

David T. Harvey

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Updated: January 18, 2020

Employment

DePauw University

Professor of Chemistry & Biochemistry	2000–
Vice-President for Academic Affairs	2009–2013
Chair, Department of Chemistry	1994–2000
Associate Professor of Chemistry	1992–2000
Assistant Professor of Chemistry	1986–1992

Stockton State College

Assistant Professor of Chemistry	1982–1986
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Education

<i>University of North Carolina at Chapel Hill</i> , Ph.D Chemistry	1982
Thesis: <i>Evaluation of X-Ray Photoelectron Spectroscopy for Colloidal Adsorption Studies</i>	
Advisor: Richard Linton	

<i>Knox College</i> , A.B. Chemistry	1978
graduated <i>cum laude</i>	

Awards

J. Calvin Giddings Award for Excellence in Teaching, ACS Division of Analytical Chemistry	2016
Mr. & Mrs. Fred C. Tucker, Jr. Distinguished Career Award, DePauw University	2013
Percy L. Julian Chair of Chemistry & Biochemistry, DePauw University	2006–2011

Professional Development

Books (print)

Modern Analytical Chemistry, McGraw-Hill: Dubuque, IA, 2000.

Solutions Manual to Accompany Modern Analytical Chemistry, McGraw-Hill: Dubuque, IA, 2000.

Books (digital)

[Analytical Chemistry 2.1](#), released summer 2016.

[Solutions Manual for Analytical Chemistry 2.1](#), released summer 2016.

[Analytical Chemistry 2.0](#), released fall 2009.

Journal Articles

- “Analytical Chemistry 2.0—An Open-Access Digital Textbook,” *J. Anal. Bioanal. Chem.* **2011**, *399*, 149–152.
- “Incorporating Analytical Chemistry Into an Introductory Course in Chemistry,” *Spectroscopy Letters* **2007**, *40*, 381–394.
- “Two Experiments Illustrating the Importance of Sampling in Quantitative Analysis,” *J. Chem. Educ.* **2002**, *79*, 613–615.
- “External Standards vs. Standard Additions: Selecting and Validating a Method of Standardizations,” *J. Chem. Educ.* **2002**, *79*, 360–363.
- “The Effect of Tubificid Oligochaetes on the Uptake of Zn by Lake Erie Sediments,” (with Soster, F. M.; Troska, M.; Grooms, T.) *Hydrobiologia* **1992**, *248*, 249–258.
- “Statistical Analysis of Acid-Base Indicators—A First Experiment for the Quantitative Analysis Laboratory,” *J. Chem. Educ.* **1991**, *68*, 329–331.
- “Optimization of HPLC and GC Separations Using Response Surfaces: Three Experiments for the Instrumental Analysis Laboratory,” (with Byerly, S.; Bowman, A.; Tomlin, J.) *J. Chem. Educ.* **1991**, *68*, 162–168.
- “Factor Analysis of Multicomponent Samples,” (with Bowman, A.) *J. Chem. Educ.* **1990**, *67*, 470–472.
- “X-Ray Photoelectron Spectroscopy Study of Zn Adsorption on Hydrous Ferric Oxide,” (with Linton, R. W.) *Colloids and Surfaces* **1984**, *11*, 81–96.
- “Determination of Adsorption Stoichiometry for Zn Adsorption on Amorphous Hydrous Ferric Oxide,” (with Fulgham, J. E.; Linton, R. W.) *J. Coll. Interface Sci.* **1983**, *94*, 276–278.
- “Environmental Applications of Surface Analysis Techniques—AES, XPS, PAS, SIMS” (with Linton, R. W.; Cabaniss, G. E.) chapter in *Analytical Applications of Environmental Analysis* Hopke, P. ed.; Wiley-Interscience, NY, **1983**.
- “The Chemical Characterization of Hydrous Ferric Oxide by X-Ray Photoelectron Spectroscopy,” (with Linton, R. W.) *Anal. Chem.* **1981**, *53*, 1684–1688.

Book Reviews

- Review of Vaughn, S. *Scientific Inference: Learning From Data*, Cambridge University Press: Cambridge, UK, 2013, *J. Chem. Educ.* **2014**, *91*, 2022–2203.
- Review of Scerri, E. R. *The Periodic Table: A Very Short Introduction*, Oxford University Press, Inc.: New York, 2011, *J. Chem. Educ.* **2014**, *91*, 307–308.
- Review of Basu, P.; Johnson, M. *The Integrated Approach to Chemistry Laboratory: Selected Experiments*, DEStech Publications, Inc: Lancaster, PA, 2009, *J. Chem. Educ.* **2012**, *89*, 316–317.
- Review of Lajunen, L. H. J.; Perämäki, P. *Spectrochemical Analysis by Atomic Absorption and Emission*, 2nd Edition, Royal Society of Chemistry: Cambridge, UK, 2004, *J. Chem. Ed.* **2009**, *86*, 810–811.

Review of Dolan, J.; Saunders, D. *Introduction to HPLC*, Academy Savant: Fullerton, CA, 2006, *J. Chem. Educ.* **2007**, *84*, 419.

Review of *Analytical Chemistry: A Modern Approach to Analytical Sciences*, Kellner, R. Mermet, J-M, Otto, M. Varcável, M., Widmer, H. M., eds., Wiley-VCH BmbH & Co. KGaA: Weinheim, 2004, *J. Chem. Educ.* **2006**, *83*, 385.

Review of Klink, K. *Introduction to Protein and Peptide Analysis with Mass Spectrometry*, Academy Savant: Fullerton, CA, 2004, *J. Chem. Educ.* **2005**, *82*, 1003–1004.

Review of Kenkel, J. A. *Analytical Chemistry for Technicians*, 3rd Edition, Lewis: Boca Raton, 2003, *J. Chem. Educ.* **2005**, *82*, 39.

Review of Poole, C. F. *The Essence of Chromatography*, Elsevier: Amsterdam, 2003, *J. Chem. Educ.* **2003**, *80*, 883.

Review of *Analytical Chemistry in a GMP Environment*, Miller, J. M., Crowther, J. B. Eds., Wiley-Interscience: New York, 2000, *J. Chem. Educ.* **2002**, *79*, 1419.

Review of Kenkel, J. *A Primer on Quality in the Analytical Laboratory*, Lewis: Boca Raton, 2000, *J. Chem. Educ.* **2000**, *77*, 1561.

Conference Presentations and Invited Seminars

“Guiding Students to Think As...The Role of Active Learning in STEM,” seminar presented at Saginaw Valley State University, October 2019.

“Guiding Students to Think As...The Role of Active Learning in STEM,” seminar presented at Central State University, March 2019.

“Using R to Introduce Students to Principal Component Analysis, Cluster Analysis, and Multiple Linear Regression,” paper presented at the 69th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2018.

“Developing and Using Digital Simulations to Engage Students Learning Analytical Chemistry,” paper presented at the 69th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2018.

“Leveraging R for the Teaching of Analytical Chemistry,” paper presented at the 254th National Meeting of the American Chemical Society, August 2017.

“The Red Queen and Romer’s Rule: Thoughts on the Past, Present, and Future of Textbooks,” Giddings Award Address presented at the 252nd National Meeting of the American Chemical Society, August 2016.

“Analytical Chemistry 2.1: An Open-Access Digital Resource for Undergraduate Education in Analytical Chemistry,” poster presented at the 67th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2016.

“Beyond Quant: Supporting Analytical Chemistry’s Third Dimension,” paper presented at the 250th National Meeting of the American Chemical Society, August 2015.

“Open-Access Resources for Teaching Analytical Chemistry,” paper presented at the 97th Canadian Chemistry Conference and Exhibition, June 2014.

“Developing a Co-Curricular Transcript Using the Degree Quality Profile,” panel presentation at the 2012 Council of Independent Colleges Chief Academic Officers Meeting, November 2012.

“Analytical Chemistry 2.0: An Open-Access Digital Textbook for Quantitative Analysis,” paper presented at the 63rd Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2012.

“Teaching Students to Think as Analytical Chemists: The Role of the Textbook,” paper presented at the 62nd Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2011.

“Recruiting, Retaining, Developing, and Engaging Faculty: Using the Results of the COACHE Survey,” panel presentation at the 2011 National AAC&U Meeting, January 2011.

“Evaluating the BCR Sequential Extraction Procedure for Carbonate-Rich Sediments and Soils,” (with Betsch, J.; Carmony, M.; Presutti, K.; Turner, A.) poster presented at the 60th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2009.

“Rethinking Quant: The Importance of Analytical Thinking,” paper presented at the 59th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 2008.

“Evaluating the BCR Sequential Extraction Procedure for Calcareous Sediments and Soils,” seminar presented at Indiana State University, January 2008.

“Incorporating Analytical Thinking Into An Introductory Course in Chemistry,” poster presented at the 31st FACSS Conference, October 2004.

“Teaching Students to Think as Analytical Chemists,” paper presented at the 30th FACSS Conference, October 2003.

“Teaching Students to Think as Analytical Chemists,” paper presented at the 28th FACSS Conference, October 2001.

“Interdisciplinary Research at the Sediment/Solution Interface: Chemistry and Geology of Lake Sediments,” seminar presented at Stockton State College, March 1998

“Historical Trends in the Concentrations of Pb, Zn, and Cu in Lake Tippecanoe and Lake Wawasee,” (with Soster, F. M.; Rockaway, B.; Harling, K.; Breen, T.; Benda, T.; Taylor, J.; Munk, J.; Franke, P.; Green, J.) paper presented at the Fall 1996 Meeting of the Indiana Academy of Sciences, October 1996.

“Modernizing the Instrumental Analysis Laboratory,” paper presented at the 200th American Chemical Society National Meeting, August 1990.

“Application of Evolving Factor Analysis and Iterative Target Factor Analysis to Multicomponent Systems,” (with Fakouri, B.) paper presented at the 2nd Annual Butler University Undergraduate Research Conference, April 1990.

“The Application of Chemometric Methods in the Instrumental Analysis Laboratory,” paper presented at the 21st Central Regional Meeting of the American Chemical Society, June 1989.

“Statistical Analysis of Acid/Base Indicators,” paper and poster presented at the 10th Biannual Conference on Chemical Education, August 1988.

“X-Ray Photoelectron Spectroscopy Study of Phosphate Adsorption on Amorphous Hydrated Ferric Oxide,” (with Linton, R. W.) paper presented at the 185th American Chemical Society National Meeting, April 1983.

“Bulk Solution Characterization of Hydrous Ferric Oxide by X-Ray Photoelectron Spectroscopy,” (with Linton, R. W.) paper presented at the 56th Colloid and Surface Science Symposium, June 1982.

“Surface Studies of Trace Metal Adsorption Processes in Aquatic Environments,” (with Linton, R. W.) poster presented at the 11th Annual Symposium on the Analytical Chemistry of Environmental Pollutants, May 1981.

eLearning Modules

[shinyCV](#), Analytical Sciences Digital Library, June 2018.

[Introduction to Chromatography](#), Analytical Sciences Digital Library, June 2018.

[Introduction to Beer’s Law](#), Analytical Sciences Digital Library, June 2016.

[Designing an Acid–Base Titration](#), Analytical Sciences Digital Library, June 2016.

[Introduction to Data and the Analysis of Data](#), Analytical Sciences Digital Library, March 2016.

[Developing an Analytical Method for the Analysis of a Medicinal Plant](#), Analytical Sciences Digital Library, January 2015.

[Introduction to Data Analysis](#), (with Otto, W.) Analytical Sciences Digital Library, February 2007.

R Packages

eChem version 1.0.0 ([github](#)) ([CRAN](#)), July 2018.

titrationCurves version 0.1.0 ([gitub](#)) ([CRAN](#)), February 2016.

External Grants

NSF National STEM Distributed Learning (NSDL) Grant for “Incorporating an Internet-Mediated Community of Practice for the Analytical Sciences Into the Analytical Sciences Digital Library,” 2009.

Camille and Henry Dreyfus Special Grant in the Chemical Sciences for “An Introductory Project-Based Laboratory Curriculum Emphasizing Thermodynamics, Equilibria, and Kinetics,” 2003.

NSF-CCLI Adaptation and Implementation Grant for “Teaching Students to Think as Analytical Chemists by Developing a Laboratory Course in Method Development,” 2001.

NSF-CSIP Grant for “Integrating FT-IR into the Chemistry Curriculum” (with Giffiths, J.), 1986.

New Jersey Technology/Engineering Education Grant for “Integrating Modern Instrumentation into the Chemistry Curriculum” (with Giffiths, J.), 1985.

Service

Professional Service (selected)

Friends Association of Higher Education, Executive Committee, 2013– ; Treasurer, 2019– .

Organizer/Presider of symposium on “Portable Instrumentation For Chemical Analysis” at the 246th American Chemical Society National Meeting, September 2013.

Analytical Sciences Digital Library: Associate Editor, 2006–2008; Web Collection Editor, 2008–2010; Community Editor, 2010–present.

DePauw University (selected committee assignments)

Chair of the Faculty (2005–2008)

Committee on Faculty (2002–2005, chair 2004–2005)

Faculty Development Committee

Faculty Governance Steering Committee (2005–2008)

Handbook Taskforce (2003-2005)

Parliamentarian (2016–2017)

Petitions Committee (2015–2020)

Resource Allocations Subcommittee

Science Research Fellows Program Advisory Committee

Winter Term Planning Committee (1990-91)

Writing Committee (2018-2020)