

Manju M. Johny

2414 Snedecor Hall, 2438 Osborn Drive, Ames, IA, 50011

✉ | mjohny@iastate.edu | [mjohny.github.io](https://github.com/mjohny) | [f mjohny](#) | [in mjohny](#)

Education

Doctor of Philosophy in Statistics

IOWA STATE UNIVERSITY

Ames, IA

Aug. 2014 - May 2020 (Expected)

Master of Science in Statistics

IOWA STATE UNIVERSITY

Ames, IA

Aug. 2014 - May 2017 (Expected)

Bachelor of Arts in Mathematics and Chemistry

SAINT LOUIS UNIVERSITY

St. Louis, MO

Aug. 2010 - May 2014

Skills

Programming R, LaTeX, SAS, JMP, Excel

Languages English (native); Malayalam (native); Spanish (limited working fluency)

Honors & Awards

INTERNATIONAL

2016 **Second Place**, Prudsys Data Mining Cup

Berlin, Germany

DOMESTIC

2014 **Alumni Fellowship**, Iowa State University

Ames, IA

2013-14 **ORISE Fellowship**, Oak Ridge Institute for Science and Education; US FDA

St. Louis, MO

2014 **Pi Mu Epsilon Member**, US National Mathematics Honor Society

2013 **Dean's List**, Saint Louis University

St. Louis, MO

2010-14 **Vice President's Scholarship**, Saint Louis University

St. Louis, MO

2010-14 **Bright Flight Scholarship**, Missouri Department of Higher Education

St. Louis, MO

2010 **Advanced Placement Scholar with Distinction**, The College Board

Research

Master's Creative Component:

Asymptotic functional ANOVA for ecological time series data

Ames, IA

IOWA STATE UNIVERSITY

2016

MENTOR: PETRUTZA CARAGEA, PH.D

- Utilized an asymptotic functional ANOVA approach to study treatment effects of heating and snow removal on soil moisture and temperature time series data. Approach involved smoothing data using fourier and b-spline basis, and generating bootstrap resample curves using the covariance structure of the original data.
- Expected date of defense: Spring 2017

Research Fellow

St. Louis, MO

DPA/CDER/US FOOD AND DRUG ADMINISTRATION.

Summer 2014

MENTORS: JASON RODRIGUES, PH.D; CONNIE GRYNIEWICZ-RUZICKA, PH.D

- Developed an algorithm in MATLAB to transfer laboratory methods to field instruments
- Developed rapid screening methods to identify adulteration of pharmaceutical materials on bench top and portable Ion Mobility Spectrometry instruments.
- Research culminated in a formal talk to Department of Pharmaceutical Analysis, CDER/FDA.

DPA/CDER/US FOOD AND DRUG ADMINISTRATION.

Summer 2013

MENTORS: JASON RODRIGUES, PH.D; HONGPING YE, PH.D

- Devoped statistical methods for disaccharide analysis to test for ruminant contamination in heparin.
- Developed Raman and near Infrared spectral libraries for screening of pharmaceutical materials.
- Research culminated in formal talk to Department of Pharmaceutical Analysis, CDER/FDA, and poster presentation at Center for Drug Evaluation and Research Science Day in White Oak, MD.

Teaching

INSTRUCTOR

2015-16 **STAT 101: Principles of Statistics**, Iowa State University

Ames, IA

LAB INSTRUCTOR

2014-15 **STAT 101: Principles of Statistics**, Iowa State University

Ames, IA

GRADER

2014-15 **STAT 104: Introduction to Statistics**, Iowa State University

Ames, IA

2015 **STAT 401: Statistical Methods for Research Workers**, Iowa State University

Ames, IA

TUTOR

2013-14 **Statistics Tutor**, Saint Louis University

St. Louis, MO

2010 **Mathematics Tutor**, Jefferson College

Hillsboro, MO

Publications

Rodriguez, J. D.; Skaggs, S.K.; Johny, M.; Srivastava, H.K.; Loethen, Y.L.; Arzhantsev, S.; Kauffman, J. F.; Buhse, L.F. Distribution of Spectral Libraries Across Different Field Deployable Raman and Near Infrared Instruments. *Am. Pharm. Review* 2014, 17, 10-17.

Abstracts & Presentations

ABSTRACTS

Jason D. Rodriguez, Steven K. Skaggs, Manju M. Johny, Hirsch K. Srivastava, and Yvette L. Loethen, "Evaluating the Performance of Field Screening Using Portable Raman and Near Infrared Spectrometers" IFPAC Conference; Feb. 2015.

PRESENTATIONS

Manju M. Johny, Steven K. Skaggs, Connie M. Gryniewicz-Ruzicka, Jason D. Rodriguez, "Development of IMS Library for Detection of Adulterants; Standardization of Ramen Spectra Across 5 Different Instruments" FDA Summer Research Symposium, St. Louis, MO USA; Aug 2014.

Jason D. Rodriguez, Steven K. Skaggs, Manju M. Johny, Sergey Arzhantsev, Yvette L. Loethen, Hirsch K. Srivastava, John F. Kauffman, and Lucinda F. Buhse, "Developing Spectral Libraries for Domestic and Foreign Screening of Pharmaceutical Materials" CDER Science Day; White Oak, MD USA; Sept 2013.

Manju M. Johny, Hongping Ye, "Disaccharide Analysis to Test Ruminant Contamination of Heparin" FDA Summer Research Symposium, St. Louis, MO USA; Aug 2013.

Activities & Community Outreach

2014-16 **Iowa State STATers**, Iowa State University

Ames, IA

2012-13 **Chemistry Club; Position: Demonstration Captain**, Saint Louis University

St. Louis, MO

2008-13 **Volunteer at Sunrise Assisted Living**,

Des Peres, MO

2013 **Lion's Club International; Vision Screening Community**, Saint Louis University

St. Louis, MO

Graduate Courses

STAT 500: Statistical Methods I	Fall 2014
STAT 510: Statistical Methods II	Spring 2015
STAT 520: Statistical Methods III	Fall 2015
STAT 611: Theory & Application of Linear Models	Fall 2016
STAT 542: Theory of Probability & Statistics I	Fall 2014
STAT 543: Theory of Probability & Statistics II	Spring 2016
STAT 641: Foundation of Probability Theory	Fall 2016
STAT 551: Time Series Analysis	Fall 2015
STAT 534: Ecological Statistics	Fall 2015
STAT 544: Bayesian Statistics	Spring 2016
STAT 579: An Introduction to R	Fall 2014
STAT 580: Statistical Computing	Spring 2015