

# Theresa Evans-Nguyễn

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## EDUCATION

M.S. Biotechnology (2018, expected)

The Johns Hopkins University – Advanced Academic Programs, Baltimore, MD

Concentration in Regulatory Affairs

*Relevant Coursework: Molecular Biology, Advanced Cell Biology (I,II), Biological Processes in Regulatory Affairs, Biostatistics, Clinical and Molecular Diagnostics*

Ph.D., Analytical Chemistry (2005)

The University of North Carolina at Chapel Hill, Chapel Hill, NC

Research Advisor: Dr. Tomas Baer

Dissertation Title: “Development of a Field Portable Aerosol Time-of-Flight Mass Spectrometer”

B.S., Chemistry (2000)

The College of William & Mary, Williamsburg, VA

Research Advisor: Dr. Robert D. Pike

Undergraduate Thesis: “Copper(I)-substituted Pyrazine Complexes: Synthesis and Electronic Properties”

## EXPERIENCE

University of South Florida (August 2015-present): Assistant Professor of Chemistry

- Directed graduate students in analytical chemistry instrumentation and method development
- Teaching graduate level Mass Spectrometry and undergraduate Analytical Chemistry

Draper Laboratory (July 2009 - April 2015): Senior Staff Scientist

- Directed modeling and experimental design of plasma chromatography coupled to mass spectrometry
- Mentored LC-MS applications method development to quantify and qualify carcinogenic mechanisms of drug efficacy and toxicity
- Led government sponsored contracts in analytical instrument design and development for radio/nuclear forensic analysis.
- Analyzed candidate prophylactic development system designed for rapid mitigation of influenza-based viral epidemic
- Led proposal efforts to a number of funding agencies including BARDA, DHS, NASA, NSF, NIH, DTRA, DOE, NIJ, CTTSO, CDMRP

Johns Hopkins University School of Medicine (October 2005 – June 2009):

*Post-Doctoral Fellow under advisement of Prof. Robert J. Cotter*

- Designed an ion trap mass spectrometer for the ESA ExoMars mission searching for life
  - Implemented RF electronics, programming, and vacuum equipment
  - Interfaced with collaborators in engineering disciplines for GC-MS coupling
  - Submitted progress reports and presented status updates for independent review panels
- Developed aerosol MALDI -TOF-MS to analyze single biological cells.
  - Designed light scattering optics to track single particle laser desorption
- Studied Human CSF samples for biomarker analysis of HIV Dementia by HPLC-MS/MS
  - Performed gel electrophoresis and immunocapture methods

The University of North Carolina at Chapel Hill (2000-2005)

*PhD Graduate Student under advisement of Prof. Tomas Baer*

- Designed a single particle MS to study aerosol chemistry's impact on atmospheric conditions

- Developed instrumentation skills including: high voltage electronics, machining, data acquisition programming, laser optics (IR, UV/VUV), and ion optics modeling for a home-built Time-of-Flight MS
- Quantified organic nitrate compounds towards the study of secondary organic aerosols
- Completed program coursework in broadband analytical chemistry technologies including electrochemistry, optical spectroscopy, mass spectrometry, chromatography, and electronics

#### The College of William & Mary (1999-2000)

- Synthesized and analyzed organometallic compounds electronic properties using NMR, UV/Vis Spectroscopy, IR, Cyclic Voltammetry, and Molecular Modeling

#### **SOFTWARE SKILLS**

Labview, Solidworks, SIMION, MS Project, Originlab, R

#### **HONORS AND AWARDS**

GAANN Teaching Fellowship, 2001-2002  
 Hypercube Award (Computational Chemistry), 2000  
 GTE Summer Research Fellowship, 1999  
 Monroe Academic Scholar, 1996-2000  
 William & Mary Academic Scholar, 1996-2000

#### **AFFILIATIONS**

American Association for Aerosol Research, 2002  
 American Chemical Society, 2004-present  
 American Society for Mass Spectrometry, 2004-present  
 Ad hoc Reviewer – Defense Threat Reduction Agency – 2012-2013  
 Panel Reviewer – National Aeronautics and Space Administration – 2015-present  
 Peer Reviewer – Journal of the American Society for Mass Spectrometry; Analytical Chemistry, International Journal of Mass Spectrometry – 2007-present

#### **PUBLICATIONS/PRESENTATIONS** Undergraduate Researcher; Graduate Researcher

Ayodeji, I.; Vazquez, T.; Bailey, R.; and Evans-Nguyen, T. *Rapid pre-filtering of amphetamine and derivatives by direct analysis in real time (DART)-differential mobility spectrometry (DMS)*. Analytical Methods (2017) DOI:10.1039/C7AY00892A

Manolakos, S.; Sinatra, F. L.; Albers, L.; Hufford, K.; Alberti, J.; Nazarov, E; Evans-Nguyen, T. *Differential Mobility for Inorganic Filtration in Nuclear Forensics*. Analytical Chemistry (2016) DOI: 10.102/acs.analchem.6b01441

Sinatra, F. L.; Wu, T.; Manolakos, S.; Wang, J.; Evans-Nguyen, T. G. *Differential Mobility Spectrometry–Mass Spectrometry for Atomic Analysis*. Analytical Chemistry (2015), 87, 1685–1693.

Lee, I., Tran, M., Evans-Nguyen, T., Stickle, D., Kim, S., Han, J., ... & Yang, M. (2015). *Detoxification of chlorella supplement on heterocyclic amines in Korean young adults*. Environmental toxicology and pharmacology, 39(1), 441-446.

Wang, Di, Friso HW van Amerom, and Theresa Evans-Nguyen. *High-Speed Digital Frequency Scanning Ion Trap Mass Spectrometry*. Analytical Chemistry (2013), 85(22): 10935-10940.

Evans-Nguyen, Theresa; Parker, Charles B.; Hammock, Christina; Monica, Andrew H.; Adams, Elena; Becker, Luann; Glass, Jeffrey T.; Cotter, Robert J. *Carbon Nanotube Electron Ionization Source for Portable Mass Spectrometry*. Analytical Chemistry (2011), 83(17), 6527-6531.

Cotter, Robert J.; Swatkowski, Steve; Becker, Luann; Evans-Nguyen, T. *Time-of-Flights and Traps: From the Histone Code to Mars*. European J Mass Spectrom (2010), 16(3): 331-40.

Cotter, Robert J.; McGrath, Sara; Jelinek, C.; Evans-Nguyen, T. *Development of Miniaturized MALDI Time-of-Flight Mass Spectrometers for Homeland Security and Clinical Diagnostics*, In: Miniaturization and Mass Spectrometry, Severine Le Gac and Albert van den Berg ed., RSC Publishing, 291-310, 2009.

Evans-Nguyen, Theresa; Becker, Luann; Doroshenko, Vladimir; Cotter, Robert, *Development of a low power, high mass range mass spectrometer for Mars surface analysis*. International Journal of Mass Spectrometry (2008), 278(2-3), 170-177.

Evans-Nguyen, Theresa; Muratore, Justin; Brinckerhoff, William; Becker, Luann; Doroshenko, Vladimir; Cotter, Robert, *Mars Organic Molecule Analyzer (MOMA): An Investigation of the Potential for Life on Mars Using Ion Trap Mass Spectrometry*. American Society for Mass Spectrometry 55th National Meeting, Indianapolis, IN, June 3 – June 7, 2007. (Oral)

Dessiaterik, Yury; Nguyen, Theresa; Baer, Tomas; Miller, Roger. *IR Vaporization Mass Spectrometry of Aerosol Particles with Ionic Solutions: The Problem of Ion-Ion Recombination*. Journal of Physical Chemistry A (2003), 107(50), 11245-11252.