

## APRIL J HARRY, PH.D.

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ajharry.github.io

### EDUCATION

<b>PhD</b>	<b>Purdue University</b> , Statistics <i>Advisor: Olga Vitek, Northeastern University</i> <i>Thesis title: "Design and statistical analysis of mass spectrometry imaging experiments"</i>	Dec 2017
<b>MS</b>	<b>Purdue University</b> , Applied Statistics	May 2012
<b>BS</b>	<b>Xavier University of Louisiana</b> , Mathematics <i>Double Concentration in Statistics and Philosophy</i> <i>Summa Cum Laude</i>	May 2010

### HONORS AND AWARDS

<b>George Washington Carver Fellowship</b> <i>Awarded by Purdue University Graduate School to high-achieving students accepted to a Ph.D. program from Historically Black Colleges and Universities, Hispanic-serving institutions, or Tribal colleges</i>	2010-2015
<b>Purdue University StatCom Community Service Award</b>	2015
<b>Oracle Infinite Possibilities College Scholarship</b> <i>Awarded to underrepresented minority women displaying merit and an intention to study and pursue a career in mathematics or statistics</i>	2010

### PUBLICATIONS

- Harry, April**; Vitek, Olga. Accounting for spatial heterogeneity in design and analysis of mass spectrometry-based imaging experiments. *In Preparation*.
- Harry, April**; Bemis, Kylie; Guo, Dan; Thomas, Mathew; Lanekoff, Ingela; Stenzel-Poore, Mary; Stevens, Susan; Laskin, Julia; Vitek, Olga. Statistical detection of differentially abundant ions in mass spectrometry-based imaging experiments with complex designs. *International Journal of Mass Spectrometry*. Under review.
- Bemis, Kylie; **Harry, April**; Eberlin, Livia; Ferreira, Christina; van de Ven, Stephanie; Mallick, Parag; Stolowitz, Mark; Vitek, Olga. May 2016. "Probabilistic segmentation of mass spectrometry images helps select important ions and characterize confidence in the resulting segments." *Molecular & Cellular Proteomics*. 15(5):1761-72.
- Bemis, Kylie; **Harry, April**; Eberlin, Livia; Ferreira, Christina; van de Ven, Stephanie; Mallick, Parag; Stolowitz, Mark; Vitek, Olga. July 2015. "Cardinal: An R Package for Statistical Analysis of Mass Spectrometry-Based Imaging Experiments." *Bioinformatics (Oxford, England)*. 31 (14): 2418–2420.
- Kaufman, J.; Lessler, J.; **Harry, April J.**; Edlund, S.; Hu, K.; Douglas, J.; Thoens, C.; Appel, B.; Käsbohrer, A.; Filter, M. 2014. A likelihood-based approach to identifying contaminated food products using sales data: performance and challenges. *PLOS Computational Biology*. 10(7): e1003999.

## **PUBLICATIONS, CONT.**

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**Harry, April**; Troisi, J., Aug 2014, STATtr@k: Service Oriented Statistics. *AMSTATNEWS*. p 19.

**Harry, April J.**, Kent, C., Kocic, V., March 2012, Global behavior of solutions of a periodically forced Sigmoid Beverton-Holt model. *Journal of Biological Dynamics*. 6(2): 212-234.

## **PRESENTATIONS AND TALKS**

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**Statistical detection of differentially abundant ions in mass spectrometry-based imaging experiments with complex designs** Oct 2017  
*Imaging Mass Spectrometry Society Inaugural Meeting, Waltham, MA*

**My Experience as a PhD Student** Mar 2017  
*Minority Access to Research Careers (MARC)*  
*Xavier University of Louisiana, New Orleans, LA, USA*

**Statistical Design and Analysis of Mass Spectrometry Imaging Experiments** Jun 2016  
*Enhancing Diversity in Graduate Education (EDGE)*  
*Purdue University, West Lafayette, IN, USA*

**Biomedical applications of Cardinal: a mass spectrometry imaging toolbox for statistical analysis** Jun 2016  
*American Society for Mass Spectrometry*  
*San Antonio, Texas, USA*

**Statistical testing for differentially abundant ions in mass spectrometry imaging experiments** Mar 2015  
*United States Human Proteome Organization (US HUPO)*  
*Tempe, Arizona, USA*

**A likelihood based method for accelerating investigation of food-borne disease outbreaks: an internship experience** Sep 2013  
*Exploring Statistical Sciences Research Seminar, Purdue University*

**A (very) brief introduction to graphical models** Jul 2013  
*MSRI-Undergraduate Program Workshop*  
*Mathematical Sciences Research Institute, Berkeley, California, USA*

## **SERVICE AND OUTREACH**

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**Director**, Purdue University StatCom Aug 2014-Aug 2015  
*Acted as lead coordinator for service-oriented statistical consulting group*

**Volunteer Consultant**, Purdue University StatCom 2012-2016  
*Designed experiments and surveys, analyzed and visualized data for government and non-profit groups*

## **TEACHING EXPERIENCE**

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**Teaching assistant**, Purdue University Jan 2015-May 2015  
Course: STAT 301: Elementary Statistical Methods  
*Instructed lab sections using the SPSS statistical computing software, graded exams and lab assignments, held office hours*

## EMPLOYMENT

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**Research Technician, College of Science** 2016-Present  
Northeastern University, Boston, Massachusetts, USA

**Research Assistant, Department of Statistics** 2015-2016  
Purdue University, West Lafayette, Indiana, USA

**Peer Mentor, Enhancing Diversity in Graduate Education (EDGE)** 2014  
Harvey Mudd College, Claremont, California, USA  
*Directly mentored fourteen underrepresented, female students preparing for graduate programs in the mathematical sciences; Facilitated daily homework problem sessions; Organized community-building activities*

**Summer Intern, IBM Almaden Research Center** 2013  
San Jose, California, USA  
*Public Health Research Team, manager James Kaufman  
Analyzed the performance of a likelihood-based method for determining contamination sources of food-borne illness epidemics*

**Private Tutor, Purdue Disabilities Resource Center** 2012-2013  
*Provided assistance to students learning Algebra, Trigonometry, and Calculus who have been identified as having learning disabilities*

**Student Researcher, Minority Access To Research Careers** 2008-2010  
Xavier University of Louisiana, New Orleans, Louisiana, USA  
*Worked with a faculty mentor to model populations using difference equations  
Project Title: "Dynamics of the Sigmoid Beverton-Holt Population Model"*

## PROGRAMMING LANGUAGES

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Expert in R  
Proficient in C

## PROFESSIONAL DEVELOPMENT

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Hierarchical Bayesian Modeling and Analysis for Spatial Data 2014  
Joint Statistical Meetings, Short Course

MALDI Imaging Mass Spectrometry 2014  
American Society for Mass Spectrometry, Short Course

JSM Diversity Mentoring Program 2013  
Joint Statistical Meetings 2013, Montreal, Quebec, CA

Responsible Conduct of Research Certification, 2012  
Collaborative Institutional Training Initiative

Enhancing Diversity in Graduate Education (EDGE) 2010  
North Carolina State University, Raleigh, North Carolina, USA

## MEMBERSHIPS AND AFFILIATIONS

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Imaging Mass Spectrometry Society  
Greater Boston Mass Spectrometry Discussion Group  
US Human Proteome Organization  
American Statistical Association  
Mu Sigma Rho Statistical Honor Society