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EDITORIAL

Happy New Year—renewal, welcome, and farewell

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A new year brings with it a new outlook, a promise of change, and the opportunity to look back on the previous year with some nostalgia. This is certainly true for ABC's two educational columns "ABCs of Teaching Analytical Science" and "Building a Professional Career." Regular readers will soon notice a new title: "ABCs of Education and Professional Development in Analytical Science." This change in title recognizes the merger of the previous teaching column with the career column edited by John Fetzer. It also reflects the necessity to develop in our students the professional skills they will need for success in their careers as we endeavor to help them build their analytical chemistry content knowledge and problem-solving skills. The new focus of this column on education, rather than teaching, also reflects the need for scientists at all stages of our careers to continue our education and professional development. For example, the launch of the new column in 2013 with an article by Prof. Apryll Stalcup on "Surviving toxic work environments" effectively bridges the topics of education and professional development.

I am also pleased to announce that along with a new column, *Analytical and Bioanalytical Chemistry* welcomes Prof. Thomas Wenzel, Bates College, as a new column editor. Thomas Wenzel is active in research with undergraduate students in the area of chiral NMR shift reagents, and his research accomplishments were recognized with the 2010 American Chemical Society Award for Research at an Undergraduate Institution. He is also a leader in analytical chemistry education reform and has championed teaching using problem-based and active learning approaches. His 2011 contribution "Active learning materials for equilibrium chemistry and separation science" published in the ABCs of Teaching Analytical Science column nicely describes his collaborative inquiry-based approach to teaching along with the materials he has developed to support this approach, which are available for free download through the Analytical Sciences Digital Library (www.asdlib.org). His educational activities were recognized through receipt of the 1999 J.C. Giddings Award for Excellence in Education sponsored by the Analytical Division of the American Chemical Society. He joins column coeditors Reiner Salzer and John Fetzer in guiding the selection of topics for future columns and ensuring high-quality informative contributions.

In addition to welcoming T. Wenzel to the editorial team, it is with sincere regret that I also announce my resignation as editor of this column. From its inception in March 2004, the "ABCs of Teaching Analytical Science" column has published 42 articles, the most recent of which are summarized in Table 1, including the final contribution to the teaching column in this issue by Dr. Jill Robinson "Project-based learning: improving student engagement and performance in the laboratory." During the same 8-year period, the "Building a Professional Career" column featured 69 articles; the more recent ones are found in Table 2.

In looking back over my involvement with this column over the past 8 years, one recently published article stands out in my mind as especially noteworthy: "Student-driven

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Table 1 Articles published since 2010 in the column "ABCs of Teaching Analytical Science"

Year	Volume/ issue	Author	Title
2010	397/1	E.A. Varella	E-learning in applied instrumental analysis: the example of cultural heritage preservation
	397/3	I.A. Kozaris	Platforms for e-learning
	397/5	I. Leito, A. Kruve	"Measurement Science in Chemistry" consortium—A leading force in analytical chemistry higher education in Europe
	398/7–8	A. Scheeline	Teaching analytical chemistry in Hanoi: good mornings in Vietnam
2011	399/1	D. Harvey	*Analytical Chemistry 2.0*: an open access digital textbook
	400/3	T.J. Wenzel	Active learning materials for equilibrium chemistry and separation
	400/6	P. Mischnick	Learning chemistry—the Agnes-Pockels-Student-Laboratory at the Technical University of Braunschweig, Germany
	400/9	M. B. Jensen	Using LabVIEW to demonstrate instrumentation principles
	400/10	M.I. Karayannis, C.E. Efstathiou	Self-assessment and controlled examination in analytical chemistry by use of the EChem Test
2012	402/1	R. Salzer	Changing careers in chemistry
	402/4	H. Watarai	An overview on education of analytical chemistry in Japan
	402/6	P. Rogério, M. Correia	The use of concept maps for knowledge management from classrooms to research labs
	403/4	J.E.T. Andersen, D.T. Burns, P. Hu	Basic mathematics and physics for undergraduate chemistry students according to the Eurobachelor® curriculum
	403/6	G. Schlemmer	Industrial research and development for instrumental analytics: requirements, skills, strategic objective
	403/9	J. Randon	Master's degree: from analytical science to process analytical technology
	404/1	G. Horvai	Teaching analytical methods in a BSc analytical chemistry course
	404/4	H. A. Bullen	Student-driven independent research projects: developing a framework for success in analytical chemistry
	404/10	P.C. Yates	New strategies for teaching maths to chemistry students
2013	405/1	J. Robinson	Project-based learning: improving student engagement and performance in the laboratory

independent research projects: developing a framework for success in analytical chemistry" by Prof. Heather A. Bullen, University of Northern Kentucky (NKU). This contribution describes a problem-based learning approach to teaching instrumental analysis that integrates independent student-driven research projects into the laboratory curriculum. It was written as Heather was in the last stages of colon cancer discovered shortly after the birth of her son Von in 2010. She passed away July 11, 2012, at age 35. Heather was an extraordinarily talented, energetic, and beloved professor. I got to know her through our joint efforts to develop active learning resources for undergraduate analytical chemistry courses through the Analytical Sciences Digital Library. Heather's leadership and contributions to this project are sorely missed, as is her presence in her department at NKU. She left behind a loving husband, Brad, a young son, and an inspiring legacy of excellence in analytical chemistry research and teaching.

Table 2 Articles published since 2010 in the column "Building a Professional Career"

Year	Volume/issue	Author	Title
2010	396/2	J.A. Stenken, A.M. Zajicek	The importance of asking, mentoring and building networks for academic career success—a personal and social science perspective
	397/5	J. Fetzer	The schizophrenia of the administrative path
	398/1	A.M. Stalcup	The mechanics of granting tenure: suggestions for academic departments
	398/7–8	J. Fetzer	Expert texpert—analytical chemists as expert witnesses
2011	399/1	G. Richmond	The sporting nature of science
	400/3	J. Fetzer	You never know enough, let alone know it all
2012	402/1	J. Fetzer	Building a professional career: reflecting on evolution
	402/1	D. Barceló	Experiences as visiting professor at King Saud University, Riyadh, Saudi Arabia
	402/6	S. Shinton	#better connected—a perspective on social media

Looking forward to the future of *Analytical and Bioanalytical Chemistry*, the editors anticipate that the new combined education and professional development column will have an even greater impact on the analytical science community in the years to come. One metric for judging impact is through article citations. I was initially surprised to see some of my education editorials cited in the literature, although given the subject matter, the number of citations of these articles is naturally limited. A better judge of the impact of these editorials is the number of downloads. Over the period January–September 2011, downloads for the articles published in 2010 through the "ABCs of Teaching Analytical Science" and the "Building a Professional Career" columns averaged around 115 per article. The column editors are pleased that the community continues to find this resource useful and look forward to their continued success.

The column editors look forward to the opportunity to highlight problems, opportunities, and strategies for success in the education and professional development of all ABC's readers and welcome your recommendations for topics that could be addressed in future issues.

Cynthia K. Larive is Professor of Analytical Chemistry and chair of the Department of Chemistry at the University of California Riverside. Her research includes the development of microcoil NMR detectors for online electrophoretic separations, characterization of heparin and heparan sulfate, and the application of metabonomics and metabolic profiling to study hypoxia in plants and cancer. Dr. Larive also serves as editor-in-chief of the Analytical Sciences Digital Library, a free internet resource for educators, students, and practitioners.