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EDUCATION

1977 B. S. with Honors in Chemistry, Magna Cum Laude, Duke University.
1981 Ph. D. in Physical Chemistry, Duke University.

PROFESSIONAL BACKGROUND

1993- Professor of Chemistry, Harvey Mudd College.
1991 Visiting Research Scientist, Chemical Biodynamics Division, Lawrence Berkeley Laboratory, Berkeley, California.
1989-1993 Associate Professor of Chemistry, Harvey Mudd College.
1984-1989 Assistant Professor of Chemistry, Harvey Mudd College.
1981-1984 NIH Postdoctoral Fellow, Laboratory of Chemical Biodynamics, U. California-Berkeley.

PROFESSIONAL SERVICE

2007-2008 President of the Council on Undergraduate Research
2006-2007 President-elect of the Council on Undergraduate Research
2005-2009 Member of the Executive Board, Council on Undergraduate Research
2005-2006 Secretary of the Council on Undergraduate Research
2004-2006 Co-Chair of the Council on Undergraduate Research 2006 National Conference
2004-2006 Beckman Scholars Program Advisory Panel
2004-2005 Chair of the Outreach Committee of the Council on Undergraduate Research
2003- Feature Editor, Journal of Chemical Education
2002-2003 Steering Committee Member for the NSF-sponsored Summit on Undergraduate Research
2001-2003 Chair of the Chemistry Division of the Council on Undergraduate Research
2001-2003 Member of the Executive Board, Council on Undergraduate Research
2001- Advisory Committee Member - NSF Center for Workshops in the Chemical Sciences
2000-2001 Chair-Elect of the Chemistry Division of the Council on Undergraduate Research
2000-2001 Beckman Scholars Program Advisory Panel
1997-1998 Associate Editor, Seventh Edition of the CUR Directory of Undergraduate Research in Chemistry
1993- Chemistry Consultant for the Council on Undergraduate Research
1993- Chemistry Division Councilor for the Council on Undergraduate Research

COMMUNITY SERVICE

2006-2007 Member of the City of Claremont Committee on Aging
2004- Member of the Joslyn Senior Center Successful Aging Committee

HONORS AND AWARDS

Council on Undergraduate Research Volunteer of the Year, 2004; Henry T. Mudd Prize for Outstanding Service to Harvey Mudd College, 2003; Henry Dreyfus Teacher-Scholar Award, 1994; National Institutes of Health National Research Service Award, 1981-1984; James B. Duke Fellowship, 1980-81; Duke University Graduate Research Award, 1979-1980; American Chemical Society Centennial Scholarship, 1978; North Carolina Award for Graduate Study in Chemistry, 1977-78; National Science Foundation Graduate Fellowship Honorable Mention, 1977; Member of Sigma Xi, 1977; Member of Phi Beta Kappa, 1977; Member of Phi Lambda Upsilon, 1977; National Merit Scholarship, 1973-77; Dean's List, 1973-77.

RESEARCH INTERESTS

- Applications of absorbance and fluorescence spectroscopy to supramolecular assemblies (micelles, reverse micelles, vesicles) and macromolecular host-guest systems (cyclodextrins, dendrimers).
- Spectroscopic delineation of binary and ternary phase diagrams
- Strategies to enhance the academic advancement of women in science and engineering

PROFESSIONAL MEMBERSHIPS

American Chemical Society (Colloid and Surface Science, Physical Chemistry, and Chemical Education Divisions); American Society for Photobiology; Association of American Colleges and Universities Associate; Biophysical Society; Council on Undergraduate Research; National Science Teachers Association; Phi Beta Kappa; Professional and Organizational Development Network in Higher Education; Society of the Sigma Xi.

PUBLICATIONS

BOOKS

A Guide to Lasers in Chemistry, G. R. Van Hecke and K. K. Karukstis, Jones and Bartlett Publishers, Boston, 1998; 2nd edition, Academic Press/Elsevier Science, in preparation.

Chemistry Connections: The Chemical Basis of Everyday Phenomena, K. K. Karukstis and G. R. Van Hecke, Harcourt/Academic Press, San Diego, 2000; 2nd edition, Academic Press/Elsevier Science, 2003.

Designing and Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices, K. K. Karukstis and Timothy E. Elgren, eds., Council on Undergraduate Research, Washington, D. C., 2007.

Case Studies in General Chemistry: Incorporating Chemistry, Environmental, and Economic Issues in Real-World Scenarios, K. K. Karukstis and T. J. Mueller, in preparation.

JOURNAL ARTICLES Undergraduate co-authors denoted by *

1. P. Smith and K. K. Karukstis, "EPR Study of Radicals Derived from n-Propyl Formate," *Journal of Magnetic Resonance* 39, 137-140 (1980).
2. P. Smith, K. K. Karukstis, and S. M. Denning, "INDO-MO Study of Long-Range EPR Couplings in Aliphatic Formate Radicals," *Journal of Magnetic Resonance* 40, 91-103 (1980).
3. P. Smith and K. K. Karukstis, "INDO-MO Study of γ -CH Formyl-Proton Couplings in Aliphatic α -Formyloxy Radicals," *Journal of Magnetic Resonance* 42, 208-221 (1981).
4. P. Smith and K. K. Karukstis, "INDO-MO Study of δ -CH Formyl-Proton Couplings in Aliphatic β -Formyloxy Radicals," *Journal of Magnetic Resonance* 43, 122-136 (1981).
5. P. Smith and K. K. Karukstis, "EPR Study of Long-Range Acetyl-Proton Couplings in Aliphatic Acetoxy Radicals," *Journal of Magnetic Resonance* 46, 200-212 (1982).
6. P. Smith and K. K. Karukstis, "EPR Study of Radicals Derived from Olefinic Alcohols," *Journal of Magnetic Resonance* 46, 469-474 (1982).
7. P. Smith and K. K. Karukstis, "EPR Study of Long-Range Proton Couplings in Aliphatic Acetoxy and Alkoxy carbonyl Radicals," *Journal of Magnetic Resonance* 47, 8-18 (1982).
8. K. K. Karukstis and P. Smith, "INDO-MO Study of δ -CH Formyl-Proton Couplings in Radicals from Vinyl Formate," *Journal of Magnetic Resonance* 48, 265-271 (1982).
9. K. K. Karukstis and K. Sauer, "Potentiometric Titration of Photosystem II Fluorescence Decay Kinetics in Spinach Chloroplasts," *Biochimica et Biophysica Acta* 722, 364-371 (1983).
10. K. K. Karukstis and K. Sauer, "Picosecond Fluorescence Kinetic Studies of Electron Acceptor Q Redox Heterogeneity," *Biochimica et Biophysica Acta* 725, 246-253 (1983).
11. P. Haworth, K. K. Karukstis, and K. Sauer, "Picosecond Fluorescence Kinetics in Spinach Chloroplasts at Room Temperature: Effects of Phosphorylation," *Biochimica et Biophysica Acta* 725, 261-271 (1983).
12. K. K. Karukstis and K. Sauer, "Photosynthetic Membrane Development Studies Using Picosecond Fluorescence Kinetics," *Biochimica et Biophysica Acta* 725, 384-393 (1983).
13. K. K. Karukstis and K. Sauer, "Fluorescence Kinetics of Chlorophyll in Photosynthetic Membranes (a review)," *Journal of Cell Biochemistry* 23, 131-158 (1983).
14. K. Sauer, M. Boska, J. L. Casey, and K. K. Karukstis, "Photosystem 2 and Water Oxidation in Higher Plants," *Advances in Photosynthesis Research*, Vol. I (Sybesma, C., ed.), pp. 121-126, Nijhoff/Junke Publisher, The Hague, The Netherlands, 1984.
15. K. K. Karukstis and K. Sauer, "Fluorescence Decay Kinetics of Chlorophyll in Photosynthetic Membranes," in *Biosynthesis of the Photosynthetic Apparatus: Molecular Biology, Development, and Regulation*, UCLA Symposia on Molecular and Cellular Biology -

New Series (Hallick, R., Staehelin, A., and Thornber P.), pp. 59-86, Alan R. Liss, New York, 1984.

16. K. K. Karukstis and K. Sauer, "Energy Transfer and Distribution in the Red Alga *Porphyra Perforata* Studied Using Picosecond Fluorescence Spectroscopy, *Biochimica et Biophysica Acta* 766, 141-147 (1984).

17. K. K. Karukstis and K. Sauer, "Organization of the Photosynthetic Apparatus of the Chlorina-f2 Mutant of Barley Using Chlorophyll Fluorescence Decay Kinetics" *Biochimica et Biophysica Acta* 766, 148-155 (1984).

18. B. R. Green, K. K. Karukstis, and K. Sauer, "Fluorescence Decay Kinetics of Photosystem I- and Photosystem II-Deficient Mutants of Corn," *Biochimica et Biophysica Acta* 767, 574-581 (1984).

19. B. S. Packard, K. K. Karukstis, and M. P. Klein, "Intracellular Dye Heterogeneity Determined by Fluorescence Lifetimes," *Biochimica et Biophysica Acta* 769, 201-208 (1984).

20. K. K. Karukstis and P. Smith, "INDO-MO Study of δ -CH Acetyl-Proton Couplings in Aliphatic α -Acetoxy Radicals," *Journal of Magnetic Resonance* 52, 288-293 (1984).

21. K. K. Karukstis and P. Smith, "Temperature Dependence of δ -CH Proton Couplings in Radicals from Aliphatic Carboxylic Acid Esters," *Journal of Magnetic Resonance* 56, 288-293 (1984).

22. K. K. Karukstis and K. Sauer, "The Effects of Cation-Induced and pH-Induced Membrane Stacking on Chlorophyll Fluorescence Decay Kinetics," *Biochimica et Biophysica Acta* 806, 374-389 (1985).

23. P. Smith, P. J. Pomery, C. E. Mader, and K. K. Karukstis, "INDO-MO Study of ϵ -CH Proton EPR Hyperfine Couplings in Radicals Derived from Allyl Ethyl Ethers," *Journal of Magnetic Resonance* 62, 182-194 (1985).

24. K. K. Karukstis and S. M. Gruber*, "Effect of Trivalent Lanthanide Cations on Chlorophyll Fluorescence and Thylakoid Membrane Stacking", *Biochimica et Biophysica Acta* 851, 322-326 (1986).

25. K. K. Karukstis, S. C. Boegeman*, S. M. Gruber*, C. R. Monell*, J. A. Fruetel*, and M. H. Terris*, "Multivariate Analysis of Photosystem II Fluorescence Quenching by Quinones", in *Progress in Photosynthesis Research* (J. Biggins, ed.), Vol. I, pp. 119-122, Martinus Nijhoff Publishers, Dordrecht, The Netherlands, 1987.

26. K. K. Karukstis, S. C. Boegeman*, J. A. Fruetel*, S. M. Gruber*, and M. H. Terris*, "Multivariate Analysis of Photosystem II Fluorescence Quenching by Substituted Benzoquinones and Naphthoquinones", *Biochimica et Biophysica Acta* 891, 256-264, 1987.

27. K. K. Karukstis, S. M. Gruber*, J. A. Fruetel*, and S. C. Boegeman*, "Quenching of Chlorophyll Fluorescence by Substituted Anthraquinones," *Biochimica et Biophysica Acta* 932, 84-90, 1988.

28. K. K. Karukstis and C. R. Monell*, "Reversal of Quinone-Induced Chlorophyll Fluorescence Quenching," *Biochimica et Biophysica Acta* 973, 124-130, 1989.
29. K. K. Karukstis, M. A. Berliner*, C. J. Jewell*, and K. T. Kuwata*, "Competition of Anthraquinones for the QB Binding Domain," in *Current Research in Photosynthesis* (M. Baltscheffsky, ed.), Vol. I, pp. 579-582, Martinus Nijhoff Publishers, Dordrecht, The Netherlands, 1990.
30. K. K. Karukstis, "Chlorophyll Fluorescence as a Physiological Probe of the Photosynthetic Apparatus," in *Chlorophylls* (H. Scheer, ed.), pp. 769-795, CRC Press, Boca Raton, 1990.
31. K. K. Karukstis, M. A. Berliner*, C. J. Jewell*, and K. T. Kuwata*, "Chlorophyll Fluorescence Measurements to Assess the Competition of Substituted Anthraquinones for the QB Binding Site," *Biochimica et Biophysica Acta* 1020, 163-168, 1990.
32. K. K. Karukstis, M. A. Berliner*, and K. T. Kuwata*, "Analysis of π Charge Distribution in Substituted Anthraquinones to Assess Affinity for the QB Binding Site," *Biochimica et Biophysica Acta* 1020, 169-175, 1990.
33. K. K. Karukstis, "QB Analogs as Inhibitors of Photosystem II Electron Transport in Plant Chloroplasts", *Trends in Photochemistry and Photobiology*, 1, 289-292, 1991.
34. K. K. Karukstis, R. M. Moision*, S. K. Johansen*, K. E. Birkeland*, and S. M. Cohen*, "Alternative Measures of Photosystem II Electron Transfer Inhibition Anthraquinone-Treated Chloroplasts", *Photochemistry and Photobiology*, 55, 125-132, 1992.
35. K. K. Karukstis, K. E. Birkeland*, B. P. Babusis*, K. A. Kasal*, and C. J. Jewell*, "Chlorophyll Fluorescence Characterization of Photosystem II Electron Transport Inhibitors, *Journal of Luminescence*, 51, 119-128, 1992.
36. K. K. Karukstis, "Chlorophyll Fluorescence Analyses of Photosystem II Reaction Center Heterogeneity", *Journal of Photochemistry and Photobiology, B: Biology*, 15, 63-74 (1992).
37. K. K. Karukstis, C. M. Emetarom*, D. P. Nash*, D. Takamoto*, M. Y. Kao*, and K. J. Kaphengst*, "Structural and Kinetic Aspects of Lanthanide Binding to Chloroplast Thylakoid Membranes", *Research in Photosynthesis* (N. Murata, ed.), Vol. II, pp. 93-96, Kluwer Academic Publishers, Dordrecht, The Netherlands, 1993.
38. G. R. Van Hecke and K. K. Karukstis, "Curriculum Using the Unique Capabilities of Lasers", *Journal of Chemical Education*, 70, 323 (1993).
39. K. K. Karukstis, D. A. Krekel*, D. A. Weinberger*, R. A. Bittker*, N. R. Naito*, and S. H. Bloch*, "Resolution of the Excited States of the Fluorescence Probe TNS using a Trilinear Analysis Technique", *Journal of Physical Chemistry*, 99, 449-453 (1995).

40. K. K. Karukstis, M. Y. Kao*, D. A. Savin*, R. A. Bittker*, K. J. Kaphengst*, C. M. Emetarom*, N. R. Naito*, and D. Y. Takamoto*, "Spectral Studies of Lanthanide Interactions with Membrane Surfaces", *Journal of Physical Chemistry*, 99, 4339-4346 (1995).
41. K. K. Karukstis, M. Y. Kao*, D. A. Savin*, R. A. Bittker*, K. J. Kaphengst*, N. R. Naito*, "Spectral Characterizations of Lanthanide Interactions with Thylakoid Membrane Surfaces", *Photosynthesis: from Light to Biosphere* (P. Mathis, ed.), Vol. III, pp. 245-248, Kluwer Academic Publishers, Dordrecht, The Netherlands, 1995.
42. K. K. Karukstis, S. W. Suljak*, P. J. Waller*, J. A. Whiles*, E. H. Z. Thompson*, "Fluorescence Analysis of Single and Mixed Micelle Systems of SDS and DTAB", *Journal of Physical Chemistry*, 100 11125-11132 (1996).
43. K. K. Karukstis, A. A. Frazier*, D. S. Martula*, J. A. Whiles*, "Characterization of the Microenvironments in AOT Reverse Micelles using Multidimensional Spectral Analysis", *Journal of Physical Chemistry*, 100 11133-11138 (1996).
44. K. K. Karukstis, N. D. D'Angelo*, and C. T. Loftus*, "Using the Optical Probe Methyl Orange to Determine the Role of Surfactant and Alcohol Chain Length in the Association of 1-Alkanols with Alkyltrimethylammonium Bromide Micelles", *Journal of Physical Chemistry*, 101 1968-1973 (1997).
45. K. K. Karukstis, "Enhancing Undergraduate Research in Chemistry: An Example of the Use of CUR Databases", *Council on Undergraduate Research Quarterly* 18 189-198 (1997).
46. G. R. Van Hecke, K. K. Karukstis, and J. M. Underhill*, "Using Lasers to Demonstrate the Concept of Polarizability: Variations in the Refractive Indices of the o-Halobenzenes", *The Chemical Educator*, December 1997.
47. K. K. Karukstis, D. A. Savin*, C. T. Loftus*, and N. D. D'Angelo*, "Spectroscopic Studies of the Interaction of Methyl Orange with Cationic Alkyltrimethylammonium Bromide Surfactants", *Journal of Colloid and Interface Science* 203 157-163, 1998.
48. K. K. Karukstis, E. H. Z. Thompson*, J. A. Whiles*, and R. J. Rosenfeld*, "Deciphering the Fluorescence Signature of Daunomycin and Doxorubicin", *Biophysical Chemistry* 73 249-264, 1998.
49. K. K. Karukstis and A. V. Gullledge*, "Analysis of the Solvatochromic Behavior of the Disubstituted Triphenylmethane Dye Brilliant Green", *Analytical Chemistry* 70 4212-4217 (1998).
50. K. K. Karukstis, A. A. Frazier*, C. T. Loftus*, and A. S. Tuan*, "Fluorescence Investigation of Multiple Partitioning Sites in Aqueous and Reverse Micelles", *Journal of Physical Chemistry* 102 8163-8169 (1998).
51. K. K. Karukstis, S. K. Avrantinis*, S. L. Boegeman*, J. M. Conner*, B. N. Hackman*, J. M. Lindsay*, A. L. Mandel*, and E. J. Miller *, "Spectroscopic Determination of Ternary Phase Diagrams", *Journal of Chemical Education* 77 701-703 (2000).

52. K. K. Karukstis, "Encapsulation of Fluorophores in Multiple Microenvironments in Surfactant-Based Supramolecular Assemblies" (invited review) in Handbook of Surfaces and Interfaces of Materials, Volume 3: Nanostructured Materials, Micelles, and Colloids, Chapter 12 (H. S. Nalwa, editor) Academic Press, San Diego, 2001.
53. K. K. Karukstis, S. C. Thonstad*, and M. E. Hall*, "Modulation of Guest Partitioning Within Dendrimer-Surfactant Supramolecular Assemblies", Journal of Dispersion Science and Technology 23 737-746 (2002).
54. G. R. Van Hecke, K. K. Karukstis, R. C. Haskell, C. S. McFadden, and F. S. Wettack, "An Integration of Chemistry, Biology, and Physics: The Interdisciplinary Laboratory", Journal of Chemical Education 79 837-844 (2002).
55. K. K. Karukstis, G. R. Van Hecke, K. A. Roth*, M. A. Burden*, "A Structure-Activity Investigation of Photosynthetic Electron Transport: An Interdisciplinary Experiment for the First-Year Laboratory", Journal of Chemical Education 79 985-988 (2002).
56. G. M. Lanza, D. R. Abendschein, X. Yu, P. M. Winter, K. K. Karukstis, M. J. Scott, R. W. Fuhrhop, D. E. Scherrer, S.A. Wickline, "Molecular Imaging and Targeted Drug Delivery with a Novel, Ligand-Directed Paramagnetic Nanoparticle Technology", Academic Radiology 9 S330-S331 (2002).
57. G. M. Lanza, X. Yu, P. M. Winter, D. Abendschein, D. R. Abendschein, K. K. Karukstis, M. J. Scott, L. K. Chinen, R. W. Fuhrhop, D. E. Scherrer, and S. A. Wickline, "Targeted Antiproliferative Drug Delivery to Vascular Smooth Muscle Cells with a Magnetic Resonance Imaging Nanoparticle Contrast Agent: Implications for Rational Therapy of Restenosis", Circulation 106 2842-2847 (2002).
58. K. K. Karukstis, L. A. Perelman*, and W. K. Wong*, "Spectroscopic Characterization of Azo Dye Aggregation on Dendrimer Surfaces", Langmuir 18 10363-10371, (2002).
59. K. K. Karukstis, "Examining Technology's Impact on Society", Journal of College Science Teaching 33 36-40 (2003).
60. K. K. Karukstis, C. A. Zieleniuk*, M. J. Fox*, "Fluorescence Characterization of DDAB-AOT Catanionic Vesicles", Langmuir 19 10054-10060 (2003).
61. K. K. Karukstis, G. R. Van Hecke, "Chemistry of Everyday Life", World and I, November 2003, 146-153.
62. K. K. Karukstis, S. A. McCormack*, T. M. McQueen*, K. F. Goto*, "Fluorescence Delineation of the Surfactant Microstructures in the CTAB-SOS-H₂O Catanionic System", Langmuir 20 64-72 (2004).
63. M. D. Schuh and K. K. Karukstis, "Getting Started in Research with Undergraduates", Journal of Chemical Education 81 322 (2004).

64. K. K. Karukstis and T. J. Wenzel, "Enhancing Research in the Chemical Sciences at Predominantly Undergraduate Institutions: Recommendations of a Recent Undergraduate Research Summit", *Journal of Chemical Education* 81 468-4699 (2004).
65. K. K. Karukstis, "Reinvigorating the Undergraduate Experience with a Research-Supportive Curriculum", *Journal of Chemical Education* 81 938-939 (2004).
66. G. R. Van Hecke, K. K. Karukstis, F. S. Wettack, C. S. McFadden, and R. C. Haskell, "The Interdisciplinary Laboratory: An Integration of Chemistry, Biology, and Physics", in *Reinvigorating the Undergraduate Experience: Successful Models Supported by NSF's RAIRE/AIRE Program*, (L. E. Kauffman, J. E. Stocks, eds.), Council on Undergraduate Research, Washington, D.C., 2004, <http://www.cur.org/publications/aire_raire/toc.asp>.
67. K. K. Karukstis, "Creating Time for Research: Recommendations from Faculty at Predominantly Undergraduate Institutions", *Journal of Chemical Education* 81 1550-1551 (2004).
68. K. K. Karukstis, "Community-Based Research": New Paradigm for Undergraduate Research in the Sciences", *Journal of Chemical Education* 82 15-16 (2005).
69. K. K. Karukstis and J. R. McDonough*, "Characterization of the Aggregates of N-Alkyl-N-Methylpyrrolidinium Bromide Surfactants in Aqueous Solution", *Langmuir* 21 5716-5721 (2005).
70. K. K. Karukstis and R. S. Rowlett, "On-Site Reviews and Institutes to Assess and Strengthen Undergraduate Departments and Programs", *Journal of Chemical Education* 82 512-513 (2005).
71. K. K. Karukstis, K. D. Sienerth, and F. V. Farnsworth, "Professional Infrastructure for Supporting the Undergraduate Research Enterprise on Campus", *Journal of Chemical Education* 82 825-826 (2005).
72. K. K. Karukstis, "Communicating the Importance of Undergraduate Research to Legislators", *Journal of Chemical Education* 82 1279-1280 (2005).
73. G. R. Van Hecke, K. K. Karukstis, H. Li*, H. C. Hendargo*, A. J. Cosand*, M. M. Fox*, "Synthesis and Physical Properties of Liquid Crystals: An Interdisciplinary Experiment for the First Year Laboratory", *Journal of Chemical Education* 82 1349-1354 (2005).
74. K. K. Karukstis, "Showcasing Successful Practices that Enhance a Research-Supportive Undergraduate Curriculum", *Journal of Chemical Education* 82 1440-1442 (2005).
75. K. K. Karukstis, "Understanding the Federal Funding Landscape for Undergraduate Research", *Journal of Chemical Education* 83 1119-1120 (2006).
76. L. N. Gentile, N. S. Mills, and K. K. Karukstis, "Faculty Mentoring Faculty: Lending Support within the Undergraduate Research Community", *Journal of Chemical Education* 83, 1584 (2006).

77. K. K. Karukstis, "A Council on Undergraduate Research Workshop Initiative to Establish, Enhance, and Institutionalize Undergraduate Research", *Journal of Chemical Education* 83, 1744-1745 (2006).
78. K. K. Karukstis, "Alliances to Promote Undergraduate Research", *Journal of Chemical Education*, 84, 384-385 (2007)..
79. K. K. Karukstis, "The Impact of Undergraduate Research on America's Global Competitiveness", *Journal of Chemical Education*, 84, 912-914 (2007).
80. K. K. Karukstis, "Facilitating Advanced Study in Science and Engineering: The CUR Registry of Undergraduate Researchers", *Journal of Chemical Education*, in press.
81. K. K. Karukstis, "Promoting the Interrelationship of Chemistry and Society with a Case Study Approach" in *Science Communication for All* (R. Glaser, ed.), SensePublishers, in press.
82. K. K. Karukstis, G. R. Van Hecke, and Whitney C. Duim*, "Biologically relevant lyotropic liquid crystalline phases in mixtures of n-octyl- β -D-glucoside and water. Determination of the phase diagram by fluorescence spectroscopy", *Journal of Physical Chemistry*, submitted.

ADDITIONAL CURRICULAR HIGHLIGHTS

- Introduced or co-introduced several innovative curricular initiatives at Harvey Mudd College including:
 - advanced physical chemistry courses in chemical kinetics and biophysical chemistry
 - a new interdisciplinary year-long laboratory course for first-year students blending laboratory experiences from Biology, Chemistry, and Physics to illustrate the commonality of investigative methods and laboratory techniques, to introduce discipline-specific principles, and to feature an investigative approach focusing on hypothesis formulation and testing
 - case studies in general chemistry to promote students' recognition of chemical principles involved in real-world applications, facilitate students' identification of environmental and economic issues underlying chemical questions, and enhance students' understanding of the relationship of science and technology with society
 - a new structure adopted for all core courses at the College to include approaches to address the objective of examining the intersection of technology and society
 - an ePortfolio project to assess fulfillment of the Harvey Mudd College mission statement with regard to the integration of science and society
- Sought and received external funding to introduce extensive modern physical chemistry research instrumentation into the curriculum including a laser laboratory, laser light scattering instrument, fluorescence spectrophotometer, and computational equipment.
- Journal of Chemical Education feature editor on the role of undergraduate research in chemical education

ADDITIONAL RESEARCH HIGHLIGHTS

- Recipient of over \$1.5 million in external support for research from the National Science Foundation, National Institutes of Health, American Chemical Society Petroleum Research Fund, Camille and Henry Dreyfus Foundation, and Research Corporation
- Served as research mentor for over 90 undergraduate students, 60% of whom are female (HMC average is 30% female) and 70% of whom have received or are working towards advanced degrees in STEM fields
- Reviewer for the following journals: Applied Spectroscopy, Biochimica et Biophysica Acta, Biophysical Journal, Chemical Communications, Chemical Physics Letters, Colloids and Surfaces, FEBS (Federation of European Biochemical Societies) Letters, Journal of Chemical Education, Journal of Colloid and Interface Science, Journal of Physical Chemistry, Journal of the American Chemical Society, Journal of Undergraduate Research, Langmuir, Organic and Biomolecular Chemistry, Photochemistry and Photobiology, Photosynthesis Research, Plant Physiology, Quarterly Review of Biology, The Chemical Educator, Thin Solid Films
- Reviewer for the following granting agencies: National Science Foundation, American Chemical Society Petroleum Research Fund, Research Corporation, Camille and Henry Dreyfus Foundation, Beckman Foundation, United States Department of Agriculture