Curriculum Vitae

Joe P. Foley, Ph.D.
Professor and Head
Department of Chemistry
Drexel University

September 1998 - present

Dr. Joe P. Foley
Professor of Chemistry
Drexel University 215-895-6218 email: jfoley@drexel.edu

Specialty Analytical Chemistry and Separation Science.
Pressure- and Voltage-Driven Liquid Phase Separations. High- and Ultra-High Pressure Liquid Chromatography. Multi-Dimensional Separations. Capillary and Microchip Electrophoresis and Electrokinetic Chromatography. Supercritical Fluid Chromatography.

Research interests

Liquid Chromatography – separation theory and retention mechanisms; stochastic simulations and the probability of success; reversed-phase, HILIC, size-exclusion, and mixed-mode separations in one and two dimensions; serially-coupled columns; sequential elution with selective mobile phases; LC-MS; chiral separations; numerical simulations; physicochemical measurements; micellar liquid chromatography; bioanalytical and pharmaceutical applications including amino acid and peptide separations

Capillary Electrophoresis and Electrokinetic Chromatography – separation theory; nonaqueous chiral separations; peak capacity and the probability of success; dual-opposite injection; physicochemical measurements; novel micelle, microemulsion, and vesicle pseudostationary phases; biomedical and pharmaceutical applications

Supercritical Fluid Chromatography – optimization of chiral and achiral separations

Education
B.S. (co-Valedictorian), Chemistry and Chemical Physics, Centre College of Kentucky, 1978.
Ph.D., Chemistry, University of Florida, 1983.

Experience

National Research Council Postdoctoral Fellow, National Institute of Standards and Technology	1983 – 85
Assistant Professor of Chemistry, Louisiana State University	1985 – 91
Associate Professor of Chemistry, Louisiana State University	1991
NATO Advanced Study Institute (Theoretical Advances in Chromatography)	Aug. 1991
Associate Professor of Chemistry, Villanova University	1991 – 97
Professor of Chemistry, Villanova University	1997 – 98
Professor of Chemistry, Drexel University	1998 –
Associate Head of Chemistry, Drexel University	2004–05, 2011–15
Visiting Professor, Pharmaceutical Technology Institute, University of Frankfurt	2006 – 07
Visiting Fellow, Australian Centre for Research on Separation Science, University of Tasmania	2015 – 16

Consultant, Spectra – Physics	Nov. 1987
Consultant, Exxon Chemical Company	1988 – 91
Consultant, LaRoche Chemicals, Inc.	1989 – 91
Consultant, Hewlett Packard Company	1991
Consultant, Hercules Research Center	1993
Consultant, Merck & Company	1993 – 95
Consultant, American Cyanamid	1994 – 97
Consultant, Rhone – Poulenc Rorer	1995 – 99
Consultant, DuPont Pharmaceuticals	1996
Consultant, ViroPharma, Inc.	1997
Consultant, Johnson & Johnson	1999 – 2008

Review Panelist, Health Effects Institute, Cambridge, Massachusetts	Mar. 1991
Review Panelist (ad hoc), National Institutes of Health (NIH)	2004 –

Review Panelist (ad hoc), National Science Foundation (NSF) 2009 –

Honors and Awards

American Chemical Society Undergraduate Analytical Chemistry Award 1978
American Chemical Society Analytical Division Graduate Fellowship 1983
Chromatographia Travel Award 1986
Summer Faculty Research Award 1986
Travel Award, Gesellschaft Deutscher Chemiker 1988
Outstanding Service Award, Executive Board,
New Orleans Chromatography Discussion Group 1989 – 90
NATO Advanced Study Institute Travel Award Aug. 1991
Sterling Who's Who 1995 –
Outstanding Faculty Research Award Nominee 1997 – 98
Invited Juror, ACS Young Investigator in Separation Sciences Award 2008 – 2016
ISI Highly Cited Author ongoing
Sabbatical Travel Award, University of Tasmania 2015 – 2016
Lead author of the most highly-cited paper in Analytical Chemistry in 1983
EAS Award for Outstanding Achievements in Separation Science 2020
Chromatography Forum of Delaware Valley Award 2021

Editorial Boards

Analytical Communications 1996 – 1999
The Analyst 1991 – 2000
Journal of Microcolumn Separations 1991 – 2001
Electrophoresis 2008 –
Bioanalysis 2009 –
Current Chromatography 2016 –
Separations 2018 –
Chromatographia 2019 – 2024

Professional Organizations and Honorary Societies

American Chemical Society 1979 –
Secretary, ACS Subdivision of Chromatography and Separations Chemistry 1997
Federation of Analytical Chemistry and Spectroscopy Societies 1990 –
Program Section Chair for Chemical Separations 1997
Chromatography Forum of the Delaware Valley (CFDV) 1991 –
Executive Committee 1992–2000, 2009 –
Program Chair 2011–2012, 2017 – 2018
President 2012–2013, 2018 – 2019
Symposium Chair 2018 – 2019
Frederick Conference on Capillary Electrophoresis 1991 – 2005
Scientific Committee 1992–1997, 2002 – 2005
The Electrophoresis Society 1994 – 1998
Sigma Xi 1992 – 2000

Organized Symposia/Chaired Sessions (27):

National/international meetings of the American Chemical Society (ACS), the Eastern Analytical Symposium (EAS), the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), the International Symposium on Column Liquid Chromatography (HPLC), the International Symposium on Electro- and Liquid Phase-Separation Techniques (ITP), the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON®), and the Frederick Conference on Capillary Electrophoresis/Proteomics.

Presentations (excluding student contributions)

> 65 invited seminars to academic, government, and industrial institutions
> 85 invited papers presented at regional/national/international conferences, including the Gordon Research Conferences on (i) Analytical Chemistry and (ii) Drug Metabolism
> 110 contributed papers presented at regional/national/international meetings

Publications

111 peer-reviewed publications, with an h-index of 39
2 manuscripts submitted for publication, other manuscripts in preparation
9 book chapters
8 critical reviews
3 tutorials
1 patent
> 250 published abstracts

Students graduated and/or directed

Previously: 25 B.S. students, 11 M.S. students, 35 Ph.D. students, 2 postdocs, 2 visiting scientists
Currently: 0 B.S. students, 0 M.S. students, 4 Ph.D. students

I. Publications of the Research Group of Professor Joe P. Foley

A. Articles in Refereed Journals

1. Joe P. Foley[&] and John G. Dorsey. "Equations for Calculation of Chromatographic Figures of Merit for Ideal and Skewed Peaks," *Anal. Chem.*, **1983**, *55*, 730-737. https://dx.doi.org/10.1021/ac00255a033.

2. Joe P. Foley[&] and John G. Dorsey. "A Review of the Exponentially Modified Gaussian (EMG) Function: Evaluation and Subsequent Calculation of Universal Data," *J. Chromatogr. Sci.*, **1984**, *22*, 40-46. https://dx.doi.org/10.1093/chromsci/22.1.40.

3. Joe P. Foley[&] and John G. Dorsey. "Clarification of the Limit of Detection in Chromatography," *Chromatographia*, **1984**, *18*, 503-511. https://dx.doi.org/10.1007/bf02267236.

4. Joe P. Foley[#] and Willie E. May. "Optimization of Secondary Chemical Equilibria in Liquid Chromatography: Theory and Verification," *Anal. Chem.*, **1987**, *59*, 102-109. https://dx.doi.org/10.1021/ac00128a022.

5. Joe P. Foley[#] and Willie E. May. "Optimization of Secondary Chemical Equilibria in Liquid Chromatography: Variables Influencing the Self-Selectivity, Retention, and Efficiency in Acid-Base Systems," *Anal. Chem.*, **1987**, *59*, 110-116. https://dx.doi.org/10.1021/ac00128a023.

6. Joe P. Foley. "Systematic Errors in the Measurement of Peak Area and Peak Height for Overlapping Peaks," *J. Chromatogr.*, **1987**, *384*, 301-313. https://dx.doi.org/10.1016/S0021-9673(01)94679-5.

7. Joe P. Foley. "Equations for Chromatographic Peak Modeling and Calculation of Peak Area," *Anal. Chem.*, **1987**, *59*, 1984-1987. https://dx.doi.org/10.1021/ac00142a019.

8. Joe P. Foley. "Separation of m-Cresol and p-Cresol and Other Methylated Phenols in Shale Oil by Reversed Phase Liquid Chromatography with Electrochemical Detection," *J. Chromatogr.*, **1988**, *441*, 347-354. https://dx.doi.org/10.1016/s0021-9673(01)83877-2.

9. Mark S. Jeansonne[&] and Joe P. Foley. "Measurement of Statistical Moments of Resolved and Overlapping Chromatographic Peaks," *J. Chromatogr.*, **1989**, *461,* 149-163. https://dx.doi.org/10.1016/s0021-9673(00)94284-5.

10. Jeffrey A. Crow[&] and Joe P. Foley. "Optimization of Separations Using Short Capillary Columns in Supercritical Fluid Chromatography," *J. High Resolution Chromatogr.*, **1989**, *9,* 467-470. https://dx.doi.org/10.1002/jhrc.1240120711.

11. Joe P. Foley, Jeffrey A. Crow[&], Beth A. Thomas**, and Marlon Zamora**. "Unavoidable Flow Rate Errors in High Performance Liquid Chromatography," *J. Chromatogr.*, **1989**, *478,* 287-309. https://dx.doi.org/10.1016/0021-9673(89)90033-2.

12. Jeffrey A. Crow[&] and Joe P. Foley. "Optimization of Separations in Supercritical Fluid Chromatography Using a Modified Simplex Algorithm and Short Capillary Columns," *Anal. Chem.*, **1990**, *62,* 378-387. https://dx.doi.org/10.1021/ac00203a013.

13. Joe P. Foley. "Critical Compilation of Solute-Micelle Binding Constants and Related Parameters from Micellar Liquid Chromatographic Measurements," *Anal. Chim. Acta*, **1990**, *231(2)*, 237-247. https://dx.doi.org/10.1016/s0003-2670(00)86422-3.

14. Joe P. Foley. "Optimization of Micellar Electrokinetic Chromatography," *Anal. Chem.*, **1990**, *62*, 1302-1308. https://dx.doi.org/10.1021/ac00212a019.

15. Kiumars Ghowsi[&], Joe P. Foley, and Robert J. Gale, "Micellar Electrokinetic Capillary Chromatography Theory Based on Electrochemical Parameters: Optimization for Three Modes of Operation," *Anal. Chem.*, **1990**, *62*, 2714-2721. https://dx.doi.org/10.1021/ac00223a013.

16. Edward L. Little[&], Mark S. Jeansonne[&], and Joe P. Foley. "Sequential Multimodal Elution for Pseudomultidimensional Liquid Chromatography on a Single Column," *Anal. Chem.*, **1991**, *63*, 33-44. https://dx.doi.org/10.1021/ac00001a007.

17. Jeffrey A. Crow[&] and Joe P. Foley. "Formic Acid Modified Carbon Dioxide as a Mobile Phase in Capillary Supercritical Fluid Chromatography," *J. Microcolumn Sep.*, **1991**, *3*, 47-57. https://dx.doi.org/10.1002/mcs.1220030109.

18. Rene V. Arenas[&] and Joe P. Foley. "Solvent Strength, Selectivity, and Retention Mechanism Studies of Polybutadiene-Coated Alumina Columns in Reversed-Phase Liquid Chromatography," *Anal. Chim. Acta*, **1991**, *246(1)*, 113-130. https://dx.doi.org/10.1016/s0003-2670(00)80669-8.

19. Mark S. Jeansonne[&] and Joe P. Foley. "Review of the Exponentially Modified Gaussian Chromatographic Peak Model Since 1983," *J. Chromatogr. Sci.*, **1991**, 29, 258-266. https://dx.doi.org/10.1093/chromsci/29.6.258.

20. Joe P. Foley. "Resolution Equations for Column Chromatography," *Analyst*, **1991**, 116, 1275-1279. https://dx.doi.org/10.1039/an9911601275.

21. Mark S. Jeansonne[&] and Joe P. Foley. "Improved Equations for Calculation of Chromatographic Figures of Merit for Ideal and Skewed Peaks," *J. Chromatogr.*, **1992**, 594, 1-8. https://dx.doi.org/10.1016/0021-9673(92)80307-g.

22. Edward L. Little[&] and Joe P. Foley. "Optimization of the Resolution of PTH-Amino Acids Through Control of Surfactant Concentration in Micellar Electrokinetic Capillary Chromatography," *J. Microcolumn Sep.*, **1992**, 4, 145-154. https://dx.doi.org/10.1002/mcs.1220040206.

23. Eric S. Ahuja[&], Edward L. Little[&], and Joe P. Foley. "Selected Organic Solvents as Electroosmotic Velocity Markers in Micellar Electrokinetic Capillary Chromatography," *J. Liq. Chromatogr.*, **1992**, 15, 1099-1113. https://dx.doi.org/10.1080/10826079208018852.

24. Kurt R. Nielsen[&] and Joe P. Foley. "Effect of the Dodecylsulfate Counter Ion on Selectivity and Resolution in Micellar Electrokinetic Capillary Chromatography: SDS vs. $Mg(DS)_2$," *J. Microcolumn Sep.*, **1993**, 5, 347-360. https://dx.doi.org/10.1002/mcs.1220050408.

25. Eric S. Ahuja[&] and Joe P. Foley. "A Retention Index for Micellar Electrokinetic Chromatography," *Analyst*, **1994**, *119*, 353-360. https://dx.doi.org/10.1039/an9941900353.

26. Kurt R. Nielsen[&] and Joe P. Foley. "Effect of the Dodecylsulfate Counter Ion on Selectivity and Resolution in Micellar Electrokinetic Chromatography: II. Organic Counterions," *J. Microcolumn Sep.*, **1994**, *6*, 139-149. https://dx.doi.org/10.1002/mcs.1220060207.

27. Rene V. Arenas[&] and Joe P. Foley. "Selectivity of Polymer-Coated Aluminas for Reversed-Phase Liquid Chromatography: I. Methylene Group Selectivity," *Analyst*, **1994**, *119*, 1303-1314. https://dx.doi.org/10.1039/an9941901303.

28. Eric S. Ahuja[&], Brett P. Preston[&], and Joe P. Foley. "Anionic / Zwitterionic Mixed Micelles In Micellar Electrokinetic Chromatography: Sodium dodecyl sulfate / N-dodecyl-N,N-dimethylammonium-3-propane-1-sulfonic acid," *J. Chromatogr. B*, **1994**, *657,* 271-284. https://dx.doi.org/10.1016/0378-4347(94)00364-5.

29. Eric S. Ahuja[&] and Joe P. Foley. "Separation of Very Hydrophobic Compounds by Hydrophobic Interaction Electrokinetic Chromatography," *J. Chromatogr. A*, **1994**, *680,* 73-83. https://dx.doi.org/10.1016/0021-9673(94)80054-5.

30. Kurt R. Nielsen[&] and Joe P. Foley. "Zone Sharpening of Neutral Solutes in Micellar Electrokinetic Chromatography with Electrokinetic Injection," *J. Chromatogr. A*, **1994**, *686,* 283-291. https://dx.doi.org/10.1016/0021-9673(94)00770-5.

31. Eric S. Ahuja[&], Edward L. Little[&], Kurt R. Nielsen[&], and Joe P. Foley. "Infinite Elution Range in Micellar Electrokinetic Capillary Chromatography Using a Nonionic/Anionic Mixed Micellar System," *Anal. Chem.*, **1995**, *67,* 26-33. https://dx.doi.org/10.1021/ac00097a006.

32. Eric S. Ahuja[&] and Joe P. Foley. "Influence of Dodecyl Sulfate Counterions on Efficiency, Selectivity, Retention, Elution Range, and Resolution in Micellar Electrokinetic Chromatography," *Anal. Chem.*, **1995**, *67*, 2315-2324. https://dx.doi.org/10.1021/ac00110a001.

33. Alicia G. Peterson[&], Eric S. Ahuja[#], and Joe P. Foley, "Enantiomeric Separations of Basic Pharmaceutical Drugs by Micellar Electrokinetic Chromatography Using a Chiral Surfactant, N-Dodecoxycarbonylvaline," *J. Chromatogr. B,* **1996**, *683,* 15-28. https://dx.doi.org/10.1016/0378-4347(96)00188-0.

34. Alicia G. Peterson[&] and Joe P. Foley, "Determining Thermodynamic Quantities of Micellar Solubilization of Chiral Pharmaceutical Compounds in Aqueous Solutions of N-Dodecoxycarbonylvaline Using Micellar Electrokinetic Chromatography," *J. Microcolumn Sep.,* **1996**, *8,* 427-437. https://dx.doi.org/10.1002/(sici)1520-667x(1996)8:6<427::aid-mcs8>3.0.co;2-3.

35. Thomas P. Roddy[&], Thomas E. Molnar, Robert E. McKean, and Joe P. Foley, "Method of Analysis of Recombinant Acidic Fibroblast Growth Factor (aFGF) by Capillary Electrophoresis," *J. Chromatogr. B*, **1997**, 695, 49-58. https://dx.doi.org/10.1016/s0378-4347(97)00100-x.

36. Alicia G. Peterson[&] and Joe P. Foley, "Influence of the Inorganic Counterion on the Chiral Micellar Electrokinetic Separation of Basic Drugs Using the Surfactant N-dodecoxycarbonylvaline," *J. Chromatogr. B*, **1997**, 695, 131-145. https://dx.doi.org/10.1016/s0378-4347(97)00242-9.

37. Robert E. Murphy[&], Mark R. Schure, and Joe P. Foley, The Effect Of Second Dimension Sampling Rate and Particle Size on Resolution and Run Time in Two Dimensional Liquid Chromatography for the Analysis of Polymers, *Polym. Mater. Sci. Eng.*, **1997**, *77*, 594-595.

38. Mei Hong[&], Brian S. Weekley, Sally J. Grieb[#], and Joe P. Foley, "Electrokinetic Chromatography Using Thermodynamically-Stable Vesicles and Mixed Micelles Formed from Oppositely Charged Surfactants," *Anal. Chem.,* **1998**, *70*, 1394-1403. https://dx.doi.org/10.1021/ac970730y.

39. Robert E. Murphy[&], Mark R. Schure, and Joe P. Foley. "The Effect of Sampling Rate on Resolution in Comprehensive Two-Dimensional Liquid Chromatography," *Anal. Chem.,* **1998**, *70*, 1585-1594 (journal cover). https://dx.doi.org/10.1021/ac971184b.

40. Crystal W. Harrell[&], Joykrishna Dey[&], Shahab A. Shamsi, Joe P. Foley, and Isiah M. Warner, "Enhanced Separation of Antidepressant Drugs Using a Polymeric Surfactant as a Transient Capillary Coating," *Electrophoresis*, **1998**, *19*, 712-718. https://dx.doi.org/10.1002/elps.1150190519.

41. John A. Masucci[&], Gary W. Caldwell, and Joe P. Foley. "Comparison of the Retention Behavior of β-Blockers Using Immobilized Artificial Membrane Chromatography and Lysophospholipid

Micellar Electrokinetic Chromatography," *J. Chromatogr. A*, **1998**, *810*, 95-103. https://dx.doi.org/10.1016/s0021-9673(98)00219-2.

42. Randall E. Lewis[&], Eric S. Ahuja, and Joe P. Foley. "Ion Analysis by Capillary Zone Electrophoresis with Indirect Detection: Applications in the Nuclear Power Industry," *Analyst*, **1998**, *123*, 1465-1469. https://dx.doi.org/10.1039/a800705e.

43. Robert E. Murphy[&], Mark R. Schure, and Joe P. Foley. "One and Two-Dimensional Analysis of Alcohol Ethoxylates," *Anal. Chem.*, **1998**, *70*, 4353-4360. https://dx.doi.org/10.1021/ac980180j.

44. Robert E. Murphy[&], Mark R. Schure, and Joe P. Foley. "Quantitative Analysis of Poly(Methyl Methacrylate/Butyl Acrylate) Copolymer Composition by Liquid Chromatography-Particle Beam-Mass Spectrometry," *J. Chromatogr. A*, **1998**, *824*, 181-194. https://dx.doi.org/10.1016/s0021-9673(98)00678-5.

45. Alicia G. Peterson[&] and Joe P. Foley, "Influence of the Inorganic Counterion on the Thermodynamic Quantities of Micellar Solubilization of Chiral Pharmaceutical Compounds in Aqueous Solutions of N-Dodecoxycarbonylvaline using Micellar Electrokinetic Chromatography," *J. Microcolumn Sep.,* **1998**, *10*, 633-645. https://dx.doi.org/10.1002/(sici)1520-667x(1998)10:8<633::aid-mcs2>3.0.co;2-k.

46. Timothy J. McCormick[&], Joe P. Foley, David K. Lloyd, and Christopher M. Riley. "The Effect of Stationary Phase Pore Size on Retention in Micellar Liquid Chromatography," *Anal. Chem.*, **2000**, *72*, 294-301. https://dx.doi.org/10.1021/ac9903398.

47. David P. Durkin[&] and Joe P. Foley. "Dual-Opposite-Injection Electrokinetic Chromatography for the Unbiased, Simultaneous Separation of Cationic and Anionic Compounds," *Electrophoresis*, **2000**, *21*, 1997-2009. https://dx.doi.org/10.1002/1522-2683(20000601)21:10<1997::aid-elps1997>3.0.co;2-l.

48. Robert J. Pascoe[&], Alicia G. Peterson[&], and Joe P. Foley. "Investigations of the Chiral Surfactant N-dodecoxycarbonylvaline in Electrokinetic Chromatography: Improvements in Elution Range and pH Stability via Mixed Micelles and Vesicles, and the Hydrophobicity Determination of Basic Pharmaceutical Drugs," *Electrophoresis*, **2000**, *21*, 2033-2042. https://dx.doi.org/10.1002/1522-2683(20000601)21:10<2033::aid-elps2033>3.0.co;2-z.

49. Carmelle Lucas[&], Michael Gliddon, Maximillian Safarpour, Stanley Cardaciotto, Eric S. Ahuja[#], and Joe P. Foley. "Determination of Avoparcin in Animal Formulations by Capillary Electrophoresis," *J. Capillary Electrophor. Microchip Technol.*, **1999**, *6*, 75-83. (published in April of **2001**)

50. Wendy L. Klotz[&], Mark R. Schure, and Joe P. Foley. "Determination of Octanol-Water Partition Coefficients of Pesticides by Microemulsion Electrokinetic Chromatography," J. Chromatogr. A, **2001**, *930*, 145-154. https://dx.doi.org.10.1016/s0021-9673(01)01171-2.

51. Robert J. Pascoe[&], Joe P. Foley, and Arkady I. Gusev. "Reduction in Matrix-Related Signal Suppression Effects in Electrospray Ionization Mass Spectrometry Using On-Line Two-Dimensional Liquid Chromatography," *Anal. Chem.*, **2001**, *73*, 6014-6023. https://dx.doi.org/10.1021/ac0106694.

52. Robert J. Pascoe[&] and Joe P. Foley. "Rapid Separation of Pharmaceutical Enantiomers Using Electrokinetic Chromatography with a Novel Chiral Microemulsion," *The Analyst*, **2002**, *127*, 710-714. https://dx.doi.org/10.1039/b201226j.

53. Wendy L. Klotz[&], Mark R. Schure, and Joe P. Foley. "Rapid Estimation of Octanol-Water Partition Coefficients Using Synthesized Vesicles in Electrokinetic Chromatography," *J. Chromatogr. A*, **2002**, *962*, 207-219. https://dx.doi.org/10.1016/s0021-9673(02)00352-7.

54. Robert J. Pascoe[&] and Joe P. Foley. "Effect of Class I and II Organic Modifiers on Retention and Selectivity in Vesicle Electrokinetic Chromatography," *Electrophoresis*, **2002**, *23*, 1618-1627. https://dx.doi.org/10.1002/1522-2683(200206)23:11<1618::aid-elps1618>3.0.co;2-4.

55. Timothy J. McCormick[&], Joe P. Foley, and David K. Lloyd. "Chromatographic Performance of Large-Pore Versus Small-Pore Columns in Micellar Liquid Chromatography," *J. Chromatogr. B,* **2003***, 785*, 1-20. https://dx.doi.org/10.1016/s1570-0232(02)00756-0.

56. Carmelle Lucas[&], Eric S. Ahuja[#], and Joe P. Foley. "Analysis of Glycopeptide Antibiotics using Micellar Electrokinetic Chromatography and Borate Complexation. *Biomed. Chromatogr.,* **2003**, 17, 172-181. https://dx.doi.org/10.1002/bmc.235.

57. Robert J. Pascoe[&] and Joe P. Foley. "Characterization of Surfactant and Phospholipid Vesicles for Use as Pseudostationary Phases in Electrokinetic Chromatography," *Electrophoresis*, **2003**, *24*, 4227-4240. https://dx.doi.org/10.1002/elps.200305655.

58. Marilyn X. Zhou[&] and Joe P. Foley. Dual Opposite Injection Electrokinetic Chromatography: Nonionic Microemulsion Pseudostationary Phase and Novel Approach to Electrokinetic Sampling Bias. *Electrophoresis*, **2004**, *25*, 653-663. https://dx.doi.org/10.1002/elps.200305738.

59. Melissa D. Mertzman[&] and Joe P. Foley. Effect of Oil Substitution in Chiral Microemulsion Electrokinetic Chromatography. *Electrophoresis*, **2004**, *25*, 723-732. https://dx.doi.org/10.1002/elps.200305736.

60. Melissa D. Mertzman[&] and Joe P. Foley. Chiral Cyclodextrin-Modified Microemulsion Electrokinetic Chromatography. *Electrophoresis*, **2004**, *25*, 1188-1200. https://dx.doi.org/10.1002/elps.200305876.

61. Marilyn X. Zhou[&] and Joe P. Foley. Analytical Method for the Quantitation of Sertraline Hydrochloride Stereoisomers by Electrokinetic Chromatography. *J. Chromatogr. A*, **2004**, *1052*, 13-23. https://dx.doi.org/10.1016/j.chroma.2004.08.103.

62. Melissa D. Mertzman[&] and Joe P. Foley. Effect of Surfactant Concentration and Buffer Selection on Chromatographic Figures of Merit in Chiral Microemulsion Electrokinetic Chromatography. *Electrophoresis*, **2004**, *25*, 3247-3256. https://dx.doi.org/10.1002/elps.200406025.

63. David P. Thomas[&] and Joe P. Foley. Stationary Phase Effects on Efficiency in Micellar Liquid Chromatography. *J. Chromatogr. A.,* **2004**, *1061*, 195-203. https://dx.doi.org/10.1016/j.chroma.2004.06.043.

64. Melissa D. Mertzman[&] and Joe P. Foley. Temperature Effects on Chiral Microemulsion Electrokinetic Chromatography Employing the Chiral Surfactant Dodecoxycarbonylvaline. *J. Chromatogr. A.,* **2005**, *1073*, 181-189. https://dx.doi.org/10.1016/j.chroma.2004.10.061.

65. Stephanie A. Schuster[&] and Joe P. Foley. Effect of Surfactant Counterion and Organic Modifier on the Properties of Surfactant Vesicles in Electrokinetic Chromatography. *J. Sep. Sci.,* **2005**, *28*, 1399-1408. https://dx.doi.org/10.1002/jssc.200500208.

66. Melissa D. Mertzman[&] and Joe P. Foley. Comparison of Dodecoxycarbonylvaline Microemulsion, Solvent-Modified Micellar and Micellar Pseudostationary Phases for the Chiral Analysis of Pharmaceutical Compounds. *Electrophoresis*, **2005**, *26*, 4153-4163. https://dx.doi.org/10.1002/elps.200500351.

67. Robert J. Pascoe, John A. Masucci, and Joe P. Foley. Investigation of Vesicle Electrokinetic Chromatography as an *In-Vitro* Assay for the Estimation of Intestinal Permeability of

Pharmaceutical Drug Candidates. *Electrophoresis*, **2006**, *27*, 793-804. https://dx.doi.org/10.1002/elps.200500647.

68. Kimberly A. Kahle[&] and Joe P. Foley. Chiral Microemulsion Electrokinetic Chromatography with Two Chiral Components: Improved Separations via Synergies Between a Chiral Surfactant and a Chiral Co-Surfactant. *Electrophoresis*, **2006**, *27*, 896-904. https://dx.doi.org/10.1002/elps.200500608.

69. Marilyn X. Zhou[&] and Joe P. Foley. Quantitative Theory of Electroosmotic Flow in Fused Silica Capillaries Using an Extended Site-Dissociation - Site-Binding Model. *Anal. Chem.*, **2006**, *78*, 1849-1858. https://dx.doi.org/10.1021/ac0518708.

70. Jeanine M. Erdner[&] and Joe P. Foley. Size Exclusion Chromatography Using Deuterated Mobile Phases. *J. Chromatogr. A.,* **2006**, *1129*, 41-46. https://dx.doi.org/10.1016/j.chroma.2006.06.073.

71. Kimberly A. Kahle[&] and Joe P. Foley. Chiral Microemulsion Electrokinetic Chromatography: Effect of Cosurfactant Identity on Enantioselectivity, Methylene Selectivity, Resolution, and other Chromatographic Figures of Merit. *Electrophoresis*, **2006**, *27*, 4321-4333. https://dx.doi.org/10.1002/elps.200600261.

72. Brian S. Weekley and Joe P. Foley. Dual Opposite Injection Capillary Zone Electrophoresis: Theoretical Aspects and Application to Organic and Pharmaceutical Compounds. *Electrophoresis*, **2007**, *28*, 697-711 (invited paper). https://dx.doi.org/10.1002/elps.200600608.

73. David P. Thomas[&] and Joe P. Foley. Efficiency Enhancements in Micellar Liquid Chromatography Through Selection of Stationary Phase and Alcohol Modifier. *J. Chromatogr. A.* **2007**, *1149*, 282-293. https://dx.doi.org/10.1016/j.chroma.2007.03.045.

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111. Megan E. Marrazzo[&] and Joe P. Foley*. Tandem-Column High Performance Liquid Chromatography Separation of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), Chromatographia, **2023**, *86*, 743-750. https://dx.doi.org/10.1007/s10337-023-04286-9.

[&]graduate student; **undergraduate; [#]postdoctoral student

B. Refereed Articles Accepted for Publication

C. Articles Submitted for Publication in Refereed Journals

Zhiyang Liu[&], Joe P. Foley, Dwight R. Stoll, Jonathan Shackman, Yiyang Zhou, and Qinggang Wang. A Simulation-Guided Approach to the Selection of RPLC Columns for Platform Small Molecule Separations, *Journal of Chromatography A*, submitted.

Lauren K. Lovejoy[&] and Joe P. Foley, Separation of Weak Acids, Neutral Compounds, and Permanent Anions using Sequential Elution Liquid Chromatography with Tandem Columns, *Journal of Chromatography A*, submitted.

[&]graduate student; **undergraduate; [#]postdoctoral student

D. Articles in Preparation for Submission to Refereed Journals

Joe P. Foley. Review of Resolution Equations for Neutral and Charged Analytes in Electrokinetic Chromatography, *Electrophoresis*, manuscript in preparation.

Joe P. Foley. "Resolution Equation for Charged and Neutral Compounds in Electrokinetic Chromatography Based on Retention Factors and Relative Electrophoretic Mobilities," *Analytical Chemistry*, manuscript in preparation.

E. Invited Publications (excluding peer-reviewed journal articles)

Book chapters:

1. Joe P. Foley* and Jeffrey A. Crow[&]. "Supercritical Fluid Chromatography for the Analysis of Natural Products," in Recent Advances in Phytochemistry, Vol. 25, Nikolaus H. Fischer, Murray B. Isman, and Helen A. Stafford, Eds.; Plenum Press, **1991**, 113-147.

2. Joe P. Foley* and Jeffrey A. Crow[&]. "Systematic Multiparameter Strategies for Optimizing Supercritical Fluid Chromatography Separations," in Supercritical Fluid Technology: Theoretical and Applied Approaches in Analytical Chemistry, ACS Symposium Series, Vol. 488, Mary Ellen P. McNally and Frank V. Bright, Eds., American Chemical Society, **1992**, 304-335.

3. Lori D. Payne[&] and Joe P. Foley*. "Gas Chromatography and Mass Spectrometry of *Erythrina* Alkaloids from the Foliage of Genetic Clones of Three *Erythrina* Species," in *Chromatography of Pharmaceuticals*, ACS Symposium Series, Vol. 512, Satinder Ahuja, Ed., American Chemical Society, **1992**, 85-99 (Chapter 7).

4. Lori D. Payne[&] and Joe P. Foley*. "The Presence of Dihydroerythroidines in the Milk of Goats Fed *Erythrina Poeppigiana* and *E. Berteroana* Foliage," in *Analysis of Antibiotic/Drug Residues in Food Products of Animal Origin*, Vipin K. Agarwal, Ed.; Plenum Press, **1992**, 211-223.

5. Kurt R. Nielsen[&] and Joe P. Foley*. "Micellar Electrokinetic Capillary Chromatography," *in Capillary Electrophoresis: Theory and Practice*, Patrick Camilleri, Ed.; CRC Press, **1993**, 117-161.

6. Joe P. Foley* and Eric S. Ahuja[&]. "Electrokinetic Chromatography," in *Progress in Pharmaceutical and Biomedical Analysis: Vol. 2, Applications of Capillary Electrophoresis*, Susan M. Lunte and Donna M. Radzik, Eds.; Pergamon Press, **1996**, 81-178.

7. Kurt R. Nielsen and Joe P. Foley*. "Micellar Electrokinetic Chromatography," *in Capillary Electrophoresis: Theory and Practice*, 2nd ed., Patrick Camilleri, Ed.; CRC Press, **1998**, 135-182.

8. Kimberly A. Kahle and Joe P. Foley*. "Chiral Microemulsion Electrokinetic Chromatography," *in Chiral Separations by Capillary Electrophoresis*, Yvette Michotte and Ann Van Eeckhaut, Eds.; CRC Press, **2009**, 235-270.

9. Mirlinda Biba, Christopher J. Welch, and Joe P. Foley*. "Separation of Oligonucleotides," in *Liquid Chromatography, 2nd ed., Vol. 2: Applications*, Salvatore Fanali, Paul R. Haddad, Colin F. Poole, and Marja-Liisa Riekkola, Eds.; Elsevier, **2017**, 159-182.

&graduate student

Critical reviews:

1. Joe P. Foley& and John G. Dorsey. "A Review of the Exponentially Modified Gaussian (EMG) Function: Evaluation and Subsequent Calculation of Universal Data," *J. Chromatogr. Sci.*, **1984**, *22*, 40-46.

2. John G. Dorsey, Joe P. Foley, William T. Cooper, Robert A. Barford, and Howard G. Barth, "Liquid Chromatography: Theory and Methodology," *Anal. Chem.*, **1990**, *62*, 324R-356R.

3. Mark S. Jeansonne& and Joe P. Foley. "Review of the Exponentially Modified Gaussian Chromatographic Peak Model Since 1983," *J. Chromatogr. Sci.*, **1991**, 29, 258-266.

4. John G. Dorsey, Joe P. Foley, William T. Cooper, Robert A. Barford, and Howard G. Barth, "Liquid Chromatography: Theory and Methodology," *Anal. Chem.*, **1992**, *64*, 353R-389R.

5. John G. Dorsey, William T. Cooper, John T. Wheeler, Howard G. Barth, and Joe P. Foley, "Liquid Chromatography: Theory and Methodology," *Anal. Chem.*, **1994**, *66*, 500R-546R.

6. John G. Dorsey, William T. Cooper, Barbara A. Siles, Joe P. Foley, and Howard G. Barth, "Liquid Chromatography: Theory and Methodology," *Anal. Chem.*, **1996**, *68*, 515R-568R.

7. John G. Dorsey, William T. Cooper, Barbara A. Siles, Joe P. Foley, and Howard G. Barth, "Liquid Chromatography: Theory and Methodology," *Anal. Chem.*, **1998**, *70,* 591R-644R.

8. Kimberly A. Kahle& and Joe P. Foley. Review of Aqueous Chiral Electrokinetic Chromatography with an Emphasis on Chiral Microemulsion EKC. *Electrophoresis*, **2007**, *28*, 2503-2526.

&graduate student

Tutorials:

1. Joe P. Foley. "The Role of Secondary Chemical Equilibria in Modern Liquid Chromatography," *Chromatography Forum*, **1987**, *2*, 43-52.

2. Rene V. Arenas& and Joe P. Foley*. "Polymer-Coated Alumina Columns in Reversed-Phase Liquid Chromatography," *American Laboratory*, **1994**, *26*, 32CC-32JJ.

3. Erin J. Ennis& and Joe P. Foley*. What are the Odds? A Stochastic Approach for Predicting the Probability of Success in Conventional HPLC and Sequential Elution Liquid Chromatography, *American Pharmaceutical Review,* **2016,** *9*, 64-67.

Book reviews:

1. Joe P. Foley. "Nitrated Polycyclic Aromatic Hydrocarbons". C. M. White, Ed. Huethig Publishing, Ltd., 1985. Published in *J. of Environ. Sci. and Health,* 1987, **A22**(2), 207-208.

2. Joe P. Foley. "Practical HPLC Method Development". Lloyd R. Snyder, Joseph L. Glajch, and Joseph J. Kirkland. John Wiley & Sons, Inc., 1988. Published in *Anal. Chem.,* 1989, **61**, 1040A-1041A.

3. Joe P. Foley. "Introduction to Micellar Electrokinetic Chromatography". Johan Vindevogel and Pat Sandra. Huethig, 1992. Published in *The Analyst*, 1994, **119**, 28N-29N.

4. Joe P. Foley. "Chromatography, 5th ed." Erich Heftmann, Editor. Elsevier, 1992. Published in *The Analyst,* 1994, **119**, 56N-57N.

5. Eric S. Ahuja and Joe P. Foley. "Capillary Electrophoresis: Principles and Practice". Reinhard Kuhn and Sabrina Hoffstetter Kuhn. Springer-Verlag, 1993. Published in *The Analyst,* 1994, **119**, 89N.

Published abstracts:

Over the years I have published over 250 abstracts (150 to 1000 words) in the official programs of various professional societies and conferences noted on page 2.

F. Patents

1. Joe P. Foley and Sally J. Grieb[#]. Method of Separating Chemical Mixtures, U.S. Serial No. 6,224,775, May 1, 2001.

[&]graduate student; **undergraduate; [#]postdoctoral student

II. Presentations at Professional Meetings.

A. Invited Presentations by the PI

1. Joe P. Foley. "Selectivity Optimization in Liquid Chromatography Using Secondary Chemical Equilibria," 16th International Symposium on Chromatography, Paris, France, September 26, 1986.

2. Joe P. Foley. "Optimization of Mobile Phase pH in Reversed Phase Liquid Chromatography," 17th Annual Symposium on Advances in Applied Analytical Chemistry, New Orleans, LA, April 30, 1987.

3. Joe P. Foley. "Secondary Chemical Gradient Elution: Theory and Selected Applications," 39th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, February 24, 1988, Paper #626.

4. Jeffrey A. Crow[&] and Joe P. Foley. "Simplex Optimization of Separations in Supercritical Fluid Chromatography," Symposium on Supercritical Fluid Extraction and Supercritical Fluid Chromatography, 198th National American Chemical Society Meeting, Analytical Division, Miami Beach, September 14, 1989, Paper #172.

5. Joe P. Foley. "Optimization of Surfactant Concentration in Micellar Electrokinetic Chromatography," Symposium on Advances in Chemical Separations, 45th Southwest Regional Meeting of the American Chemical Society, Baton Rouge, December 6, 1989, Paper #42.

6. Jeffrey A. Crow[&] and Joe P. Foley. "A Study of Formic Acid Modified Carbon Dioxide Mobile Phases in Capillary Supercritical Fluid Chromatography," Fourteenth International Symposium on Column Liquid Chromatography, Boston, May 23, 1990.

7. Joe P. Foley and Jeffrey A. Crow[&]. "Supercritical Fluid Chromatography and Capillary Electrophoresis for the Analysis of Natural Products," Symposium on Phytochemical Methodologies, Combined Meeting of the National Phytochemical Society of North America and The International Society of Chemical Ecology, Quebec City, Canada, August 13, 1990.

8. Joe P. Foley. "Optimization of Acid-Base and Micellar Equilibria in Liquid and Electrokinetic Chromatography," Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Cleveland, October 10, 1990, Paper No. 623.

9. Joe P. Foley. "Optimization of Micellar Electrokinetic Chromatography," American Society for Testing and Materials (ASTM), Sub-Committee Meeting E19 (Chromatography), Washington, October 16, 1990.

10. Edward L. Little[&], Mark S. Jeansonne[&], and Joe P. Foley. "Sequential Multimodal Elution for Pseudo-Multidimensional High Performance Liquid Chromatography on a Single Column," Symposium on Advances in Chromatography, Combined Southeast /Southwest Regional Meeting of the American Chemical Society, New Orleans, December 5-7, 1990.

11. Joe P. Foley and Jeffrey A. Crow[&]. "Evaluation of FID-Compatible, Modified Carbon Dioxide Mobile Phases in Capillary SFC," Third International Symposium on Supercritical Fluid Chromatography and Extraction, Park City, Utah, January 15, 1991.

12. Joe P. Foley and Edward L. Little[&]. "Optimization of Retention and Resolution in Electrokinetic Chromatography: Neutral and Charged Solutes," Symposium on Theoretical Aspects of Capillary Zone Electrophoresis, 201st National American Chemical Society Meeting, Analytical Division, Atlanta, April 15, 1991, Paper No. 9.

13. Jeffrey A. Crow[&] and Joe P. Foley. "Systematic Multiparameter Strategies for Optimizing Supercritical Fluid Chromatography Separations," Symposium on Supercritical Fluids in Analytical Chemistry, 201st National American Chemical Society Meeting, Analytical Division, Atlanta, April 17, 1991, Paper No. 106.

14. Joe P. Foley and Edward L. Little[&]. "Method Development with Minimal Experiment in Micellar Electrokinetic Capillary Chromatography: Application of an Optimization Theory and a Solute-Micelle Database for the Separation of PTH-Amino Acids," Symposium on Spectroscopic/ Chromatographic Studies in Organized Media, 201st National American Chemical Society Meeting, Analytical Division, Atlanta, April 18, 1991, Paper No. 160.

15. Joe P. Foley. "Optimization of Acid-Base, Micellar, and Solvent Equilibria in Reversed Phase Liquid Chromatography," 22nd Ohio Valley Chromatography Symposium, Houston Woods State Park, Ohio, June 26, 1991.

16. Joe P. Foley and Mark S. Jeansonne[&], "The Role of Peak Shape in Chromatography and Related Methods: Quantitative and Qualitative Analysis," Gordon Research Conference on Analytical Chemistry, New Hampton, NH, August 5-9, 1991.

17. Lori D. Payne[&] and Joe P. Foley. "The Presence of Dihydroerythroidines in the Milk of Goats Fed *Erythrina Poeppigiana* and *E. Berteroana* Foliage," Symposium on Antibiotic/Drug Residues in Food Products, 202nd National American Chemical Society Meeting, Analytical Division, New York, August 28, 1991, Paper No. xx.

18. Lori D. Payne[&] and Joe P. Foley. "Gas Chromatography and Mass Spectrometry of *Erythrina* Alkaloids from the Foliage of Genetic Clones of Three *Erythrina* Species," Symposium on Chromatography and Pharmaceutical Analysis, 202nd National American Chemical Society Meeting, Analytical Division, New York, August 30, 1991, Paper No. 136.

19. Joe P. Foley, Edward L. Little[&], and Eric Ahuja[&]. "Resolution Equation and Resolving Power Comparison of Electrokinetic Chromatography for Anionic, Neutral, Cationic, and Ionizable Compounds," Eastern Analytical Symposium, Somerset, NJ, November 13, 1991.

20. Joe P. Foley, "Is It Better to Go with the Flow in Micellar Electrokinetic Capillary Chromatography?," Seventh Middle Atlantic Regional Analytical Chemistry Conference (MARACC VII), Newark, DE, April 24, 1992.

21. Joe P. Foley, "Advances in Micellar Electrokinetic Chromatography," Minnesota Chromatography Discussion Group Annual Forum, Minneapolis/St.Paul, MN, May 6, 1992.

22. Joe P. Foley and Jeffrey A. Crow[&], "Comparison of Simplex and Window Diagram Optimization Strategies in SFC," Fourth International Symposium on Supercritical Fluid Chromatography and Extraction, Cincinnati, OH, May 21, 1992.

23. Kurt R. Nielsen[&] and Joe P. Foley, "Random Walk Treatment of Band-Broadening Processes in Micellar Electrokinetic Chromatography," Symposium on Advances in Capillary Electrophoretic and Micellar Electrokinetic Chromatography Electrokinetic Chromatography, Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Philadelphia, September 22, 1992, Paper No. 185.

24. Joe P. Foley, "Systematic Optimization Strategies for Supercritical Fluid Chromatography," Symposium on Supercritical Fluid Extraction and Chromatography in the Delaware Valley, Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Philadelphia, September 25, 1992, Paper No. 707.

25. Joe P. Foley, "Selectivity of Novel Elution Modes and Stationary Phases in Liquid and Electrokinetic Chromatography," 44th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, March 11, 1993, Paper No. 999.

26. Kurt R. Nielsen[&] and Joe P. Foley, "Field Amplified Sample Stacking of Neutral Solutes in Micellar Electrokinetic Capillary Chromatography," 4th Annual Frederick Conference on Capillary Electrophoresis (Frederick CE '93), Frederick, MD, October 19-21, 1993, Paper No. 21.

27. Eric S. Ahuja[&], Kurt R. Nielsen[&], and Joe P. Foley, "Selectivity Tuning in the Newest Form of Liquid Chromatography: Micellar Electrokinetic Capillary Chromatography," EAS Award Symposium in Chromatography, 32nd Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 15-19, 1993, Paper No. 83.

28. Kurt R. Nielsen[&], Eric S. Ahuja[&], Brett P. Preston[&] and Joe P. Foley, "Selectivity Tuning and Enhancement of Efficiency and Detection in Capillary Electrophoresis and Micellar Electrokinetic Chromatography," 18th International Symposium on Column Liquid Chromatography, Minneapolis, MN, May 8-13, 1994.

29. Joe P. Foley, "Capillary Electrophoresis and Electrokinetic Chromatography: Useful Tools for Drug Metabolism?," Gordon Research Conference on Drug Metabolism, Plymouth, NH, July 17-22, 1994.

30. Alicia G. Peterson[&], Eric S. Ahuja[&], Yunan Miao[&], Amanda Courcy**, and Joe P. Foley, "Chiral Separations in Micellar Electrokinetic Chromatography using Chiral Surfactants," 5th Annual Frederick Conference on Capillary Electrophoresis (Frederick CE '94), Frederick, MD, October 25-26, 1994, Paper No. 14.

31. John A. Masucci[&] and Joe P. Foley, "A Novel Interface for Electrokinetic Chromatography / Mass Spectrometry," 17th International Symposium on Capillary Chromatography and Electrophoresis, Wintergreen, VA, May 14-18, 1995, Paper No. 278.

32. Joe P. Foley, Eric S. Ahuja[&], Alicia G. Peterson[&], and John J. Thomas[&], "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography: A Unifying Theory for Resolution, and Recent Enhancements in Chiral and Achiral Selectivity, Elution Range, and Efficiency," 210th National Americal Chemical Society Meeting, Analytical Division, Chicago, IL, August 20-25, 1995, Paper No. 007.

33. Joe P. Foley, Alicia G. Peterson[&], Eric S. Ahuja[&], and John J. Thomas[&], "Recent Advances in Micellar Electrokinetic Chromatography," 22nd Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Cincinnati, OH, October 15-20, 1995, Paper No. 904.

34. Joe P. Foley, Alicia G. Peterson[&], and Eric S. Ahuja[&], "Recent Advances in Micellar Electrokinetic Chromatography," Keynote Lecture, Annual Meeting of The Electrophoresis Society, Atlanta, GA, March 24-27, 1996, Session III, Keynote Paper No. 2.

35. Joe P. Foley, "A Critical Comparison of Capillary Zone Electrophoresis, Electrokinetic Chromatography, and Reversed Phase Chromatography: Efficiency, Resolving Power, and Other Aspects," 30th Mid-Atlantic Regional Meeting of the American Chemical Society, Villanova University, May 22, 1996.

36. Joe P. Foley, Sally J. Grieb[#], Alicia G. Peterson[&], and Farshad Shaban[&], "Recent Advances in Capillary Electrophoresis, Micellar Electrokinetic Chromatography, and Capillary Electrochromatography," Symposium on Capillary Electrophoresis and Electrochromatography in Pharmaceutical Analysis, 35th Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 18, 1996, Paper No. 97.

37. Sally J. Grieb[#] and Joe P. Foley, "Chiral Capillary Electrochromatography Using Capillaries Packed with Cellulose tris(3,5-dimethylphenylcarbamate)," Ninth International Symposium on High Performance Capillary Electrophoresis (HPCE '97), Anaheim, CA, January 29, 1997, Paper No. L-28.

38. Joe P. Foley and Sally J. Grieb[#], "Chiral Capillary Electrochromatography Using Capillaries Packed with Cellulose tris(3,5-dimethylphenylcarbamate)," 19th International Symposium on Capillary Chromatography and Electrophoresis, Wintergreen, VA, May 21, 1997, Paper No. L-25.

39. Joe P. Foley, "Unifying Theory for Liquid Chromatography, Capillary Electrochromatography, Capillary Zone Electrophoresis, and Electrokinetic Chromatography with Real-Time Computer Simulations, 8th Annual Frederick Conference on Capillary Electrophoresis (Frederick CE '97), Frederick, MD, October 20-22, 1997, Session IX.

40. Joe P. Foley, Yunan Miao[&], and Sally J. Grieb[&], "Alternative Ion-Pairing Reagents for the Simultaneous Separation of Acidic, Basic, and Neutral Enantiomers Using a Cellulose Tris)3,5-Dimethylphenylcarbamate) Stationary Phase in the Reversed Phase Mode," 24th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Providence, RI, October 26-30, 1997, Paper No. 170.

41. Joe P. Foley, "Unifying Theory for Liquid Chromatography, Capillary Zone Electrophoresis, Electrokinetic Chromatography, and Capillary Electrochromatography with Real-Time Simulations," 24th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Providence, RI, October 26-30, 1997, Paper No. 220.

42. Joe P. Foley, Andrew J. Maxwell[&], and Joseph G. Phillips, "Experimental and Theoretical Comparison of Voltage-Driven Separations Including Capillary Electrochromatography," 24th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Providence, RI, October 26-30, 1997, Paper No. 316.

43. Joe P. Foley and Mei Hong[&], "Thermodynamically Stable Vesicles Formed from Mixtures of Oppositely Charged Surfactant Provide Better Hydrophobic, Polar Group, and Shape Selectivity than SDS Micelles," 24th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Providence, RI, October 26-30, 1997, Paper No. 415.

44. Joe P. Foley, Arthur B. Coddington[&], and Eric S. Ahuja[&], "Unifying Theory for Liquid Chromatography, Capillary Electrochromatography, Capillary Zone Electrophoresis, and Electrokinetic Chromatography with Real-Time Computer Simulations," Benedetti-Pichler Award Symposium, 36th Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 20, 1997, Paper No. 450.

45. Joe P. Foley, Mei Hong[&], Michelle A. Polinko[&], Brian S. Weekley[&], and Robert J. Pascoe[&], "Electrokinetic Chromatography Using Thermodynamically Stable Vesicles Formed from Oppositely Charged Surfactants," 9th Annual Frederick Conference on Capillary Electrophoresis (Frederick CE '98), Frederick, MD, October 19-21, 1998, Paper No. III-5.

46. Joe P. Foley, "Electrokinetic Chromatography Using Thermodynamically Stable Vesicles," 37th Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 19, 1998, Paper No. 519.

47. Joe P. Foley, Robert J. Pascoe[&], David P. Durkin[&], and Guangji Shi[&], "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography," 39th Annual Eastern Analytical Symposium and Exposition, Atlantic City, NJ, October 30, 2000, Paper No. 191.

48. Joe P. Foley and David P. Thomas[&], "Extending Micellar Liquid Chromatography to Moderately and Highly Hydrophobic Compounds Via Nontraditional Stationary Phases," 39th Annual Eastern Analytical Symposium and Exposition, Atlantic City, NJ, November 1, 2000, Paper No. 412.

49. Joe P. Foley and Robert J. Pascoe[&], "Modulation of Selectivity and Retention for the Separation of Pharmaceutical Compounds in Electrokinetic Chromatography," 40th Annual Eastern Analytical Symposium and Exposition, Atlantic City, NJ, October 4, 2001, Paper No. 505.

50. Joe P. Foley et al., "Novel Separation Modes and Pseudostationary Phases in Capillary Electrophoresis," Chromatography Symposium of the Chromatography Forum of the Delaware Valley, Plymouth Meeting, PA, November 2, 2001, Paper No. 8.

51. Joe P. Foley et al. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Triangle Chromatography Symposium, North Carolina State University, Raleigh, NC, May 16, 2002, Paper No. 4.

52. Joe P. Foley et al., "Non-Micellar Surfactant-Based Pseudostationary Phases in Electrokinetic Chromatography," Symposium on Electrodriven Separation Methods, 224th National Meeting of the American Chemical Society, Boston, MA, August 20, 2002, Paper No. 234 (invited).

53. Joe P. Foley, "Surfactant-Based, Non-Micellar Pseudostationary Phases in Electrokinetic Chromatography," 13th Annual Frederick Conference on Capillary Electrophoresis (FCCE 2002), Frederick, MD, October 22, 2002, FCCE 2002 Book of Abstracts, VI-3 (invited).

54. Joe P. Foley and David P. Thomas[&], "Micellar liquid chromatography with nonporous and ultra-wide pore stationary phases for the separation of pharmaceuticals and other hydrophilic to hydrophobic compounds," Symposium on "Alternatives to reverse phase LC for the analysis of polar molecules and pharmaceuticals, 41st Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 18, 2002, Paper No. 137 (invited).

55. Joe P. Foley, Simultaneous Separation of Acidic, Basic, and Neutral Enantiomers using Reversed Phase Liquid Chromatography with Alternative Ion-Pairing Reagents, 36th Mid-Atlantic Regional Meeting of the American Chemical Society, Princeton University, June 11, 2003, MARM-ACS Book of Abstracts, Paper No. 206 (invited).

56. Joe P. Foley, Surfactant-Based, Non-Micellar Pseudostationary Phases in Electrokinetic Chromatography, 13th Annual Frederick Conference on Capillary Electrophoresis (FCCE 2002), Frederick, MD, October 22, 2002, FCCE 2002 Book of Abstracts, VI-3 (invited).

57. Joe P. Foley and David P. Thomas[&], Micellar Liquid Chromatography with Nonporous and Ultra-Wide Pore Stationary Phases for the Separation of Pharmaceuticals and Other Hydrophilic to Hydrophobic Compounds, 41st Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 18, 2002, EAS Book of Abstracts, Paper No. 137 (invited).

58. Joe P. Foley, Simultaneous Separation of Acidic, Basic, and Neutral Enantiomers using Reversed Phase Liquid Chromatography with Alternative Ion-Pairing Reagents, 36th Mid-Atlantic Regional Meeting of the American Chemical Society, Princeton University, June 11, 2003, MARM-ACS Book of Abstracts, Paper No. 206 (invited).

59. Joe P. Foley and Melissa D. Mertzman[&], "Enantiomeric Separations using Electrokinetic Chromatography with Novel Chiral Microemulsions and Reversed Phase Liquid Chromatography with Alternative Ion-Pairing Agents," 42nd Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 20, 2003, Paper No. 500 (invited oral presentation).

60. Joe P. Foley and Melissa D. Mertzman[&], "Chiral Microemulsion Electrokinetic Chromatography," 28th International Symposium on Column Liquid Chromatography (HPLC 2004), Philadelphia, PA, June 18, 2004, Paper No. L-2506 (invited lecture).

61. Joe P. Foley and Melissa D. Mertzman[&], "Chiral Microemulsion Electrokinetic Chromatography," *Session on Analytical Scale Chiral Separations*, 228th National Meeting of the American Chemical Society, Philadelphia, PA, August 22, 2004, Paper No. 7 (invited oral presentation).

62. Joe P. Foley, "Chiral Microemulsion Electrokinetic Chromatography," *Session VI*, 15th Annual Frederick Conference on CE/Proteomics (FCCE 2004), Frederick, MD, October 19, 2004, FCCE 2004 Book of Abstracts, VI-2 (invited oral presentation).

63. Joe P. Foley, Melissa D. Mertzman[&], David P. Thomas[&], Kimberly A. Kahle[&], and Stephanie A. Schuster[&], "Surfactant-Based Separations in HPLC and CE: Fundamental Advances and Pharmaceutical Applications," *Session on Solving Problems in Separation Science Using Mechanistic Approaches*, 2004 American Association of Pharmaceutical Scientists (AAPS) Annual Meeting & Exposition, Baltimore, MD, November 10, 2004 (invited oral presentation).

64. Joe P. Foley, Melissa D. Mertzman[&], David P. Thomas[&], Kimberly A. Kahle[&], Stephanie A. Schuster[&], and Marilyn Zhou[&], "Surfactant-Based Separations in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," *Eastern Analytical Symposium Award for Achievements in Separation Science*, 2004 Eastern Analytical Symposium and Exposition, Somerset, NJ, November 16, 2004, Paper No. 150.

65. Joe P. Foley, Kimberly A. Kahle[&], Stephanie A. Schuster[&], and David P. Thomas[&]. "Recent advances in surfactant-based separation media in capillary electrophoresis and HPLC," *ACS Award Symposium in Chromatography,* 231st National Meeting of the American Chemical Society, Atlanta, GA (USA) March 27, 2006, ANYL-304.

66. Kimberly A. Kahle[&] and Joe P. Foley, "Stereoselective Synergism in Separation Science: Examples from Microemulsion Electrokinetic Chromatography with Two or More Chiral Components in the Pseudostationary Phase," HPLC 2007—31st International Symposium on High Performance Liquid Phase Separations and Related Techniques, Ghent, Belgium, June 17-21, 2007, P09.33 (invited poster).

67. Kimberly A. Kahle[&] and Joe P. Foley, "Effect of Microemulsion Composition on the Chromatographic Figures of Merit in the Separation of Selected Drug Enantiomers by Chiral Microemulsion Electrokinetic Chromatography," HPLC 2007—31st International Symposium on High Performance Liquid Phase Separations and Related Techniques, Ghent, Belgium, June 17-21, 2007, P09.34 (invited poster).

68. Joe P. Foley and Stephanie A. Schuster[&], "Recent Advances in Non-Micellar Surfactant Aggregates as General Purpose and Biomimetic Stationary Phases in Electrokinetic Chromatography," *Session on Analytical Approaches: Separations*, 236th National Meeting of the American Chemical Society, Philadelphia, PA, August 21, 2008, Paper No. 362 (invited oral presentation).

69. Stephanie A. Schuster[&] and Joe P. Foley, "Compositional Effects in Electrokinetic Chromatography with CTAB/SOS Vesicles as the Pseudostationary Phase, Part 2: Effect of the Mole Ratio," 47th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 17, 2008, Talk No. 14.

70. Joe P. Foley, "Everything You Always Wanted to Know About Resolution and Micellar Liquid Chromatography but Were Afraid to Ask," Annual Symposium of the Chromatography Forum of the Delaware Valley, Fort Washington, PA, April 16, 2009, Oral Presentation No. 3.

71. Joe P. Foley, "Resolution Equation for Electrokinetic Chromatography based on Retention Factors and Mobilities," Lecture L-338 (invited), Fundamentals and Methodologies 2, ITP 2010—*17th International Symposium on Liquid Phase Separations and Capillary Electroseparation Techniques*, Baltimore, MD, September 1.

72. Donna M. Blackney[&] and Joe P. Foley, "Evaluation of the Precision of Dual-Opposite-Injection Capillary Electrophoresis and Comparison with Conventional Capillary Electrophoresis," Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), *invited session on Emerging and Non-Traditional Electrophoresis Techniques*, Paper No. ENT-4, Raleigh, NC, October 18, 2010.

73. Donna M. Blackney[&] and Joe P. Foley, "Comparison of the Dual-Opposite-Injection Separation Mode in Capillary and Microchip Electrophoresis," *invited session on Microfluidics: Current State, Applications and Future Directions*, 49th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 15, 2010, Talk No. 1 (invited).

74. Joe P. Foley and Alex Adair[&], "Effect of Pressure on Retention and Efficiency in Micellar Liquid Chromatography," *ACS-ANYL sponsored session on **Modeling Chromatographic Systems***, PittCon 2012—61st Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, March 2012, Paper No. 1960-1.

75. Joe P. Foley and Adam Socia[&], "The Judicious Use of pH Gradients can Double or Triple the Peak Capacity and Resolving Power of High- or Ultra-Pressure Liquid Chromatography," *ACS-ANYL sponsored **invited** session on **Use of Ionic Media in Separation Science*****,*** PittCon 2012—61st Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, March 2012, Paper No. 310-5.

76. Joe P. Foley and Alex A. Adair[&], "Effect of Pressure on Retention and Efficiency in Micellar Liquid Chromatography," *invited speakers' session*, Chromatography Forum of the Delaware Valley Spring Symposium, Fort Washington, PA, April 12, 2012, Oral Presentation No. 3.

77. Joe P. Foley and Adam Socia[&], "The Sequential Use of pH and Solvent Gradients can Double or Triple the Peak Capacity and the Resolving Power of High- or Ultra-Pressure Liquid Chromatography," invited session on Fundamentals-I, 19th International Symposium, Exhibit & Workshops on Electro- and Liquid Phase Separation Techniques, Baltimore, MD, Monday, October 1, 2012, Lecture No. L-133.

78. Joe P. Foley, Adam Socia[&], Donna M. Blackney[&], "Novel Approaches to Increasing Selectivity, Peak Capacity, and Resolution in Chromatographic and Electrophoretic Separations," ***Benedetti-Pichler Award session*** *(invited)*, sponsored by the **American Microchemical Society**, 2012 Eastern Analytical Symposium & Exposition, Somerset, NJ, November 12, 2012, Oral Presentation No. 8.

79. Joe P. Foley and Adam Socia[&], "Can Multidimensional Separations Be Achieved in Liquid Chromatography via a Sequential Use of Orthogonal Mobile Phases Rather than Stationary Phases (Columns)?," ***invited*** *session on **Advances in Orthogonal Separations**,* PittCon 2013—62nd Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Philadelphia, PA, March 21, 2013, Paper No. 2620-3.

80. Joe P. Foley and Adam Socia[&], "Sequential Elution Liquid Chromatography," ***invited*** *session on* ***Multidimensional Chromatography***, 2013 Eastern Analytical Symposium & Exposition, Somerset, NJ, November 19, 2013, Oral Presentation No. 3.

81. Catherine Kita, Michael Fletcher[&], Erin Ennis[&], Pasquale Carione**, Donna Blackney[&], and Joe P. Foley, "Reduction of Solvent Usage in HPLC during Column Re-equilibration after Gradient Elution in Reversed-Phase Liquid Chromatography," ***invited*** *session on* ***Analytical Methodologies***, International Summit on Past and Present Research Systems of Green Chemistry, Philadelphia, PA, August 25, 2014, Oral Presentation No. 8.

82. Joe P. Foley and Adam Socia, "Sequential Elution with Multimodal or Serially-Coupled Columns," ***Dal Nogare Award session (invited)***, PittCon 2015—64nd Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 9, 2015, Paper No. 240-5.

83. Michael R. Fletcher[&] and Joe P. Foley, "Kinetic Model of Column Re-Equilibration after Gradient Elution for One- and Two-Dimensional Liquid Chromatography," ***Award Session on Encouraging Disadvantaged students into Careers in the Chemical Sciences***, 252nd National Meeting of the American Chemical Society, Philadelphia, PA, August 22, 2016, Paper No. 206.

84. Erin J. Ennis[&], Catherine Kita[&], Adam Socia[&] and Joe P. Foley, "Sequential Elution: A Novel Approach to Increasing the Peak Capacity and the Probability of Success in Liquid Chromatography," ***Session on Multidimensional Chromatography (invited)***, 252nd National Meeting of the American Chemical Society, Philadelphia, PA, August 24, 2016, Paper No. 297.

85. Erin J. Ennis[&] and Joe P. Foley, "Peak Capacity and Probability of Success in Capillary and Microchip Electrophoresis," ***Session on Advances in Electrophoresis and Electrokinetics (invited)***, 252nd National Meeting of the American Chemical Society, Philadelphia, PA, August 24, 2016, Paper No. 312.

86. Anna M. Caltabiano[&] and Joe P. Foley, "Size-Exclusion Chromatography with High-Performance, Non-Traditional Stationary Phases," Annual Symposium of the North Jersey Chromatography Group, Somerset, NJ, September 20, 2017.

87. Joe P. Foley, Li Li[&], Mirlinda Biba[&], and Roy Helmy, "Simultaneous Separation of Small Interfering RNA and Lipids by Ion-pair Reversed-Phase Liquid Chromatography," 47th International Symposium on High performance Liquid Phase Separations and Related Techniques (HPLC 2018), Washington, DE, July 18, 2018, Paper No. L-144 (invited **Keynote** lecture).

88. Joe P. Foley, "Introduction to and Overview of Green Analytical Chemistry," invited session on Recent Advances in Green Analytical Chemistry, 57th Eastern Analytical Symposium and Exposition, Princeton, NJ, November 12, 2018, Paper No. 80.

89. Zhiyang Liu[&] and Joe P. Foley. "Are Two Columns Better Than One?: Answers from the Hydrophobic Subtraction Retention Model and Other Sources," **invited** Lecture in the symposium "To Selectivity and Beyond: Celebrating 18 years of the Hydrophobic Subtraction Model," PittCon 2020 – 69th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Chicago, IL, March 5, 2020, Paper No. 2-54-5.

90. Zhiyang Liu[&], **Joe P. Foley**, Dwight R. Stoll, Amaris Borges-Munoz, Jonathan Shackman, Yiyang Zhou, and Qinggang Wang. **Award address**: "Benefits and Challenges of Tandem-

Column Liquid Chromatography for Improved Separations via Increased Selectivity," EAS 2020 Award Symposium for Outstanding Achievements in Separation Science, Eastern Analytical Symposium, November 18, 2020.

91. Lauren Kline[&], Zhiyang Liu[&], and Joe P. Foley. "Sequential Elution Liquid Chromatography for Improved Resolution via Enhanced Peak Capacity and Reduced Separation Disorder: Reversed-Phase and Ion-Exchange Scenarios," 2021 Eastern Analytical Symposium, invited session on Improved Efficiency in Separation Technology, Princeton, NJ, November 15, 2021.

92. Eric Buchhalter[&], Zhiyang Liu[&], Megan Malvoisin[&], and Joe P. Foley. "Recent Developments in Tandem-Column Liquid Chromatography and Chiral Capillary Electrophoresis," 2022 Eastern Analytical Symposium, invited session on Recent Developments in Separation Science, Princeton, NJ, November 15, 2022.

[&]graduate student; **undergraduate; [#]postdoctoral student

B. Contributed Presentations (excluding those given by students)

1. Joe P. Foley and John G. Dorsey. "Accurate Equations for Chromatographic Figures of Merit for Ideal and Skewed Peaks," 35th Annual Meeting of the Florida Section, American Chemical Society, Lake Buena Vista, May 6, 1982.

2. Joe P. Foley and John G. Dorsey. "Accurate Equations for Chromatographic Figures of Merit for Ideal and Skewed Peaks," 184th National American Chemical Society Meeting, Analytical Division, Kansas City, September 15, 1982, Session Chairman, Paper #88.

3. Joe P. Foley and John G. Dorsey. "Standardization of the Limit of Detection in Chromatography," 186th National American Chemical Society Meeting, Analytical Division, Washington, D.C., September 1, 1983, Paper #150.

4. Joe P. Foley. "Optimization of Secondary Chemical Equilibria in Liquid Chromatography," 36th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, February 28, 1985.

5. Joe P. Foley. "Systematic Errors in the Measurement of Peak Area and Peak Height for Overlapping Peaks," 10th International Symposium on Column Liquid Chromatography, San Francisco, California, May 19, 1986.

6. Joe P. Foley. "Equations for Chromatographic Peak Modeling and Calculation of Peak Area," 17th Annual Symposium on Advances in Applied Analytical Chemistry, New Orleans, LA, April 29, 1987.

7. Joe P. Foley. "Effect of Peak Tailing on the Quantitation of Overlapping Chromatographic Peaks," 17th Annual Symposium on Advances in Applied Analytical Chemistry, New Orleans, LA, April 29, 1987.

8. Joe P. Foley. "pH Gradient Elution in Reversed Phase Liquid Chromatography: Theory and Optimization," 194th National American Chemical Society Meeting, Analytical Division, New Orleans, LA, September 3, 1987, Paper #129.

9. Mark S. Jeansonne[&] and Joe P. Foley. "pH Gradient Elution in Reversed Phase Liquid Chromatography: Experimental Aspects," 194th National American Chemical Society Meeting, Analytical Division, New Orleans, LA, September 3, 1987, Paper #130.

10. Joe P. Foley and Mark S. Jeansonne[&]. "Single-Column Two-Dimensional Separations in Reversed Phase Liquid Chromatography," 194th National American Chemical Society Meeting, Analytical Division, New Orleans, LA, September 3, 1987, Paper #133.

11. Joe P. Foley. "Statistical Moment Analysis of Overlapping Chromatographic Peaks," 39th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, February 22, 1988, Paper #88.

12. Joe P. Foley. "A New Separation Mode in Reversed Phase Liquid Chromatography: pH Gradient Elution," 18th Annual Symposium on Advances in Applied Analytical Chemistry, New Orleans, LA, May 11, 1988.

13. Joe P. Foley. "Measurement of Statistical Moments for Resolved and Overlapping Chromatographic Peaks," 18th Annual Symposium on Advances in Applied Analytical Chemistry, New Orleans, LA, May 11, 1988.

14. Jeffrey A. Crow[&] and Joe P. Foley. "Unavoidable Sources of Flow Rate Error in High Performance Liquid Chromatography," 18th Annual Symposium on Advances in Applied Analytical Chemistry, New Orleans, LA, May 11, 1988.

15. Joe P. Foley. "Optimization of Micellar Liquid Chromatography," Twelfth International Symposium on Column Liquid Chromatography, Washington, DC, June 21, 1988.

16. Mark S. Jeansonne[&] and Joe P. Foley. "Measurement of Statistical Moments of Resolved and Overlapping Chromatographic Peaks," Twelfth International Symposium on Column Liquid Chromatography, Washington, DC, June 23, 1988. (poster)

17. Joe P. Foley. "Single-Column, Multi-Modal HPLC: 2D or not 2D?," Gordon Research Conference on Analytical Chemistry, New Hampton, NH, August 11, 1988.

18. Joe P. Foley. "pH and Micellar Gradient Elution in Reversed Phase Liquid Chromatography," Seventeenth International Symposium on Chromatography, Vienna, Austria, September 27, 1988.

19. Joe P. Foley. "Single-Column, Multi-Dimensional Reversed Phase Liquid Chromatography," presented in the discussion section on Multi-Dimensional Chromatography at the Seventeenth International Symposium on Chromatography, Vienna, Austria, September 29, 1988.

20. Lori D. Payne[&], Rene V. Arenas[&], and Joe P. Foley. "Column Reequilibration after Gradient Elution in Reversed-Phase Liquid Chromatography: Effect of Solvent, Temperature, Gradient Step, and Flow Rate" in the Symposium on Chromatographic Instrumentation and Practice, 197th National American Chemical Society Meeting, Analytical Division, Dallas, April 10, 1989, Paper #6.

21. Joe P. Foley. "A Comparison of Micellar Electrokinetic Chromatography with Capillary Zone Electrophoresis and Micellar Liquid Chromatography" in the Symposium on Chromatographic Instrumentation and Practice, 197th National American Chemical Society Meeting, Analytical Division, Dallas, April 10, 1989, Paper #15.

22. Mark S. Jeansonne[&] and Joe P. Foley. "Single Channel Detection of Impurity Peaks in Chromatography" in the Symposium on Chromatographic Instrumentation and Practice, 197th National American Chemical Society Meeting, Analytical Division, Dallas, April 10, 1989, Paper #18.

23. Jeffrey A. Crow[&] and Joe P. Foley. "Simplex Optimization of Separations in Supercritical Fluid Chromatography," 19th Annual Symposium on Advances in Applied Analytical Chemistry, Kenner, LA, April 19, 1989.

24. Edward L. Little[&] and Joe P. Foley. "Sequential, Selective Gradient Elution for Pseudo Multi-Dimensional Separations in Reversed Phase Liquid Chromatography," 19th Annual Symposium on Advances in Applied Analytical Chemistry, Kenner, LA, April 19, 1989.

25. Jeffrey A. Crow[&] and Joe P. Foley. "Simplex Optimization with Short Capillary Columns in Supercritical Fluid Chromatography," Second Annual Workshop on SFC, Snowbird, Utah, June 13, 1989. (poster)

26. Joe P. Foley, Jeffrey A. Crow[&], Beth Ann Thomas**, and Marlon Zamora**. "Unavoidable Flow Rate Errors in High Performance Liquid Chromatography," 198th National American Chemical Society Meeting, Analytical Division, Miami Beach, September 13, 1989, Paper #136.

27. Rene V. Arenas[&] and Joe P. Foley. "Reequilibration of Polymer Coated Alumina Columns in Reversed-Phase Liquid Chromatography: Effect of Solvent, Temperature, Gradient Step and Flow Rate," 45th Southwest Regional Meeting of the American Chemical Society, Baton Rouge, December 6, 1989, Paper #19.

28. Edward L. Little[&] and Joe P. Foley. "Tri-Modal Elution Scheme for Pseudo Two-Dimensional Reversed Phase Liquid Chromatography," 45th Southwest Regional Meeting of the American Chemical Society, Baton Rouge, December 6, 1989, Paper #21.

29. Jeffrey A. Crow[&] and Joe P. Foley. "Evaluation of Formic Acid Modified Carbon Dioxide as a Mobile Phase in Capillary Supercritical Fluid Chromatography," 45th Southwest Regional Meeting of the American Chemical Society, Baton Rouge, December 6, 1989, Paper #23.

30. Joe P. Foley. "Optimization of pH and Surfactant Concentration in Capillary Zone Electrophoresis and Micellar Electrokinetic Chromatography," Second International Symposium on High Performance Capillary Electrophoresis, San Francisco, January 29, 1990. (poster)

31. Edward L. Little[&] and Joe P. Foley. "An Overview of Capillary Zone Electrophoresis and Micellar Electrokinetic Chromatography," 20th Annual Symposium on Advances in Applied Analytical Chemistry, Kenner, LA, May 2, 1990.

32. Rene V. Arenas[&], Lori D. Payne[&], and Joe P. Foley. "Reequilibration of Silica-Based C18 and Polymer Coated Alumina Columns Following Gradient Elution in Reversed-Phase Chromatography: Effect of Gradient Step and Addition of 5% 1-Propanol," 20th Annual Symposium on Advances in Applied Analytical Chemistry, Kenner, LA, May 3, 1990.

33. Joe P. Foley. "Theory for Secondary Chemical Gradient Elution in Liquid Chromatography," Fourteenth International Symposium on Column Liquid Chromatography, Boston, May 21, 1990. (poster)

34. Mark S. Jeansonne[&] and Joe P. Foley. "Mathematical Function for Peak Shape Characterization and the Detection of Co-Eluting Impurities Using Only Single-Channel Detection," Fourteenth International Symposium on Column Liquid Chromatography, Boston, May 21, 1990. (poster)

35. Joe P. Foley. "Comparison of the Resolving Power of Capillary Zone Electrophoresis, Micellar Electrokinetic Chromatography, and Micellar Liquid Chromatography: The Role of pH and/or Surfactant Concentration," Fourteenth International Symposium on Column Liquid Chromatography, Boston, May 22, 1990. (poster)

36. Jeffrey A. Crow[&] and Joe P. Foley. "Techniques for the Optimization of Separations in Supercritical Fluid Chromatography," Combined Southeast /Southwest Regional Meeting of the American Chemical Society, New Orleans, December 5-7, 1990.

37. Edward L. Little[&] and Joe P. Foley. "The Effect of Surfactant Concentration upon the Optimization of Resolution and Resolution per Unit Time in Micellar Electrokinetic Chromatography," Combined Southeast /Southwest Regional Meeting of the American Chemical Society, New Orleans, December 5-7, 1990.

38. Rene V. Arenas[&] and Joe P. Foley. "Retention and Selectivity of Polybutadiene-Coated Alumina Columns in Reversed-Phase Liquid Chromatography," Combined Southeast /Southwest Regional Meeting of the American Chemical Society, New Orleans, December 5-7, 1990.

39. Joe P. Foley. "Optimization of Retention and Resolution in Electrokinetic Chromatography: Neutral and Charged Solutes," NATO Advanced Study Institute on Theoretical Advancement in Chromatography and Related Separation Techniques, Ferrara, Italy, August 28, 1991.

40. Edward L. Little[&], Eric S. Ahuja[&], and Joe P. Foley. "Potential Discrimination in Resolving power of Electrokinetic Chromatography for Anionic, Neutral, and Cationic Compounds: A Theory for Charged Solutes," 2nd Annual Conference on Capillary Electrophoresis, Frederick, MD, October 16, 1991.

41. Rene V. Arenas[&] and Joe P. Foley. "Re-equilibration of Polymer-Coated Alumina Columns After Gradient Elution in Reversed-Phase Liquid Chromatography," Eastern Analytical Symposium, Somerset, NJ, November 13, 1991.

42. Rene V. Arenas[&] and Joe P. Foley. "Advantages of Polymer-Coated Alumina Columns in Reversed-Phase Liquid Chromatography," Eastern Analytical Symposium, Somerset, NJ, November 13, 1991 (poster).

43. Rene V. Arenas[&] and Joe P. Foley. "Retention Mechanisms and Kinetics of Polymer-Coated Alumina Columns in Reversed-Phase Chromatography," 43rd Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 11, 1992, Paper #727.

44. Eric S. Ahuja[&] and Joe P. Foley. "Retention Index for Micellar Electrokinetic Chromatography," 43rd Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 11, 1992, Poster #P274.

45. Joe P. Foley and Rene V. Arenas[&]. "Methylene and Polar Group Selectivity of Polymer-Coated Alumina Stationary Phases," Fourteenth International Symposium on Column Liquid Chromatography (HPLC '92), Baltimore, MD, June 15, 1992, Paper No. 165.

46. Joe P. Foley and Eric S. Ahuja[&]. "Retention Index for Micellar Electrokinetic Chromatography," Fourteenth International Symposium on Column Liquid Chromatography (HPLC '92), Baltimore, MD, June 16, 1992, Paper No. 341.

47. Edward L. Little[&], Eric S. Ahuja[&], and Joe P. Foley. "Effect of Organic Solvent on Retention and Selectivity of n-Alkylphenone Homologs in Micellar Electrokinetic Capillary Chromatography," Fourteenth International Symposium on Column Liquid Chromatography (HPLC '92), Baltimore, MD, June 16, 1992, Paper No. 342 (poster).

48. Kurt R. Nielsen[&] and Joe P. Foley. "Potential Discrimination in Resolving Power of Electrokinetic Chromatography for Anionic, Neutral, and Cationic Compounds: A Theory for Charged Solutes," 3rd Annual Conference on Capillary Electrophoresis, Frederick, MD, October 20, 1992.

49. Joe P. Foley, "Unified Theory for Capillary Electrophoresis, Micellar Electrokinetic Chromatography, Electrochromatography, and High-Performance Liquid Chromatography," Fifth International Symposium on High Performance Capillary Electrophoresis (HPCE '93), Orlando, FL, January 26, 1993, Paper No. 78 (poster).

50-99. From January 1993 through December 2000, I presented about 50 contributed papers and posters, co-authored with undergraduates, graduate students, and/or postdocs.

100. Joe P. Foley, David P. Durkin[&], and Guangji Shi[&], "Unbiased, Simultaneous Separation of Cationic and Anionic Compounds in Capillary Electrophoresis using Dual Sample Introduction with Suppressed Electroosmotic Flow," 52nd Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March, 2001, Paper No. 541.

101. Joe P. Foley and M. X. Zhou[&], "Equilibrium Ion Adsorption Model for Predicting Electroosmotic Flow in Fused Silica," 14th Annual Frederick Conference on Capillary Electrophoresis/Proteomics (FCCE 2003), Frederick, MD, November 4, 2003, VI-3 (lecture).

102. Joe P. Foley**,** Adeline B. Kojtari[&] and Kimberly A. Kahle[&], "Optimization of Chiral Microemulsion Electrokinetic Chromatography in the Presence and Absence of Enantioselective Synergies: A Win-Win Situation," HPLC 2008—32nd International Symposium on High Performance Liquid Phase Separations and Related Techniques, Baltimore, MD, May 14, 2008, Paper No. L-080 (contributed lecture).

103. Alex A. Adair[&] and Joe P. Foley, "Can Improvements in Micellar Liquid Chromatographic Efficiency be Achieved by Using Small Particle (< 2 μm) Stationary Phases Designed for UPLC?," 47th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 17, 2008, Talk No. 12.

104. Adeline B. Kojtari[&] and Joe P. Foley, "The Effect of Cosurfactant-modified Micelles on Chiral Separations in Electrokinetic Chromatography," 47th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 17, 2008, Poster No. 111.

105. Junge (John) Zhang[&] and Joe P. Foley, "Determination of Residual Cell Culture Media Components by Micellar Electrokinetic Chromatography with Enhanced Sensitivity," 47th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 17, 2008, Poster No. 124.

106. Joe P. Foley, "Resolution Equation for Electrokinetic Chromatography Based on Retention Factors and Mobilities," *oral session on High Performance Chromatography Specialties: HILIC, CE, CEC*, 49th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 15, 2010, Talk No. 3.

107. Adam Socia[&] and Joe P. Foley, "Sequential Elution-Liquid Chromatography Provides up to Triple the Peak Capacity and Resolving Power of High- or Ultra-Pressure Liquid Chromatography," *session on* **Evolutionary Liquid Chromatography**, 50th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 14, 2011, Talk No. 3.

108. Joe P. Foley and Alex Adair, "Effect of Pressure on Retention and Efficiency in Micellar Liquid Chromatography," *ACS-ANYL sponsored session on* ***Modeling Chromatographic Systems***, PittCon 2012—61st Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, March 2012, Paper No. 1960-1.

109. Joe P. Foley and Donna M. Blackney Beckett[&], "Comparison of Dual-Opposite-Injection Capillary Electrophoresis (DOI-CE) with Equal and Unequal Anion/Cation Migration Distances for the Separation of Pharmaceutical Anions and Cations," *ACS-ANYL sponsored session on* ***Modeling Chromatographic Systems***, PittCon 2012—61st Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, March 2012, Paper No. 1960-4.

110. Erin J. Ennis[&] and Joe P. Foley, "Peak Capacity and Probability of Success in Capillary and Microchip Electrophoresis," 55th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 14, 2016, Paper No. 170.

111. Michael R. Fletcher[&] and Joe P. Foley, "Effect of Flow Rate on Column Re-Equilibration after Gradient Elution for One- and Two-Dimensional Liquid Chromatography," 55th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 14, 2016, Paper No. 161.

112. Anna M. Caltabiano[&] and Joe P. Foley, "Can Size Exclusion Chromatography be Performed with Common Reversed Phase and HILIC Columns, and Could This Be a Good Idea?," 55th Eastern Analytical Symposium and Exposition, Somerset, NJ, November 16, 2016, Paper No. 387.

113. Joe P. Foley and Anna M. Caltabiano[&], "Size Exclusion Chromatography of Biopolymers and Synthetic Polymers with Common Reversed- Phase and HILIC Columns," 56th Eastern Analytical Symposium and Exposition, Princeton, NJ, November 13, 2017, Paper No. 21.

114. Joe P. Foley, Donna Blackney[&], and Erin J. Ennis[&], "Peak Capacity and Peak Capacity per Unit Time in Capillary and Microchip Zone Electrophoresis," 56th Eastern Analytical Symposium and Exposition, Princeton, NJ, November 13, 2017, Paper No. 90.

115. Joe P. Foley, "Comparison of the Peak Capacity and Peak Capacity per Unit Time of Dual-Opposite Injection Capillary and Microchip Electrophoresis with Conventional Capillary and Microchip Zone Electrophoresis," Session 590 on Capillary Electrophoresis – Bioanalytical, PittCon 2019 – 68th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Philadelphia, PA, March 18, 2019, Paper No. 590-2.

116. Zhiyang Liu[&] and **Joe P. Foley**. "Are Two Columns Better Than One?: Answers from the Hydrophobic Subtraction Retention Model and Other Databases," 58th Eastern Analytical Symposium and Exposition, Princeton, NJ, November 19, 2019, Paper No. 162.

117. Joe P. Foley. Panel Discussion on "Separations in Pharmaceutical Applications" 2023 Eastern Analytical Symposium, Princeton, NJ, November 13, 2023. Panelists: Dwight R. Stoll, Kaitlin Grinias, Jared Anderson.

[&]graduate student; **undergraduate; [#]postdoctoral student

III. Other Scholarly Activities.

A. Editorial boards

1. The Analyst (1991 - 2000)
2. Journal of Microcolumn Separations (1991 - 2001); merged in 2001 with the Journal of High-Resolution Chromatography and Chromatography Communications to form the Journal of Separation Science
3. Analytical Communications (1996-99); merged with The Analyst in 2000
4. Electrophoresis (2008 – present)
5. Bioanalysis (2009 – present)
6. Current Chromatography (2016 – present)
7. Separations (2018 – present)
8. Chromatographia (2019 – 2024, 3-year renewal anticipated)

B. Symposia organized and sessions chaired at professional meetings

1. "General Analytical Chemistry". 184th National American Chemical Society Meeting, Kansas City, September 15, 1982.

2. "Liquid Chromatography - I". 194th National American Chemical Society Meeting, New Orleans, September 3, 1987.

3. "Theory and Applications of Secondary Chemical Equilibria in Liquid and Supercritical Fluid Chromatography," 39th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, February 24, 1988.

4. "Chromatographic Instrumentation and Practice," 197th National American Chemical Society Meeting, Dallas, April 10, 1989.

5. "General Session on Chromatography," 45th Southwest Regional Meeting of the American Chemical Society, Baton Rouge, December 6, 1989.

6. "Advances in Chemical Separations," 45th Southwest Regional Meeting of the American Chemical Society, Baton Rouge, December 7-8, 1989.

7. "Advances in Chromatography," Combined Southeast /Southwest Regional Meeting of the American Chemical Society, New Orleans, December 5-7, 1990.

8. "Supercritical Fluid Chromatography," 14th International Symposium on Column Liquid Chromatography (HPLC '92), Baltimore, MD, 8:30 - 10:10 AM, June 16, 1992.

9. "Microchromatography," 14th International Symposium on Column Liquid Chromatography (HPLC '92), Baltimore, MD, 4:30 - 5:30 PM, June 17, 1992.

10. "Advances in Capillary Electrophoretic and Micellar Electrokinetic Separations," Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Philadelphia, September 20-25, 1992.

11. "Supercritical Fluid Extraction and Chromatography in the Delaware Valley," Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Philadelphia, September 20-25, 1992.

12. “Session III,” 4th Annual Frederick Conference on Capillary Electrophoresis (Frederick CE '93), Frederick, MD, 2:00 - 3:40 PM, October 19, 1993.

13. “Capillary Electrophoresis: Separation, Detection, and Applications,” 210th National American Chemical Society Meeting, Chicago, August 20-21, 1995.

14. “Poster Session VII,” 6th Annual Frederick Conference on Capillary Electrophoresis (Frederick CE '95), Frederick, MD, 2:00 - 3:40 PM, October 24, 1995.

15. “Capillary Electrophoresis: A Symposium,” 30th Mid-Atlantic Regional Meeting of the American Chemical Society, Villanova University, May 22, 1996.

16. “Recent Advances in Chiral Separations,” Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 26-30, 1997.

17. “Capillary Electrochromatography,” Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 26-30, 1997.

18. “Capillary Electrophoresis--The Next Generation,” Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 26-30, 1997.

19. “Electrokinetically Driven Separations,” 37th Annual Eastern Analytical Symposium and Exposition, Somerset, NJ, November 19, 1998.

20. “Capillary Electrophoresis,” 33rd Mid-Atlantic Regional Meeting of the American Chemical Society, University of Delaware, Newark, DE, May 22, 2000.

20. “To CE or not to CE?,” 39th Annual Eastern Analytical Symposium and Exposition, Atlantic City, NJ, October 30, 2000.

21. “Biological and Pharmaceutical Applications of Nanoscale Separations,” 40th Annual Eastern Analytical Symposium and Exposition, Atlantic City, NJ, October 4, 2001.

22. “Analytical Scale Chiral Separations,” 228th National Meeting of the American Chemical Society, Philadelphia, PA, August 22, 2004.

23. “EAS 2004 Award Symposium for Outstanding Achievements in Separation Science,” Eastern Analytical Symposium, Somerset, NJ, November 16, 2004.

24. “Analytical Approaches: Separations,” 236th National Meeting of the American Chemical Society, Division of Analytical Chemistry (ANYL), Philadelphia, PA, August 21, 2008.

25. “Advancements in Chromatography and Electrophoresis,” 56th Eastern Analytical Symposium and Exposition, November 13, 2017.

26. **“**Recent Advances in Green Analytical Chemistry,” 57th Eastern Analytical Symposium and Exposition, Princeton, NJ, November 12, 2018.

27. “Chromatographic Applications in Pharmaceutical Research,” Annual Symposium of the Chromatography Forum of the Delaware Valley, Claymont, DE, April 17, 2019.

28. “To Selectivity and Beyond: Celebrating 18 years of the Hydrophobic Subtraction Model,” PittCon 2020 – 69th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Chicago, IL, March 5, 2020

29. "Recent Developments in Liquid Chromatography and Capillary Electrophoresis," 61st Eastern Analytical Symposium and Exposition, Princeton Junction, NJ, November 15, 2022.

30. "Environmental & Industrial Analysis", in "*Saving the World with Chromatography",* the 2023 Annual Symposium of the Chromatography Forum of the Delaware Valley, Claymont, DE, April 20, 2023.

C. Invited Seminars

1. Joe P. Foley. "Systematic Errors in Chromatographic Analysis," National Bureau of Standards, Center for Analytical Chemistry, Gaithersburg, Maryland, July 7, 1986.

2. Joe P. Foley. "An Introduction to the Exponentially Modified Gaussian (EMG) Model and Its Role in Chromatography," Spectra-Physics, San Jose, CA, November 5, 1987.

3. Joe P. Foley. "The Role of Chemical Equilibria in Modern Liquid Chromatography," University of Southwestern Louisiana, Colloquium Seminar, November 13, 1987.

4. Joe P. Foley. "The Role of Chemical Equilibria in Modern Liquid Chromatography," Rutgers University, Colloquium Seminar, November 24, 1987.

5. Joe P. Foley. "The Role of Chemical Equilibria in Modern Liquid Chromatography," Hendrix College, Conway, Arkansas, January 24, 1989.

6. Joe P. Foley. "Recent Advances in Liquid and Supercritical Fluid Chromatography," University of Missouri-Columbia, Colloquium Seminar, March 3, 1989.

7. Joe P. Foley. "Challenges in Chemical Separations," Emory University, Colloquium Seminar, September 19, 1989.

8. Joe P. Foley. "Challenges in Supercritical Fluid Chromatography," Eastman Chemicals Company, Colloquium Seminar, Kingsport, Tennessee, July 25, 1990.

9. Joe P. Foley. "An Overview of Capillary Electrophoresis and Electrokinetic Chromatography," Alcon Laboratories, Colloquium Seminar, Fort Worth, Texas, September 14, 1990.

10. Joe P. Foley. "Sequential Multimodal Elution for Pseudo-Multidimensional High Performance Liquid Chromatography on a Single Column," Texas Tech University, Lubbock, TX, February 27, 1991.

11. Joe P. Foley. "Introduction to Micellar Electrokinetic Chromatography," Beckman Discovery Series Seminar, Houston and Dallas, Texas, March 15 and 18, 1991.

12. Joe P. Foley. "Sequential Multimodal Elution: Optimization of Acid-Base Equilibria and Solvent Gradient Elution," Searle Laboratories, Skokie, IL, June 25, 1991.

13. Joe P. Foley, "The Role of Peak Shape in Chromatography and Related Methods: Quantitative and Qualitative Analysis," Gordon Research Conference on Analytical Chemistry, New Hampton, NH, August 9, 1991.

14. Joe P. Foley. "Challenges in Supercritical Fluid Chromatography," Hewlett-Packard, Avondale, PA, October 4, 1991.

15. Joe P. Foley. "The Role of Chemical Equilibria in Modern Liquid Chromatography," Millersville College, February 24, 1992.

16. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," USDA Eastern Regional Research Center, May 12, 1993.

17. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," R. W. Johnson Pharmaceutical Research Institute, May 18, 1993.

18. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," SmithKline Beecham, Inc., King of Prussia, August 26, 1993.

19. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," Merck & Co., Rahway, NJ, November 15, 1993.

20. Joe P. Foley. "Selectivity Tuning and the Enhancement of Efficiency and Resolution in Capillary Electrophoresis and Electrokinetic Chromatography," SUNY-Binghamton, Binghamton, NY, December 3, 1993.

21. Joe P. Foley. "Tuning and Enhancement of Selectivity, Elution Range, Efficiency, and Detection in Capillary Electrophoresis and Electrokinetic Chromatography," New England Chromatography Forum, New Haven, CT, March 29, 1994.

22. Joe P. Foley. "Tuning and Enhancement of Selectivity, Elution Range, Efficiency, and Detection in Capillary Electrophoresis and Electrokinetic Chromatography," Drexel University, Philadelphia, PA, June 8, 1994.

23. Joe P. Foley. "Capillary Electrophoresis and Electrokinetic Chromatography: Useful Tools for Drug Metabolism?," Gordon Conference on Drug Metabolism, Plymouth, New Hampshire, July 17-22, 1994.

24. Joe P. Foley. "An Overview of Capillary Electrophoresis and Electrokinetic Chromatography," American Cyanamid, Princeton, NJ, September 29, 1994.

25. Joe P. Foley. "Trends and Advances In Analytical Separations," DuPont Agriculture's First Annual Analytical Technology Panel Discussion, DuPont Agricultural Division, Wilmington, DE, April 21, 1995.

26. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," Abbott Laboratories, Abbott Park, IL, August 22, 1995.

27. Joe P. Foley. "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography," "Beckman Capillary Electrophoresis Users Group Meeting, Wilmington /Philadelphia, September 13, 1995.

28. Joe P. Foley. "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography," Chromatography Forum of the Delaware Valley, Media, PA, September 21, 1995.

29. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," Bucknell University, Department of Chemistry, October 3, 1995.

30. Joe P. Foley. "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography," New Jersey Chromatography Topical Dicussion Group, Somerset, NJ, October 17, 1995.

31. Joe P. Foley. "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography," DuPont/Merck, Wilmington, DE, November 9, 1995.

32. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," Temple University, Philadelphia, PA, December 7, 1995.

33. Joe P. Foley. "Recent Advances in Capillary Electrophoresis and Electrokinetic Chromatography: Tuning and Enhancement of Chiral and Achiral Selectivity, Efficiency, Field Amplified Zone Sharpening, and Detection," Dow Chemical, Midland, MI, March 4-5, 1996.

34. Joe P. Foley. "The Role of Chemical Equilibria in Liquid Chromatography and Capillary Electrophoresis," North Carolina State University, Department of Chemistry, April 1, 1996.

35. Joe P. Foley. "Recent Advances in Electrokinetic Chromatography," Philadelphia College of Pharmacy and Science, Philadelphia, PA, October 29, 1996.

36. Joe P. Foley. "Chiral Separations: Analytical Perspectives," Dickinson College, Carlisle, PA, March 6, 1997.

37. Joe P. Foley. "Recent Advances in Capillary Zone Electrophoresis, Micellar Electrokinetic Chromatography, Chiral Capillary Electrochromatography, and Liquid Chromatography," Washington Chromatography Discussion Group, Rockville, MD, March 20, 1997.

38. Joe P. Foley. "Recent Trends in Separation Science: Capillary Electrochromatography and Beyond," North Jersey Chromatography Discussion Group, Somerset, NJ, April 7, 1997.

39. Joe P. Foley. "Electrokinetic Chromatography Using Thermodynamically-Stable Vesicles and Mixed Micelles Formed from Oppositely Charged Surfactants," Rhône-Poulenc Rorer, Collegeville, PA, March 19, 1998.

40. Joe P. Foley. "Novel Separation Modes and Pseudostationary Phases in Capillary Electrophoresis and Electrokinetic Chromatography," Seton Hall University, South Orange, NJ, September 12, 2000.

41. Joe P. Foley. "Capillary Electrophoresis and Electrochromatography: An Overview of Voltage-Driven Separations," Lincoln University, Newark, DE, October 23, 2000.

42. Joe P. Foley. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis," Parke-Davis, Ann Arbor, MI, February 19, 2001.

43. Joe P. Foley. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Virginia Commonwealth University, Richmond, VA, November 13, 2001.

44. Joe P. Foley. "Novel Separation Modes and Pseudostationary Phases in Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Northeastern University, Boston, MA, December 4, 2001.

45. Joe P. Foley et al. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Central New England Chromatography Council, Massachusetts Institute of Technology, Boston, MA, December 4, 2001.

46. Joe P. Foley et al. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Merck Research Laboratories, West Point, PA, March 26, 2002.

47. Joe P. Foley et al. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," University of the Sciences in Philadelphia, Philadelphia, PA, September 17, 2002.

48. Joe P. Foley. "Capillary Electrophoresis and Electrochromatography: An Overview of Voltage-Driven Separation Systems," West Chester University, West Chester, PA, March 24, 2003.

49. Joe P. Foley. "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Bristol-Myers Squibb, New Brunswick, NJ, March 4, 2003.

50. Robert J. Pascoe, Melissa D. Mertzman, Kimberly A. Kahle, and Joe P. Foley. "Chiral Microemulsion Electrokinetic Chromatography for the Separation of Pharmaceutical Enantiomers: Current Status and Future Directions," Astra-Zeneca, Wilmington, DE, November 10, 2004.

51. Joe P. Foley. "Introduction to Modern Separation Science, Part 1," University of Frankfurt (Germany), Institute for Pharmaceutical Technology, June 20, 2006 (invited lecture).

52. Joe P. Foley. "Introduction to Modern Separation Science, Part 2," University of Frankfurt (Germany), Institute for Pharmaceutical Technology, July 18, 2006 (invited lecture).

53. Joe P. Foley, "Recent Advances in HPLC for the Pharmaceutical Sciences," University of Frankfurt (Germany), Institute for Pharmaceutical Technology, June 26, 2007 (invited lecture).

54. Joe P. Foley, "Recent Advances in Size Exclusion Chromatography for the Pharmaceutical Sciences," University of Frankfurt (Germany), Institute for Pharmaceutical Technology, July 19, 2007 (invited lecture).

55. Joe P. Foley, "Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis: Fundamental Advances and Pharmaceutical Applications," Chromatography Forum of the Delaware Valley, Media, PA, March 11, 2008.

56. Joe P. Foley, "Optimization of HPLC Separations," Introduction to HPLC Short Course, Chromatography Forum of the Delaware Valley, West Chester University, May 21, 2008.

57. Joe P. Foley, "Introduction to Supercritical Fluid Chromatography," Advanced HPLC Short Course, Chromatography Forum of the Delaware Valley, Ursinus College, June 10, 2008.

58. Joe P. Foley, "Recent Advances in Surfactant-Based Separation Media in HPLC and Capillary Electrophoresis," Saint Joseph's University, Philadelphia, September 10, 2008.

59. Joe P. Foley, "Challenges and Opportunities in Separation Science," Florida State University, Tallahassee, FL, October 28, 2010.

60. Joe P. Foley, "Novel Approaches to Increasing Selectivity, Peak Capacity, and Resolution in Chromatographic and Electrophoretic Separations," United States Naval Academy, Annapolis, MD, April 8, 2013.

61. Joe P. Foley and Adam Socia, "Increasing the Peak Capacity and Reducing the Separation Disorder via Sequential-Elution Liquid Chromatography," Chromatography Forum of the Delaware Valley, Media, PA, October 15, 2013.

62. Joe P. Foley, "Sequential Elution Liquid Chromatography," University of Alberta, Edmonton, Canada, April 22, 2014.

63. Joe P. Foley and Adam Socia, "Sequential Elution Liquid Chromatography," North Jersey Chromatography Group, Somerset, NJ, September 18, 2014.

64. Joe P. Foley, "Sequential Elution: A Novel Approach to Reducing the Separation Disorder and Increasing the Peak Capacity and Resolution in Liquid Chromatography," School of Physical Sciences, University of Tasmania, Hobart, TAS, Australia, February 29, 2016.

65. Joe P. Foley, "Can Size Exclusion Chromatography be Performed with Common Reversed Phase and HILIC Columns, and Could This Be a Good Idea?," Australian Centre for Research on Separation Science, University of Tasmania, Hobart, TAS, Australia, April 28, 2016.

66. Joe P. Foley, "Kinetic Model of Column Re-Equilibration after Gradient Elution for One- and Two-Dimensional Liquid Chromatography," Australian Centre for Research on Separation Science, University of Tasmania, Hobart, TAS, Australia, June 2, 2016.

67. Joe P. Foley, "What I Learned about Separations while on my Tasmanian Sabbatical," Chromatography Forum of the Delaware Valley, Media, PA, February 23, 2017.

68. Joe P. Foley. **CFDV Award address**: "Adventures in SFC: Supercritical ~~Fluid~~ Foley Chromatography," Chromatography Forum of the Delaware Valley, Wilmington, DE, June 6, 2022.

D. Short courses by the PI

1. "Short Course on Capillary Electrophoresis," American Cyanamid, Princeton, NJ, April 25-26, 1995.

2. "Short Course on Capillary Electrophoresis," Rhone-Poulenc Rorer, Collegeville, PA, June 14-15, 1995.

3. "Short Course on Capillary Electrophoresis," Centers for Disease Control, Atlanta, GA, March 13-14, 1996.

4. "Short Course on Capillary Electrophoresis," 30th Mid-Atlantic Regional Meeting of the American Chemical Society, Villanova University, May 21, 1996.

5. "Short Course on Microfluidics and Microchip Technology," Holiday Inn, Fort Washington, PA, April 14, 2010. With Jon Shackman, Moses Noh, and Don DeVoe.

6. "Separations: Beyond the Basics," PittCon 2013—62nd Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Philadelphia, PA, March 21, 2013. With Eric Williamsen, Brian Bidlingmeyer, and Howard Barth.

7. "Special Topics in Separation Science," BSc Honors Chemistry Major Elective, University of Tasmania, Hobart, TAS, Australia, April/May 2016.

8. “Optimization of HPLC Separations: Art or Science?,” HPLC Fundamentals Short Course Lecture, Chromatography Forum of the Delaware Valley, Neumann University, Aston, PA, August 7, 2018 and May 20, 2019.

9. “Troubleshooting,” HPLC Fundamentals Short Course Lecture, Chromatography Forum of the Delaware Valley, Neumann University, Aston, PA, August 8, 2018 and May 22, 2019.

10. “Two-Dimensional Liquid Chromatography,” Chromatography Forum of the Delaware Valley, Crowne Plaza Hotel, Claymont, DE, April 16, 2019. With Mark R. Schure.

11. “Liquid Chromatography Basics,” Chromatography Forum of the Delaware Valley, Crowne Plaza Hotel, Claymont, DE, April 19, 2023. With James P. Grinias and Mary Ellen McNally.

IV. Awards, Lectureships, or Prizes.

Freshman Chemistry Award, Centre College of Kentucky (1975)

Phi Beta Kappa, Centre College of Kentucky (1977)

Junior Chemistry Award, Centre College of Kentucky (1977)

Senior Chemistry Award, Centre College of Kentucky (1978)

Co-Valedictorian, Centre College of Kentucky (1978)

University of Florida Graduate Council Supplemental Fellowship (1979-80)

ACS Analytical Division Graduate Fellowship (1983)

National Research Council Postdoctoral Research Fellow (1983-85)

Chromatographia Travel Award (1986)

Summer Faculty Research Award (1986)

Travel Award, Gesellschaft Deutscher Chemiker (1988)

Outstanding Service Award, Executive Board, New Orleans Chromatography Discussion Group (1989-90)

NATO Travel Award, Advanced Study Institute on Theoretical Advancement in Chromatography and Related Separation Techniques (August 1991)

Outstanding Faculty Research Award Nominee (1997-98)

Sabbatical Travel Award, University of Tasmania (2015-16)

Eastern Analytical Symposium Award for Outstanding Achievements in Separation Science (2020)

Chromatography Forum of Delaware Valley Award (2021)

V. Grants and Contracts.

A. Previous:

"pH Gradients in Ionization Control Liquid Chromatography," LSU Council on Research, June-July 1986, $4000.

"Analysis of Complex Samples via Capillary Supercritical Fluid Chromatography," Exxon Education Foundation Grant, November 23, 1987, $25,000.

"Purchase of a Supercritical Fluid Chromatograph," LSU Center for Energy Studies, January 18, 1988, $14,900.

"Development and Incorporation of Equations for Peak Characterization into Commercial Chromatographic Data Systems," Perkin-Elmer, June 1987 - December 1989, $49,600.

"Exploratory Instrument Development," National Oceanic and Atmospheric Administration, October 1, 1987 - September 30, 1990, $1,358,716.
With Edward Overton, P.I., and Powsiri Klinkhachorn, co-P.I.

"Alumina-Based Stationary Phases for Analytical, Preparative, and Process-Scale High Performance Liquid Chromatography: Characterization and Development of Applications," LaRoche Chemicals, February 1990 - May 1991, $47,485.

"Carbon Number Distribution of Polymerized α-Olefins by Supercritical Fluid Chromatography Using Novel Mobile and Stationary Phase Combinations," Ethyl Corporation, July - December 1990, $14,390.

"Characterization of Novel Stationary Phases," Biotage, Inc., January - December 1991, $15,717.

"Research Projects in Capillary Electrophoresis," Millipore Corporation, Waters Chromatography Division, August 1990 - December 1992, $28,000.

"Overcoming Obstacles to Micellar Liquid Chromatography for the Assay of Chiral Drugs In Biological Fluids," Merck & Co., Inc., January - December 1993, $6250.

"Overcoming Obstacles to Micellar Liquid Chromatography for the Assay of Chiral Drugs In Biological Fluids," Merck & Co., Inc., January - December 1994, $11,665.

"Reproducibility and Sensitivity of Capillary Electrophoresis and Micellar Electrokinetic Chromatography in the Pharmaceutical Industry," SmithKline Beecham, King of Prussia, PA, April 1994 - December 1994, $15,000.

"Advances in Chiral Separations by Liquid Chromatography and Capillary Electrophoresis," Chiral Technologies, Inc., Exton, PA 22901, June 1994 - May 1995, $21,851.

"Advances in Chiral Separations by Liquid Chromatography and Capillary Electrophoresis," Chiral Technologies, Inc., Exton, PA 22901, June 1994 - May 1995, $500 supplement.

"Determination of Avoparcin in Animal Formulations and Tissue Using Capillary Electrophoresis with UV Detection," American Cyanamid, Princeton, NJ, October 1994 - September 1995, $18,000.

"Determination of Avoparcin in Animal Formulations and Tissue Using Capillary Electrophoresis with UV Detection," American Cyanamid, Princeton, NJ, October 1995 - September 1996, $18,000 (renewal).

"Reproducibility and Sensitivity of Capillary Electrophoresis and Micellar Electrokinetic Chromatography for the Pharmaceutical Industry," SmithKline Beecham, King of Prussia, PA, July 1995 - June 1996, $15,000 (renewal).

"Advances in Chiral Separations by Liquid Chromatography and Capillary Electrophoresis," Chiral Technologies, Inc., Exton, PA 22901, August 1995 - July 1996, $42,635 (renewal).

"Separations of Enantiomers using Micellar Electrokinetic Chromatography with Novel Chiral Surfactants, Waters Inc., Milford, MA, June 1994 - December 1996, $69,746.

"Unrestricted Donation in Support of Graduate Student Research," DuPont-Merck, July 1995, $7500.

"Protein Separations by Capillary Electrophoresis," Rhône-Poulenc Rorer, Collegeville, PA 19426-0107, August 1996 - July 1997, $20,000.

"Reproducibility and Sensitivity of Capillary Electrophoresis, Micellar Electrokinetic Chromatography, and Capillary Electrochromatography for the Pharmaceutical Industry," SmithKline Beecham, King of Prussia, PA, November 1996 - October 1997, $15,000 (renewal).

"Acquisition of Diode Array Technology for Undergraduate Teaching and Graduate Research Laboratories," Hewlett-Packard Equipment Grants Program, June 1993 - May 1998, $35,550.

"Acquisition of Capillary Electrophoresis Instrument for Undergraduate Teaching and Graduate Research Laboratories," Beckman Instruments, Inc., April 1994 - March 1999, $42,175.

"Acquisition of Capillary Electrophoresis Instrument for Undergraduate Teaching and Graduate Research Laboratories," Hewlett-Packard Equipment Grants Program, April 1994 - March 1999, $44,300.

"DryLab Academic Grant" (DryLab chromatography modeling software), LC Resources, Orinda, CA, $6495, August 1996 - July 1998. This software is being used for research and teaching.

"Upgrade of Capillary Electrophoresis Instrument for Capillary Electrochromatography for Undergraduate Teaching and Graduate Research Laboratories," Hewlett-Packard Equipment Grants Program, August 1996 - March 1999, $8500.

"Separations of Enantiomers using Micellar Electrokinetic Chromatography with Chiral Surfactants in Novel Organized Assemblies, Waters Inc., Milford, MA, July 1997 - June 1998, $12,000 (renewal).

"Protein Separations by Capillary Electrophoresis," Rhône-Poulenc Rorer, Collegeville, PA 19426-0107, July 1998 - June 1999, $20,000 (renewal through Villanova).

"Prediction of Membrane Permeability Coefficients Using Electrokinetic Chromatography with Membrane-Mimetic Vesicles," Rhône-Poulenc Rorer, Collegeville, PA, January 2000 - June 2003, $30,000.

"Rapid Enantiomeric Separations Using Electrokinetic Chromatography with Novel Chiral Microemulsions," Joe P. Foley (PI), Astra-Zeneca, Wilmington, DE, November 15, 2003 – February 14, 2005, $20,660.

"Separations of Enantiomers using Micellar Electrokinetic Chromatography with Dodecoxycarbonylvaline in Novel Organized Assemblies," Waters Inc., Milford, MA, January 2005 – December 2007, $35,000.00 (renewal, dates approximate). Gift funding in the form of rare chemicals (150 grams each of R- and S-Dodecoxycarbonylvaline).

"Separations of Enantiomers using Electrokinetic Chromatography with Dodecoxycarbonylvaline in Novel Organized Assemblies," Waters Inc., Milford, MA, September 2008 – December 2010, $30,000 (renewal). Gift funding in the form of rare chemicals (100 grams each of R- and S-Dodecoxycarbonylvaline).

"Tandem-Column Liquid Chromatography," Joe P. Foley, PI. Restek Academic Support Program (RASP), $4,000.00, July 1, 2019 - June 30, 2020.

"Tandem-Column Liquid Chromatography for the Separation of Non-Steroidal Anti-Inflammatory Drug Enantiomers," Joe P. Foley, PI. Chiral Technologies, $2,000.00 (approx.), August 1, 2019 - July 31, 2020.

"Tandem-Column Liquid Chromatography," Joe P. Foley, PI. Restek Academic Support Program (RASP), $6000.00, September 1, 2021 - August 31, 2022. (renewal)

"Tandem-Column Liquid Chromatography," Joe P. Foley, PI. Restek Academic Support Program (RASP), $6000.00, September 1, 2022 - August 31, 2023. (renewal)

B. Current:

"Tandem-Column Liquid Chromatography for the Separation of Beta-Blocker Enantiomers," Joe P. Foley, PI. AZYP, Inc., $4,000.00 (approx.), September 1, 2020 - August 31, 2024.

"Tandem-Column Liquid Chromatography," Joe P. Foley, PI. Restek Academic Support Program (RASP), $6000.00, September 1, 2023 - August 31, 2024.

"Tandem-Column Liquid Chromatography for the Separation of Beta-Blocker Enantiomers," Joe P. Foley, PI. Advanced Materials Technology, Inc., $3,000.00 (approx.), September 1, 2023 - August 31, 2024.

"Sequential Elution Liquid Chromatography," Joe P. Foley, Agilent Technologies, Inc. Applications and Core Technology University Research (ACT-UR) Proposal, $111,477.00, January 1, 2014 - December 30, 2024. This capital equipment proposal for a new Agilent 1290 Infinity quaternary ultra-high pressure liquid chromatograph was submitted in consultation with Patricia Austin, Associate Vice President of Corporate and Foundation Relations.

C. Pending:

D. In Preparation:

Pending the acquisition of essential preliminary data by part-time PhD student Eric Buchhalter that illustrate a new chiral-solvent-based approach for the separation of enantiomers, I am hoping to submit a proposal in the near future to NASA entitled "Enantiomeric Separation of Amino Acids using a Novel Chiral-Solvent-Based Buffer."

VI. Research with Undergraduates.

I have directed the research of the following undergraduates:

1. Beth Ann Thomas (spring and summer 1986)
   B.S., Biochemistry
   Publications: 1 paper published (see #11 in section 1.A.)

2. Marlon Zamora (spring and summer 1986)
   B.S., Chemistry
   Publications: 1 paper published (see #11 in section 1.A.)

3. Damon Barbacci (summer and fall 1992)
   B.S., Chemistry, 1993

4. James Wolfram (fall 1992)
   B.S., Chemistry, 1993

5. Amanda Courcy (summer and fall 1994)
   B.S., Chemistry, 1995

6. Jaimee Kukla (summer and fall 1995)
   B.S., Chemistry, 1996

7. Christopher G. Ganter (Fall, Winter, and Spring 2000-01)
   B.S., Chemistry, June 2001

8. Catherine M. Vicente (Winter and Spring 2002)
   B.S., Chemistry, June 2003

9. Bethany Sires (Winter and Spring 2004)
   B.S., Chemistry, June 2004

10. Douglas A. Scheesley (Fall, Winter and Spring 2004-05)
    B.S., Chemistry, June 2006

11. Erik Guetschow (Fall 2008)
    B.S., Chemistry, May 2010, Kalamazoo College via The Philadelphia Center
    Publications: co-authored a paper in *Electrophoresis* (see #83 in section 1.A.)

12. Nang Seng (Fall 2009)
    B.S., Chemistry, May 2011, Whitman College via The Philadelphia Center
    Professional activities: co-author of poster presented at EAS 2010

13. Joseph Vena (Fall 2009, Winter and Spring 2010)
    B.S., Chemistry, June 2010, Drexel University
    Professional activities: oral presentation at MARM-ACS 2010, poster at CFDV 2010

14. Paul DeGregory (Fall 2010, Winter 2011, Fall 2011, Winter 2012, Spring 2012)
    B.S., Chemistry, June 2012, Drexel University
    Professional activities: oral presentation at MARM-ACS 2011, poster at EAS 2011

15. Victoria Kugel (Winter 2011, Spring 2011, Fall 2011, Winter 2012, Spring 2012)
    B.S., Chemistry, June 2013, Drexel University

16. Jessica Sima (Fall 2012, Winter 2013, Spring 2013)
    B.S., Chemistry, June 2013, Drexel University

17. Christopher Murray (Fall 2012, Winter 2013, Spring 2013, Fall 2013, Winter 2014, Spring 2014)
    B.S., Chemistry, June 2014, Drexel University
    Professional activities: poster at EAS 2013

18. Andrew Buss (Winter 2013, Spring 2013)
    B.S., Chemistry, June 2014, Drexel University

19. David Nehring (Summer 2013, Fall 2013, Winter 2014, Spring 2014)
    B.S., Chemistry, June 2015, Drexel University
    Professional activities: summer internship (2014) at Advanced Materials Technology, Inc.

20. Pasquale Carione (Winter 2014, Spring 2014, Summer 2014)
    B.S., Chemistry, June 2017, Drexel University
    Professional activities: Drexel STAR poster session, August 27, 2014

21. Anna Bostwick, Maryanoff Scholar (Summer 2017)
    Undergraduate Research (Fall 2017, thereafter TBD)
    B.S., Chemistry, June 2021, Drexel University
    Professional activities: Maryanoff Scholar Presentation Session, October 5, 2017

22. Ellende Chongolola, STAR Scholar (Summer 2017)
    B.S., Chemical Engineering, June 2021, Drexel University
    Professional activities: STAR Scholars Summer Showcase, August 31, 2017

23. Madison Snyder (Fall 2019, Winter 2020, Spring 2020)
    B.S., Chemistry, June 2020, Drexel University

24. Christian Zera (Fall 2020, Winter 2021)
    B.S., Chemistry, March 2021, Drexel University

25. Caroline Adams (Winter 2021, Spring 2021, Fall 2021, Winter 2022)
    B.S., Chemistry, June 2023, Drexel University

26. Linh Vu (Fall 2022, Winter 2023, Spring 2023)
    B.S., Chemistry, June 2023, Drexel University

VII. Theses/Dissertations Directed.

Thirty-five graduate students have received their Ph.D. degree under my direction, and twelve others have received their M.S. degree; four Ph.D. students are in progress. Names in *italics* indicate part-time students.

Ph.D. Dissertations

1. Mark Stephen Jeansonne (October 15, 1990)
   Title: Chromatographic Peak Shape Analysis and Modeling

2. Jeffrey Alan Crow (June 17, 1991)
   Title: Techniques for the Optimization of Supercritical Fluid Chromatographic Separations

3. Rene Ventura Arenas (October 31, 1991)
   Title: Novel Alumina-Based Stationary Phases for High Performance Liquid Chromatography

4. Lori Denise Payne (November 1, 1991)
   Title: The Alkaloids of *Erythrina:* Clonal Evaluation and Metabolic Fate

5. Edward Lester Little (August 6, 1992)
   Title: Comparative Study of Anionic and Nonionic/Anionic Surfactant Systems in Micellar Electrokinetic Capillary Chromatography

6. Kurt R. Nielsen (April 22, 1994)
   Title: Band Broadening and Selectivity in Micellar Electrokinetic Chromatography

7. Eric S. Ahuja (June 10, 1994)
   Title: Standardization of Retention and Optimization of Resolution in Electrokinetic Chromatography

8. Yunan Miao (May 17, 1996)
   Title: Optimization of Chiral Separations in High Performance Liquid Chromatography using Polysaccharide Stationary Phases

9. *Arthur B. Coddington* (January 17, 1997)
   Title: A Capillary Zone Electrophoresis and Micellar Electrokinetic Chromatography Simulation Program with Scenario Evaluations and Automated Optimization

10. *Alicia G. Peterson* (April 24, 1997)
    Title: Separation of Enantiomers Using Micellar Electrokinetic Chromatography with a Chiral Surfactant, N-Dodecoxycarbonylvaline

11. *Carmelle Lucas* (August 27, 1997)
    Title: Quantitative and Qualitative Analysis of Glycopeptide Antibiotics from Animal Feed Using Capillary Electrophoresis with Off-Line Supercritical Fluid Extraction

12. Farshad Shaban (October 13, 1997)
    Title: Sources of Ultraviolet Absorbance Detector Noise in Capillary Zone Electrophoresis

13. *Robert E. Murphy* (April 20, 1998)
    Title: Two-Dimensional Liquid Chromatography and Liquid Chromatography-Mass Spectrometry for Polymer Characterization

14. *John A. Masucci* (June 25, 1998)

Title: Design and Application of a Novel Microdialysis Membrane Interface for Electrokinetic Chromatography-Mass Spectrometry

15. *Brian S. Weekley* (April 8, 1999)
    Title: Determination of Electrophoretic Mobilities by Capillary Zone Electrophoresis: Applications for Colloidal Particles and Ion Analysis

16. *Timothy J. McCormick* (November 5, 1999)
    Title: Investigation of the Use of Large Pore-Size Stationary Phases in Micellar Liquid Chromatography

17. *Michael R. Brigham-Burke* (January 21, 2000)
    Title: Characterization of the Interaction of Glycopeptide Antibiotics with Cell Wall Mimics Using Multiple Biophysical Methods

18. *Wendy L. Klotz* (December 1, 2000)
    Title: The Use of Novel Retentive Phases for the Indirect Measurement of Hydrophobicity by Electrokinetic Chromatography

19. *James R. Scull* (July 9, 2002)
    Title: Applications of Transient Capillary Isotachophoresis/Capillary Zone Electrophoresis to Pharmaceutical Analysis

20. Robert J. Pascoe (July 9, 2002)
    Title: Development and Characterization of Surfactant Aggregates as Pseudostationary Phases in Electrokinetic Chromatography

21. *Marilyn X. Zhou* (March 12, 2004)
    Title: New Development of Theory and Application in Capillary Electrophoresis: Extended Dissociation Model for Predicting Electroosmotic Mobility, Correction of Electrokinetic Sampling Bias, and Enantiomeric Separations

22. Melissa D. Mertzman (August 20, 2004)
    Title: Chiral Microemulsion Electrokinetic Chromatography

23. Kimberly A. Kahle (March 1, 2007)
    Title: Effect of the Identity and Number of Chiral Microemulsion Components in Chiral Microemulsion Electrokinetic Chromatography

24. Stephanie A. Schuster (December 14, 2007)
    Title: Electrokinetic Chromatography using Novel Unilamellar Vesicles for Unique Separations and Prediction of Cell Membrane Permeability

25. *David P. Thomas* (May 18, 2009)
    Title: Efficiency Enhancements in Micellar Liquid Chromatography Through Selection of Stationary Phase and Mobile Phase Organic Modifier

26. Adeline B. Kojtari (October 30, 2009)
    Title: Studies on Surfactant Purity, Chiral Composition, and Novel Surfactant Synthesis in Chiral Electrokinetic Chromatography

27. *Junge (John) Zhang* (November 2, 2009)
    Title: Quantitative Biopharmaceutical Applications of Capillary Electrophoresis

28. *Mirlinda Biba* (June 5, 2014)

Title: Chromatographic Analysis and Separation of Short RNA Oligonucleotides with Novel Liquid Chromatography Methods

29. *Adam J. Socia* (May 9, 2016)
Title: Novel Chromatographic Approaches for Class Separations of Small Molecules

30. Donna M. Blackney (May 27, 2016)
Title: A Systematic Approach to the Elimination of Co-Detection between Oppositely-Charged Analytes and Applications of Dual-Opposite Injection Capillary Electrophoresis

31. Erin J. Ennis (September 23, 2016)
Title: Development of Experimental and Computational Techniques to Improve or Predict the Likelihood of Separation Success of Chromatographic and Electrophoretic Techniques

32. Mari E. Creese, *University of Tasmania* (November 30, 2017)
Title: Development of a Longitudinal Thermal Modulator for Comprehensive Two-Dimensional Liquid Chromatography

33. *Anna Caltabiano* (March 23, 2017)
Title: Reversed-Phase and HILIC columns for Size Exclusion Chromatography

34. *Li Li* (December 6, 2017)
Title: Chromatographic Separation and Stability Analysis of Small Interfering RNA and Lipid Vehicles Using Ion-Pair Reversed Phase Liquid Chromatography

35. Zhiyang Liu (August 29, 2023)
Title: Advantages and Applications of Tandem-Column Liquid Chromatography in Pharmaceutical Compound Separations

M.S. Theses

1. Vani Thirumala (August 14, 1995)
Title: Differentiation of Structural Isomers by Statistical Analysis of Their Fragmentation Patterns

2. Brett P. Preston (November 22, 1995)
Title: A Chromatographic Method for the Measurement of the Internal Solution Temperature in Micellar Electrokinetic Chromatography

3. John J. Thomas (December 14, 1995)
Title: Influence of Voltage Ramping in Micellar Electrokinetic Chromatography and Capillary Zone Electrophoresis under Zone Sharpening and Non-Zone Sharpening Conditions

4. Mei Hong (March 13, 1998)
Title: Electrokinetic Chromatography Using Thermodynamically-Stable Vesicles and Mixed Micelles Formed from Oppositely Charged Surfactants

5. Thomas P. Roddy (August 21, 1998)
Title: Improved Separation of Proteins by Capillary Zone Electrophoresis Through Practical Method Development and the Use of Polymeric Hollow Fibers as Capillary Material

6. Michelle A. Polinko (July 21, 1999)
Title: Electrokinetic Chromatography using a Pseudostationary Phase Composed of Surfactant Vesicles formed from Sodium Octyl Sulfate and Cetyltrimethylammonium Bromide

7. Andrew J. Maxwell (March 29, 2000)
   Title: A Comparison of Detection Limits Achievable by Capillary Electrophoresis for Enantiomeric Purity Analysis Using Commercially Available Absorbance Detection Systems

8. David P. Durkin (August 15, 2000)
   Title: Methods and Development in Dual-Opposite Injection Capillary Electrophoresis for the Unbiased, Simultaneous Analysis of Cationic and Anionic Compounds

9. *Michele M. Alshouli* (June 15, 2012)
   Title: Wastewater Tracer Study Utilizing Carbamazepine, Triclocarban and Triclosan in the Philadelphia Waterway

10. Michael R. Fletcher (March 24, 2017)
    Title: The Effect of Flow Rate on High Performance Liquid Chromatography Column Re-Equilibration after Gradient Elution

11. *Karyn A. Camilo* (June 26, 2020)
    Title: Chiral and Achiral HPLC Separation of Chiral Pharmaceutical Compounds

12. Yue Zhao (June 15, 2022)
    Non-thesis M.S focused on the Theory and Practice of Reversed-Phase Liquid Chromatography.

In Progress:

Summary: ***Two*** *Ph.D. Candidates,* ***two*** *Ph.D. Students.*

Buchhalter, Eric, part-time Ph.D. student. Voltage-Driven Separations of Pharmaceutical Enantiomers.

Kline, Lauren, Ph.D. Candidate and part-time student. Optimization of Mobile Phase pH and other Variables for the Sequential Elution Separation of Small to Moderate Ionic, Ionizable, and Neutral Compounds using Reversed-Phase and Ion-Exchange Chromatography.

Malvoisin-Marrazzo, Megan, Ph.D. Candidate. Improved Separations of NSAIDs and Beta-Blockers with Tandem-Column Liquid Chromatography.

Welch, Jonathan, part-time Ph.D. student. Comparison of Tandem-Column and Two-Dimensional Liquid Chromatography

Postdoctoral Student and Visiting Scientist Supervision

I was the research advisor for the following scientists who had already received their Ph.D. degree or were visiting doctoral candidates from another country.
Aderemi O. Ogunfowokan (Visiting Scientist and Ph.D. candidate from Nigeria), 1995-96
Dr. Eric S. Ahuja (postdoctoral student), 1995-96
Dr. Sally J. Grieb (postdoctoral student), 1996-97
Srinivasarao (Rao) Mandava, Visiting Scientist, May 2000 - October 2000
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