

## Yi He, Ph.D.

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### EDUCATION:

Ph.D.	2000 - 2004	Analytical Chemistry, The City University of New York
M.Ph.	2000 - 2002	Analytical Chemistry, The City University of New York
M.Sc.	1997 - 1999	Analytical Chemistry, National University of Singapore, Singapore
M.Eng.	1995 - 1997	Environmental Chemical Engineering Shanghai Jiao Tong University, China
B.Eng.	1991 - 1995	(1) Applied Chemistry (2) Applied Electronic Techniques Shanghai Jiao Tong University, China

### PROFESSIONAL EXPERIENCE:

Guest Researcher	Sept 2012 – present	National Institute of Standard and Technology (NIST)
Associate Professor	Jan. 2009 – present	John Jay College of Criminal Justice and The Graduate Center The City University of New York
Assistant Professor	Sept. 2007 – Dec. 2008	The Graduate Center The City University of New York
Assistant Professor	Sept. 2004 – Dec. 2008	John Jay College of Criminal Justice The City University of New York

### RESEARCH ACTIVITIES:

- (a) *Analytical methods development and their forensic and environmental applications:*
- Elemental fingerprinting by inductively coupled plasma/mass spectrometry (ICP/MS) coupled with statistical analysis
  - Development of microextraction methods using functional selective ionic liquids (ILs) and their application to forensic analysis
  - Continuous flow, solid phase and liquid phase microextraction for volatile and semi-volatile compounds analysis
  - Rapid colorimetric determination of the date-rape drug of gamma-hydroxybutyric acid (GHB)
- (b) *Investigation of arsenic in environmental and biological samples:*
- Arsenic speciation using electrochemical methods and LC-ICP/MS
  - Basket survey of arsenic in commercial vegetable and rice samples
  - Effect of dietary arsenic on urinary arsenic
- (c) *Treatment of environmental pollutants:*  
(In collaboration with Shanghai Jiao Tong University)
- TiO<sub>2</sub>/Ti photoelectrocatalytic degradation of organic compounds in waste water

**ASSOCIATIONS:**

- American Chemical Society (ACS)
- Sigma Xi

**REVIEWER:**

- *Rapid Communication in Mass Spectrometry*
- *Journal of Chromatography A*
- *Environmental Science & Technology*
- *Analytica Chimica Acta*
- *Talanta*
- *Journal of Separation Science*
- *International Journal of Environmental Analytical Chemistry*
- *Journal of Applied Electrochemistry*
- *Journal of Hazardous Materials*
- *Journal of Environmental Sciences*
- *Analytical Methods*
- *Journal of Chemical and Engineering Data*
- *Journal of Chemical Education*
- PSC-CUNY proposals
- US EPA (Environmental Protection Agency)

**COURSES TAUGHT:**

The Graduate Center, CUNY (start from Spring 2010)

- Instrumental Analysis (Ph.D. course)

John Jay College of Criminal Justice, CUNY (2004 – Present)

- Instrumental Analysis I & II
- Undergraduate Research Internship
- Quantitative Analysis
- General Chemistry

Queens College, CUNY (2000 – 2004)

Undergraduate Laboratory Courses:

- Analytical Chemistry
- General Chemistry
- Introductory Chemistry

National University of Singapore (1998 – 1999)

Undergraduate Laboratory Course:

- Instrumental Analysis

Shanghai Jiao Tong University (1995 – 1997)

Undergraduate Laboratory Course:

- Instrumental Analysis

## PUBLICATIONS (LAST FIVE YEARS ONLY)

He, Y., Swenson, S., Lents, N.; Online Video Tutorials Increase Learning of Difficult Concepts in an Undergraduate Analytical Chemistry Course. *Journal of Chemical Education*, in press

Mhamood, N., He, Y., Petraco, N.D., Elemental fingerprints profile of beer samples constructed using fourteen elements determined by inductively coupled plasma – mass spectrometry (ICP-MS): Multivariation analysis and potential application to forensic sample comparison, *Analytical and Bioanalytical Chemistry*, 2012 (402):861–869

He, Y; Pedigo, C. E.; Lam, B., Cheng, Z.; Zheng, Y., Bioaccessibility of arsenic in various types of rice in an *in vitro* gastrointestinal fluid system, *Journal of Environmental Science and Health, Part B*, 2012 (47), 74–80

Li, K; He, Y; Xu, YL; Wang, YL, Jia JP; Degradation of Rhodamine B Using an Unconventional graded Photoelectrode with Wedge Structure, *Environ. Sci. Technol.* 2011 (45): 7401-7407

Young, A.; Lai, G.; Hung, B.; Yuen, A.; He, Y., Determination of trace chloroanilines in environmental water samples using hollow fiber-based liquid phase microextraction, *Chromatographia*, (2011) 74:83–88

He, Y; Zheng, Y., Assessment of *in vivo* bioaccessibility of arsenic in dietary rice by mass balance approach, *Science of the Total Environment*, 2010 (408), 1430-1436.

Xu, Y.-L., He, Y., Jia, J.-P., Zhong, D.-J., & Y.-L. Wang (2009). Cu-TiO<sub>2</sub>/Ti Dual Rotating Disk Photocatalytic (PC) Reactor: Dual Electrode Degradation Facilitated by Spontaneous Electron Transfer *Environmental Science & Technology*, 43, 6289-6294.

He, Y., Pohl, J., Engel, R., Rothman, L., & Thomas, M. (2009). Preparation of ionic liquid based solid-phase microextraction fiber and its application to forensic determination of methamphetamine and amphetamine in human urine. *Journal of Chromatography A*, 1216, 4824–4830

Xu, Y.-L., He, Y., Cao, X.-D., Zhong, D.-J., & Jia, J.-P. (2008). TiO<sub>2</sub>/Ti rotating disk photoelectrocatalytic (PEC) reactor: A combination of highly effective thin-film PEC and conventional PEC process on a single electrode. *Environmental Science & Technology*, 42, 2612-2617.

Chai, X.-L., He, Y., Ying, D.-W., Zhong, D.-J., Jia, J.-P., & Sun, T.-H. (2007). Electrosorption enhanced solid-phase microextraction using activated carbon fiber for determination of aniline in water. *Journal of Chromatography A*, 1165, 26-31.

He, Y., Vargas, A., & Kang, Y.-J. (2007). Headspace liquid-phase microextraction of methamphetamine and amphetamine in urine by an aqueous drop. *Analytica Chimica Acta*, 589, 225-230.

He, Y., Zheng, Y., & Locke, D. C. (2007). Cathodic stripping voltammetric analysis of arsenic species in environmental water samples. *Microchemical Journal*, 85, 265-269.

He, Y., & Kang, Y-J. (2006). Single drop liquid-liquid-liquid microextraction of methamphetamine and amphetamine in urine. *Journal of Chromatography A*, 1133, 35-40.

He, Y., & Lee, H. K. (2006). Continuous flow microextraction combined with high-performance liquid chromatography for the analysis of pesticides in natural waters. *Journal of Chromatography A*, 1122, 7-12.

van Geen, A., Zheng, Y., Cheng, Z., He, Y., Dhar, R.K., Garnier, J.M., et al. (2006). Impact of irrigating rice paddies with groundwater containing arsenic in Bangladesh, *Science of the Total Environment*, 367, 769-777.

#### **BOOK CHAPTER:**

He, Y.; In *Comprehensive Sampling and Sample Preparation*, Volume 3; Pawliszyn, J.; Le, X. C.; Li, X-F.; Lee, H. K.; Eds; Elsevier, Academic Press: Oxford, UK, pp 835-862, 2012.

Microextraction section for *Analytical Chemistry Text book* by G. Christian (2011).

#### **PRESENTATIONS (LAST THREE YEARS ONLY)**

Mhamood, N., He, Y., Petraco, N.D., (2010) Determination of elemental fingerprints of Beer Samples by Using Inductively Coupled Plasma Mass Spectrometry (ICP-MS), *Eastern Analytical Symposium*, Somerset, New Jersey

He, Y., Ekstrom, M., Siu, E., Narayne, T., (2010) Quantitative Determination of Gamma Butyrolactone in Beverages by Colorimetric Method, Pittcon, Orlando, FL

He, Y., Pedigo, C., Lam, B., (2009) Investigation of Bioaccessibility of Arsenic in Rice Using Artificial Gastric-Small Intestinal Fluid Extraction and HPLC-ICP-MS Detection, *Eastern Analytical Symposium*, Somerset, New Jersey

Brown, D., He, Y., (2009) Determination of Nitroaromatic Explosives in Water Using Headspace Ionic Liquid Based Solid-phase Microextraction (SPME) with Gas chromatography-Mass spectrometry (GC-MS), *NEAFS Annual Meeting*, Long Branch, New Jersey

Brown, D., He, Y., (2009) Determination of Nitroaromatic Explosives in Water Using Headspace Ionic Liquid Based Solid-phase Microextraction (SPME) with Gas chromatography-Mass spectrometry (GC-MS), *Pittcon*, Chicago, Illinois

He, Y. (2008) Application of Microextraction methods to Forensic Analysis, *Eastern Analytical Symposium*, Somerset, New Jersey

Pohl, J., He, Y., (2008) Determination of Methamphetamine and Amphetamine in Urine by Ionic Liquid Based Solid-phase Microextraction (SPME) Coupled with Gas chromatography-Mass spectrometry (GC-MS), *Eastern Analytical Symposium*, Somerset, New Jersey

Pohl, J., He, Y., (2008) Determination of Methamphetamine and Amphetamine in Urine Using Ionic Liquid Based Headspace Solid-phase Microextraction (HS-SPME) and Gas chromatography-Mass spectrometry (GC-MS), 40th *Middle Atlantic Regional Meeting*, May 17-21, Bayside, Queens NY

He, Y., Young, A., Lai, G., Hung, B., Yuen, A. (2008). Determination of Chloroanilines in Environmental Waters Using Hollow Fiber Supported Liquid-liquid Microextraction. *Pittcon*, New Orleans, Louisiana.