

## Lucille A. Benedict

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## Education

### ***Rensselaer Polytechnic Institute, Troy NY***

August 2007

PhD in Analytical Chemistry

Dr. Richard Bopp, Thesis Advisor

“Recent trends of polychlorinated biphenyls and polybrominated diphenyl ethers in the Hudson River basin”

### ***SUNY College at Oneonta, Oneonta, NY***

May 1998

B.S. in Chemistry

## Appointments

### ***Assistant Professor in Analytical Chemistry***

*September 2007 to Present*

*University of Southern Maine, Portland, Maine*

I teach undergraduate courses and laboratories in general chemistry, analytical chemistry, and instrumental analysis. Undergraduate research groups under my supervision study levels, trends and sources of organic contaminants and metals in a variety of samples ranging from sediments to cigarette ash.

### ***Graduate Research Assistant***

*January 2003 to August 2007*

*Rensselaer Polytechnic Institute, Troy, New York*

Studied organic contaminants in the Hudson River Basin sediment cores, focusing on polychlorinated biphenyls in the Waterford Pool in the upper Hudson River and polybrominated diphenyl ethers in the lower Hudson river and estuary. Research tasks included soxhlet extraction and GC analysis of organic contaminants in sediment samples, and data analysis of GC-FID, GC-ECD, and GC/MS results.

### ***Teaching Assistant***

*August 2002 to December 2002*

*Rensselaer Polytechnic Institute, Troy, New York*

Conducted and supervised an undergraduate general chemistry laboratory. Tasks included the grading of laboratory reports, assisting students with experiments, and the proctoring and grading of examinations.

### ***Undergraduate Research Assistant***

*May 2002 to August 2002*

*S.U.N.Y. College at Oneonta, Oneonta, New York*

Responsible for developing an analytical procedure to detect cocaine and methamphetamines in human urine using solid phase microextraction and GC-FID.

## Publications

Wise, Sr., J.P., Wise, S.S., LaCerte, C., Wise, J., Gianios, Jr., C., Thompson, W.D., Benedict, L. Payne, R. and Kerr, I. A Global Assessment of Silver Pollution using Sperm Whales (*Physeter macrocephalus*) as an Indicator Species. *Journal of Cetacean Research and Management*, In Press.

Wise, J. P., Payne, R., Wise, S. S., Lacerte, C., Wise, J., Gianios C., Thompson, W. D., Perkins, C., Zheng, T., Zhu, C., Benedict, L., Kerr, I., 2009. A global assessment of chromium pollution using sperm whales (*Physeter macrocephalus*) as an indicator species. *Chemosphere*, 75, 1461-1467.

Benedict, L. A. et al., 2009. *The Voyage of the Odyssey: The First Expedition March 2000-August 2005*. Ocean Alliance, Lincoln MA; 175 pgs.

Yan, B., Abrajano, T. A., Bopp, R. F., Benedict, L. A., Chaky, D. A., Perry, E., Song, J., Keane, D. P., 2006. Combined application of  $\delta^{13}\text{C}$  and molecular ratios in sediment cores for PAH source apportionment in the New York/New Jersey harbor complex. *Organic Geochemistry*, 37, 674-687.

Yan, B., Abrajano, T. A., Bopp, R. F., Chaky, D. A., Benedict, L., A., Chillrud, S. N. Molecular tracers of saturated and polycyclic aromatic hydrocarbon inputs into Central Park Lake, New York City. *Environmental Science and Technology*, 2005, ASAP article.

Yan, B.; Benedict, L.; Chaky, D. A.; Bopp, R. F.; Abrajano, T. A. Levels and patterns of PAH distribution in sediments from New York/New Jersey Harbor Complex. *Northeast. Geol. Environ. Sci.* 2004, 26, 113-122.

## Presentations

L. A. Benedict, L. J. Benedict, N. Chouinard, M. Barnett, J. Barilone. Levels, trends and fate of PAHs in dirt and dust from roads in the Long Creek Watershed, South Portland ME. Northeastern (46th Annual) and North-Central (45th annual) GSA Meeting, Pittsburgh PA.

M. Neidig, L. A. Benedict, Levels and trends of metals in Long Creek, South Portland, ME. Spring 241st ACS Meeting, Anaheim CA.

L. A. Benedict, H. E. Pence, Rip-Mix-Learn (RML): Using Google Docs to create collaborative multimodal class notes. Presentation for 240<sup>th</sup> ACS National Meeting, Boston, MA, August 22–26, 2010.

J. D. Crumrine, L. P. Redmond, J. Wise, O. Diomedea, L. A. Benedict, J. R. Ford, USM chemistry club expands the knowledge of chemistry using informational videos. Presentation for 239<sup>th</sup> ACS National Meeting, San Francisco, CA, March 21–25, 2010.

M. Miville, T. Vetrone, V. Smith, E. Radigan, L. Benedict, J. Ford, USM Chemistry Club opens the doorway into science for high school students. Presentation for 239<sup>th</sup> ACS National Meeting, San Francisco, CA, March 21–25, 2010.

L. A. Benedict, D. J. Stasko, High Tech Low Tech: a Look at Digital Version of Chalk Talks for the General Chemistry Classroom. Presentation for the 36<sup>th</sup> Northeast Regional ACS Meeting, Hartford, CT, October 7-9, 2009.

J. Fournier, D. Fox, N. Geller, L. A. Benedict, Fatty Acid Analysis of Grass fed vs. Corn fed Beef. Poster for USM Thinking Matter Symposium, Portland, ME, April 17, 2009.

S. Agopian, J. Dutremble, J. Mangano, L. A. Benedict, Fatty Acid Analysis of Farm Raised vs. Wild Caught Fish. Poster for USM Thinking Matter Symposium, Portland, ME, April 17, 2009.

J. Barilone, E. Favreau, E. Gjika, L. A. Benedict, Levels and Characterization of Polycyclic Aromatic Hydrocarbons in Street Dust. Poster for USM Thinking Matter Symposium, Portland, ME, April 17, 2009.

S. Hayes, J. Kilch, R. Mankowski, L. A. Benedict, Evaluation of Photocatalytic Degradation of Chlorinated Hydrocarbons in Wastewater Using Titanium Oxide. Poster for USM Thinking Matter Symposium, Portland, ME, April 17, 2009.

K. Horn, A. Lam, D. Shellenbarger, L. A. Benedict, Evaluation of photocatalytic degradation of polycyclic aromatic hydrocarbons in wastewater using titanium oxide. Poster for USM Thinking Matter Symposium, Portland, ME, April 17, 2009.

L. Andrews, M. Beaubien, A. Roy, C. Sawyer, L. A. Benedict, Assessing the Impacts of Residential Developments on Surface Water Quality of Local Watersheds. USM Thinking Matter Symposium, Portland, ME, April 17, 2009.

L. A. Benedict, Greening up Analytical Chemistry at USM: Preparing Students for a Greener Graduate School or Industrial Career. Presentation for 237<sup>th</sup> ACS National Meeting, Salt Lake City, UT, March 22–26, 2009.

E. Gjika, M. Vittorioso, L. A. Benedict, Levels fate, and toxicity of environmental contaminants in cigarette wastes. Poster for 237<sup>th</sup> ACS National Meeting, Salt Lake City, UT, March 22-26, 2009.

E. Gjika, R. Griffin, E. Lopez, K. M. Fecteau, L. A. Benedict, J. Ford, D. Crockett, USM bridges the gap between high school and college chemistry. Poster for 237<sup>th</sup> ACS National Meeting, Salt Lake City, UT, March 22-26, 2009.

E. Gjika, R. L. Griffin, S. M. Cote, L. A. Benedict, Chemistry laboratory research curriculum: Environmental contaminant analysis of solid cigarette wastes. Poster for USM Thinking Matter Symposium, Portland, ME, April 18, 2008.

A. Oliver, B. Kingsbury, L. A. Benedict, Chemistry laboratory research curriculum: Levels and fate of polycyclic aromatic hydrocarbons from solid cigarette waste. Poster for USM Thinking Matter Symposium, Portland, ME, April 18, 2008.

C. Bilodeau, V. Dickinson, L. A. Benedict, Chemistry laboratory research curriculum: Nutrient cycling in the Presumpscot River Basin. Poster for USM Thinking Matter Symposium, Portland, ME, April 18, 2008.

D. Lane, S. Kim, L. A. Benedict, Chemistry laboratory research curriculum: Chemical oxygen demand in impacted areas of the Presumpscot River Basin. Poster for USM Thinking Matter Symposium, Portland, ME, April 18, 2008.

L. A. Benedict, R. F. Bopp, D. A. Chaky, S. N. Chillrud, Levels, trends, and sources of polybrominated diphenyl ethers in Hudson River basin sediments. Poster for 235<sup>th</sup> ACS National Meeting, New Orleans, LA, April 6-10, 2008.

L. A. Benedict, D. Hanifi, S. Shuttle, K. M. Fecteau, J. Ford, and C. Prudente, USM Chemistry Club:

Sharing the excitement of chemistry locally and worldwide through podcasting. Poster for 235<sup>th</sup> ACS National Meeting, New Orleans, LA, April 6-10, 2008.

K. M. Fecteau, E. R. Fitch, S. Cote, S. Dhyana, L. A. Benedict, J. Ford, Strengthening the student scientific community at the University of Southern Maine. Poster for 235<sup>th</sup> ACS National Meeting, New Orleans, LA, April 6-10, 2008.

J. Ford, S. Dhyana, R. Griffin, K. Spruce, D. Crockett, C. K. Prudenté, L. A. Benedict, Targeted outreach modules: The USM Chemistry Club takes aim at the Maine State learning results. Poster for 235<sup>th</sup> ACS National Meeting, New Orleans, LA, April 6-10, 2008.

\* Student authors are underlined

## Funded Grants

USM-MEIF, November 2010. \$99,809. L. A. Benedict, P. Woodruff, *Characterization and bioremediation of polycyclic aromatic hydrocarbons (PAHs)*.

USM-MEIF, November 2010. \$50,000. K. Wilson, T. Willis, J. Staples, L. A. Benedict, *Lateral and longitudinal transport of urban contaminants*.

USM-Undergraduate Research Opportunities Program Associate Fellowship for Dustin Ambrose. November 2010. \$3,000. *Investigating The Levels of Polycyclic Aromatic Hydrocarbons in the Long Creek Watershed*.

USM-Undergraduate Research Opportunities Program Assistant Fellowship for Marie Neidig. November 2010. \$800. *Levels and Trends of Metals in the Street Dust from the Long Creek Watershed, South Portland, Maine*.

NSF-MRI (# 0922991). September 2009. \$231,738. L. A. Benedict, S. Langley-Turnbaugh, *MRI: Acquisition of XRF and Hg analysis instrumentation for collaborative faculty and student environmental research at USM*,

NSF-EAST Summer Undergraduate Research Fellowship for Laura Nusen. May 2009, \$3,500. *Polycyclic Aromatic Hydrocarbons (PAHs) Contaminates Found in Our Local Environment*.

Faculty Senate Research Grant. January, 2008. \$3,000. L. A. Benedict, *Levels and trends of environmental contaminants in cigarette wastes*.