen Hamilton Inc, Belcamp, MD
Wei Xu	2006-2010	Start-up Company, China
Scott Phillips	2006-2009	Staff Fellow, Federal Drug Administration, Bethesda, MD
Lavanya Rau	2005-2006	Patent Researcher, KMOB Law Firm
Simon Mwongela	2004-2006	Asst. Professor Kent State University
Julie Audet	2002-2003	Assoc. Professor, University of Toronto
Shuwen Hu	2001-2004	Professor, Agricultural University, Beijing
Futian Han	2001-2003	Senior Research Scientist, Frontage Labs, Malvern, PA
Feng Hong	2000-2003	Postdoctoral Fellow, Univ. of North Texas
Huaina Li	1999-2004	Research Scientist, Braun Medical Inc., Irvine
Xueqin Ren	1999-2004	Professor, Agricultural University, Beijing
Dilyara Murtazina	1999-2001	Postdoctoral Fellow, Colorado State Univ.
Gavin Meredith	1998-2003	Research Scientist, Invitrogen, San Diego

EXAMPLES OF SERVICE ACTIVITIES (OTHER THAN DEPARTMENT CHAIR)

- 2014: External Reviewer of Biomedical Engineering Program at the University of Texas in San Antonio and University of Texas Health Science Center at San Antonio
- 2013-2014: Participant UNC Faculty Leadership Program
- 2013: Committee to select UNC Hooding Ceremony Speaker
- 2012-present: Steering Committee, UNC Carolina Institute of Nanomedicine
- 2011-2012: Member of UNC Applied Sciences Task Force
- 2011: Member of UNC Commercialization Working Group for Carolina Innovate
- 2011: Committee to form a UNC/NC State/Duke Translational Research Institute in RTP
- 2011: UNC Faculty Recognition Committee
- 2010-present: UNC CCNE Steering Committee
- 2009-present: Advisory Board, UNC Biomedical Research Imaging Center
- 2009-present: Member of School of Medicine Dean's Advisory Committee
- 2009-present: Member College of Engineering Executive Committee, NC State
- 2008-2015: Member Steering Committee UNC Institute for Advanced Materials Nanoscience and Technology
- 2007-present: Member UNC Lineberger Cancer Center
- 2006-2007: IMSD/MARC Advisory Board and Steering Committee, California State University, Fullerton, CA
- 2006: Predoctoral Training Grant Committee, UCI Stem Cell Center
- 2006: Co-Founder of UCI LifeChips Center
- 2006: Member, Committee to Evaluate/Recommend Academic Promotion, UCI Dept of Chemistry
- 2005-2007: Vice-Chair of UCI Department of Physiology and Biophysics
- 2005-2007: Member CalIT2 Division Council at UCI
- 2004-2007: Co-Leader UCI Comprehensive Cancer Center, Program in Growth Factors and Signaling
- 2003: Founding Participant, Center for Epilepsy and NIH Training Grant on Epilepsy at UCI
- 2002-2007: Campus-Wide Radiation Safety Committee
- 2002-2003: Search Committee for Director of the UCI Beckman Laser Institute
- 2002-2003: Steering Committee for Whitaker Grant Renewal For Dept. of Biomedical Engineering
- 1999-2007: UCI MD/PhD Admissions Committee
- 1998-2001: Co-Founder of UCI Biomedical Engineering Center
- 1998-2000: Whitaker Foundation Bioengineering Grant- Member of the Steering Committee, Responsible for the nanoscale section of the grant and Whitaker Foundation Site Visit Presentation
- 1995-1997: UCI Medical School Admissions Committee

MAJOR ACCOMPLISHMENTS AS CHAIR OF THE UNC/NC STATE JOINT DEPARTMENT OF BIOMEDICAL ENGINEERING (2009-2019)

BME Department functions as a single joint entity spanning two Universities (UNC and NC State) and three Schools/Colleges (School of Medicine at UNC, College of Engineering at NC State, College of Arts and Sciences at UNC). BME Chair reports to 3 Deans and 2 Provosts.

1. *Constructed a single, high-quality department spanning two universities and three schools/colleges*
 - Extended the Department of BME into the College of Arts and Sciences (CAS) at UNC resulting in combined faculty, staff and students in the College of Engineering (COE) at NC State, School of Medicine (SOM) at UNC, and CAS at UNC
 - Fully merged all degree programs and normalized faculty expectations/duties across the institutions
 - Established faculty privileges at both universities for all BME faculty
 - Managed and integrated the BME administrative organizations of UNC and NC State
 - UNC Chancellor Carol Folt in 2015 speech to The UNC Educational Foundation describes BME as "a department considered an exemplar of de-siloing in US higher education."
2. *Established a BME Charter describing the operation of the joint department*
 - Contents cover mission & core values, faculty status, educational programs, administration, research and industry relationships, development initiatives.
 - Components:
 - i. Overview developing a long-term framework for joint operation and articulating guiding principles.
 - ii. Series of MOA's covering joint operation.
3. *Streamlined reporting structure for BME Chair*
 - Chair reports to BME Governing Board (UNC Provost, NC State Provost, COE Dean, SOM Dean, and CAS Dean)
3. *Fostered a cross-disciplinary and cross-campus research identity to build connections between the two flagship North Carolina campuses*
 - Established research partnerships cutting across the universities (rehabilitation engineering, biomedical microdevices, regenerative medicine, ultrasound, and pharmacoengineering)
 - UNC Chancellor Folt describes BME Department as a "biomedical juggernaut" in 2016 interview with The Higher Education Works Foundation
4. *Achieved an a 5-fold increase in departmental extramural research funding despite a 33% reduction in operating budget*
5. *Remade the BME curricula to provide innovative educational experiences at both undergraduate and graduate levels spanning UNC and NC State while doubling student numbers*
 - UG: Implemented novel 3-D curriculum across UNC and NC State
 - Grad: Fully restructured the graduate student curriculum and the recruitment process
6. *Implemented Departmental strategic planning initiatives*
 - Department-level strategic planning
 - Undergraduate program strategic planning
 - Marketing & communications strategic planning
 - Design course sequence strategic planning
7. *Leadership Review Evaluation of Dr. Allbritton by Committee of External+Internal Reviewers (2016)*
 - In anonymous polling, 90% faculty/staff believed that Dr. Allbritton was doing an excellent job.
 - Committee comments:
 - "Dr. Allbritton is an outstanding leader who has been extremely successful in unifying BME."
 - "Dr. Allbritton has demonstrated a novel framework and successful operational model for an inter-institutional department."
 - "The external recognition of BME has been noticeably and significantly increased."

ADDITIONAL EXAMPLES/DETAILS OF ADMINISTRATIVE ACCOMPLISHMENTS

Educational Program

Undergraduate

- 2018-2019: Oversee external review of Joint PhD and MS in BME
- 2017: ABET reaccreditation for NC State BS in Biomedical Engineering
ABET accreditation for Joint UNC/NC State B.S. in Biomedical Engineering
- 2016-2019: Implemented a 3D Curriculum for the joint UNC/NC State BS in BME
1st Dimension- Academic foundation
2nd Dimension- Community- Synergy in action: engineering + medicine + science
3rd Dimension- Professional development, service and leadership
- 2016-2019: Established and currently oversee three working committees to build the infrastructure across UNC and NC State for administration of the joint BS:
- i) Implementation Team 1 (UNC and NC State Registrars): Student registration, degree audit, common transcript, tuition and fees, financial aid, counting and reporting
 - ii) Implementation Team 2 (UNC and NC State IT Directors): Information technology, student services, facilities access
 - iii) Implementation Team 3 (UNC and NC State Directors of UG Studies): Common BME application and BME admissions process
- 2016: UNC General Administration awards the first joint UNC/NC State BS degrees
- 2016-2019: UG BME programs grow to a total of 500 students
- 2015-2016: Successful ABET self-study and site visit for:
NC State BS in Biomedical Engineering
Joint UNC/NC State B.S. in Biomedical Engineering
- 2014-2019: Initiated joint UNC/NC State External Advisory Board for undergraduate programs
- 2014-2016: Construction of and University approval of joint UNC/NC State B.S. in Biomedical Engineering (replacing the separate NC State and UNC degrees)
- 2014-2015: Oversaw \$2M Phillips Hall build out of undergraduate design space at UNC
- 2013: Managed the dissolution of the UNC Curriculum of Applied Sciences and Engineering with assignment of the undergraduate major in Applied Sciences with a concentration in biomedical engineering to the Department of Biomedical Engineering
- 2012-2013: Directed SACS reaccreditation for the Joint Department of BME at NC State
- 2012-2013: Directed external review of UNC undergraduate Applied Sciences curriculum
- 2011-2013: Directed UNC Undergraduate Curriculum Revision Committee in Applied Sciences
- 2009-2018: Establish Undergraduate Leadership Opportunities- Joint BME Club, i4 Program, Helping Hands Project, Betabox Outreach, BME Ambassadors Program
- 2009-2015: Managed 2 independent undergraduate programs
150 students at NC State, ABET-accredited B.S. in biomedical engineering
100 students at UNC, B.S. in Applied Sciences with a concentration in BME
(2015-2017 in the process of fully merging- see above)
- 2009-2010: ABET re-accreditation of NC State undergraduate BME program

Graduate

- 2016-2017: Appoint a Director and Executive Director for the UNC/NC State Joint Professional Science Masters Degree
- 2015-2018: Planning and initial application for a UNC/NC State Joint Professional Science Masters Degree in BME Design
- 2012-2013: Manage transfer of UNC Materials Science Graduate Program out of the Curriculum in Applied Sciences and Engineering to the new UNC Dept of Applied Physical Sciences

- 2010: Directed external review of UNC/NC State graduate program in BME
- 2009-2019: Managed joint UNC/NC State graduate program (150+ students, PhD+MS)
- 2009-2010: Extensively revised the graduate student curriculum and the recruitment process

Administration

Managerial

- 2017: Revised Departmental administration to incorporate a Chief Operating Officer
- 2014-2019: Implementation of the BME Leadership Group consisting of the two Provosts, 3 Deans and BME Chair with a meeting every semester
- 2013: Initiated UNC-NC State BME Bus Service
- 2013: Extended the Department of BME into the College of Arts and Sciences at UNC so that the Department has faculty, staff and students in the College of Engineering at NC State, School of Medicine at UNC, and College of Arts and Sciences at UNC
- 2009-2019: Managed and integrated the BME administrative organizations of UNC and NC State, two non-affiliated institutions
- 2009-2017: Instituted video conferencing facilities for effective cross campus communications
- 2009-2014: Reorganized and integrated the departmental front offices to improve operating efficiency and decreasing cost. *Example:* Directed 2011 merger of UNC BME front office into combined front office for the Dept. of Radiology, Biomedical Research Imaging Center, and BME Dept.

Departmental Operation

- 2016-2019: Submission and approval of Engineering Fee request at UNC, shepherding the request through multiple student and faculty committees
- 2016-2019: Oversee move into additional BME space at the College of Veterinary Medicine at NC State
- 2016-2017: Secure space in Research Triangle Park for BME in The Frontier - Midway between Chapel Hill and Raleigh
Supports: BME Entrepreneurship, Weekly professional development series, Industry/student/faculty engagement meetings, UG entrepreneurial pitches for the i4 program, BME courses, BME Departmental activities (retreats, strategic planning events), BME – Veterans partnerships
- 2016: Achieved a Joint Department listing in US News and World Report (Traveled to US News and World Report with representatives from both the UNC and NC State Chancellors)
- 2015-2019: Oversee design of new BME space in the Mary Ellen Jones Bldg at UNC
- 2015: Enacted joint external reporting for the Department to ASEE
- 2014-2017: Construction and approval of BME Charter describing the Joint Department:
Example issues addressed by the Charter:
 - Faculty standing and access to resources at both universities;
 - BME student access to all facilities, systems, and services at both universities;
 - Standard operating procedures for BME sponsored projects and intellectual property;
 - Cohesive approach to fundraising across the two universities;
 - Formation of a BME leadership team (Provosts, Deans, and Dept Chair) to facilitate efficient operation and resolve any inter-university issues
- 2014-2017: Oversaw move into Engineering Building 3 space for the Department at NC State
- 2014-2016: Presentations to both UNC and NC State Boards of Trustees on joint programs

Development Activities

- 2016-2019: Plan and initiate a Corporate Sponsors Program for the BME Department
- 2016-2019: Supervise full-time BME Development Officer operating across UNC and NC State

- 2015-2019: Hire Academic-Industry Coordinator to expand faculty/student interactions with industry
- 2014-2019: Build an Industry Advisory Board for the BME Department
 - Populated by Industry Leaders from across the U.S.
 - Advises BME on technology translation/entrepreneurship, industry needs in new graduates, and departmental initiatives such as the strategic plan
- 2014-2015: Negotiate an MOU for joint UNC-NC State Fundraising for BME
- 2014-2015: Negotiate and develop a position for a full-time, joint UNC-NC State Director of Development position for BME with the individual supervised jointly by the UNC and Engineering Foundations
- 2014: Develop a Proposal for a BME Departmental Endowment for a private donor
- 2013-2019: Initiation and continuation of Fall and Winter Departmental Newsletters
- 2012-2017: Successful solicitation of three endowed full professorships
- 2009-2019: Coordinate and work with Medical Foundation, Arts & Science Foundation, Engineering Foundation, UNC Foundation, and NC State Foundation for BME fundraising
- 2009-2019: Successful solicitations from private donors. *Examples:* Sheerer Family Fund, Mente Fund, i4 Innovation Program, Jackson Family Endowed Chair, Lampe Endowed Chair
- 2009-2019: Industry-based sponsorship of senior design

Strategic Planning

- 2018-2019: BME Design Curriculum Strategic Planning
- 2016-2017: Strategic Communication Plan and Brand Identity Roll-out
- 2016: Strategic Planning for Communications and Marketing led by external consultant
- 2015-2019: UG Strategic plan implementation
- 2015: Held Undergraduate Strategic Planning Retreat for Joint B.S., External Consultant- Leah Jamieson, Dean of Engineering, Purdue University
- 2014-2019: Oversee Departmental strategic plan implementation
 - Success of the BME strategic plan is rewarded with \$15 M from Universities to implement
 - Received expanded pool of faculty positions as a result of strategic plan
- 2013-2014: Led BME strategic planning initiative (Business Consulting Team, BME Task Force and External Advisory Committee)
 - Phase 1- Assessment
 - Phase 2- Visioning
 - Phase 3- Implementation

Outcome: Strategic Priorities and Initiatives for 2014-2019

Faculty and Research

- 2017: Signed joint MOU with Nagoya University to build a collaborative partnership in research and education
- 2014: Established Rehabilitation Engineering Initiative spanning UNC and NC State
- 2014: Established joint seminar series with Nagoya University and initiate planning for a joint Masters degree
- 2013-2015: Established Pharmacoengineering initiative and curriculum in partnership with the School of Pharmacy at UNC
- 2013-2015: Design of research and teaching space for BME in the new Mary Ellen Jones Building at UNC
- 2009-2017: Achieved parity in faculty expectations across two campuses
 - Overhauled the faculty structure to better support a research-intensive focus
 - Recruited 16 assistant professors, 6 associate, and 3 full professors to the Dept.
 - Retention of 1 assistant, 5 associate professors, and 2 full professors

- 2009-2017: Established mentoring programs: Faculty Assigned Mentors, Purple Team Grant Reviews, Lunch with Chair, Yearly Oral/Written Performance Reviews, Departmental Sponsorship for Leadership Programs, Peer Teaching Reviews
- 2009-2019: Establish and maintain BME seminar series spanning UNC, NC State, Eastern Carolina University (Greenville), North Carolina A&T (Greensboro) and Nagoya University (Japan)
- 2009-2019: Promote & establish 3 annual BME Departmental large symposia each year:
Triangle-Wide Rehabilitation Engineering Symposium
BME Design Symposium- UNC and NC State BME undergraduates
BME Departmental Retreat
i4 Entrepreneurship Student Competition
- 2009-2019: Initiate programs to catalyze team-based science: Surgery-Engineering Speed Dating and Seed Grants, Rehabilitation Engineering Seed Grants, BME-Medical Oncology Seed Grants, Partner with School of Pharmacy to Win a UNC GA Research Opportunities Initiative Grant, BME-ASSIST-TRACS Partnership: Engineering Solutions to Health Problems Workshop, Department Led- DOD Advanced Manufacturing Initiative for Regenerative Medicine, Establish BME-Neurosurgery joint activities
- 2009-2014: Oversaw design and planning of new BME research and teaching space at NC State and UNC
- 2009-2011: Redefined the research focus areas for the Department to encompass Rehabilitation Engineering, Microsystems Engineering, Medical Imaging, Pharmacoengineering, and Regenerative Medicine

EXAMPLES OF OTHER ACTIVITIES

- 2014: External Reviewer of Biomedical Engineering Program at the University of Texas in San Antonio and University of Texas Health Science Center at San Antonio
- 2013-2014: Participant UNC Faculty Leadership Program
- 2013: Committee to select UNC Hooding Ceremony Speaker
- 2012-present: Steering Committee, UNC Carolina Institute of Nanomedicine
- 2011-2012: Member of UNC Applied Sciences Task Force
- 2011: Member of UNC Commercialization Working Group for Carolina Innovate
- 2011: Committee to form a UNC/NC State/Duke Translational Research Institute in RTP
- 2011: UNC Faculty Recognition Committee
- 2010-present: UNC CCNE Steering Committee
- 2009-present: Advisory Board, UNC Biomedical Research Imaging Center
- 2009-present: Member of School of Medicine Dean's Advisory Committee
- 2009-present: Member College of Engineering Executive Committee, NC State
- 2008-2015: Member Steering Committee UNC Institute for Advanced Materials Nanoscience and Technology
- 2007-present: Member UNC Lineberger Cancer Center
- 2006-2007: IMSD/MARC Advisory Board and Steering Committee, California State University, Fullerton, CA
- 2006: Predoctoral Training Grant Committee, UCI Stem Cell Center
- 2006: Co-Founder of UCI LifeChips Center
- 2006: Member, Committee to Evaluate/Recommend Academic Promotion, UCI Dept of Chemistry
- 2005-2007: Vice-Chair of UCI Department of Physiology and Biophysics
- 2005-2007: Member CalIT2 Division Council at UCI
- 2004-2007: Co-Leader UCI Comprehensive Cancer Center, Program in Growth Factors and Signaling
- 2003: Founding Participant, Center for Epilepsy and NIH Training Grant on Epilepsy at UCI

- 2002-2007: Campus-Wide Radiation Safety Committee
- 2002-2003: Search Committee for Director of the UCI Beckman Laser Institute
- 2002-2003: Steering Committee for Whitaker Grant Renewal for Dept. of Biomedical Engineering
- 1999-2007: UCI MD/PhD Admissions Committee
- 1998-2001: Co-Founder of UCI Biomedical Engineering Center
- 1998-2000: Whitaker Foundation Bioengineering Grant- Member of the Steering Committee,
Responsible for the nanoscale section of the grant and Whitaker Foundation Site Visit
Presentation
- 1995-1997: UCI Medical School Admissions Committee