# Tyler Grimes

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## Education

**Ph.D. Biostatistics** 2016 – May, 2020
University of Florida, Gainesville, FL
Advisor: Somnath Datta
Thesis: (tentative) "Some contributions to the differential network analysis of –omics data"

**M.S. Mathematics**, concentration in Statistics 2014 – 2016
University of North Florida, Jacksonville, FL
Advisor: Ping Sa
Thesis: "A saddlepoint approximation to hypothesis test of variance for non-normal populations"

**B.S. Mathematics**, minor in Computer Science 2010 – 2014
University of Central Florida, Orlando, FL

## Employment

**Graduate Research Assistant** 2016 – present
University of Florida, Department of Biostatistics

**Graduate Teaching Assistant** 2014 – 2016
University of North Florida, Department of Mathematics and Statistics

## Teaching Experience

Instructor – Business Calculus, University of North Florida Spring 2016

- Duties included lecturing, holding weekly office hours, and creating the course syllabus, lecture notes, homework sets, quizzes, and exams.

Teaching Assistant, University of North Florida 2014 – 2016

- Assisted in elementary statistics courses. Presented information, lead discussions, and administered quizzes in weekly breakout sessions; managed computer lab sessions; held weekly office hours.

## Publications

1. **Grimes, T.**, Walker, A., Datta, S., Datta, S., (2018) Predicting survival times for neuroblastoma patients using RNA-Seq expression profiles. *Biology direct*

2. Walker, A., **Grimes, T.**, Datta, S., Datta, S., (2018) Unraveling bacterial fingerprints of city subways from microbiome 16S gene profiles. *Biology direct*

*Under Review:*

3. **Grimes, T.**, Potter, S., Datta, S., Integrating gene regulatory pathways into differential network analysis of gene expression data

*In Progress:*

4. **Grimes, T.**, Datta, S., (tentative) SeqNet: an R package for simulating RNA-seq datasets from gene-gene association networks.

5. **Grimes, T.**, Datta, S., (tentative) Joint estimation of gene-gene association networks by neighborhood selection with sparse PLS.

6. **Grimes, T.**, Datta, S., (tentative) An exploratory approach for identifying novel biomarkers in high-risk cancer patients from RNA-seq data.

7. **Grimes, T.**, Ping, S., (tentative) A saddlepoint approximation to hypothesis tests of variance for non-normal populations.

## Presentations

*Talks:*

1. ISMB/CAMDA International Conference, Chicago, IL July 6 – 10, 2018
   "An exploratory approach for identifying novel biomarkers in high-risk cancer patients from RNA-seq data"

2. ISMB/ECCB International Conference, Prague, Czech Republic July 21 – 25, 2017
   "Predicting survival times for neuroblastoma patients using RNA-Seq expression profiles"

*Posters:*

3. IISA International Conference on Statistics, Gainesville, FL May 17 – 20, 2018
   "Predicting Survival Times for Neuroblastoma Patients Using RNA-Seq Expression Profiles"

4. UF College of PHHP Research Day, Gainesville, FL April 6, 2018
   "Predicting Survival Times for Neuroblastoma Patients Using RNA-Seq Expression Profiles"

5. UF College of Medicine Celebration of Research, Gainesville, FL Feb. 19, 2018
   "Differential network analysis based on next-generation sequencing data"

6. UF Graduate Student Research Day, Gainesville, FL April 3, 2018
   "Predicting Survival Times for Neuroblastoma Patients Using RNA-Seq Expression Profiles"

7. UF Dept. of Statistics Winter Workshop, Gainesville, FL Jan. 19 – 20, 2018
   "Differential network analysis based on next-generation sequencing"

8. JSM, Baltimore, MD July 21 – 25, 2017
   "Differential network analysis based on next-generation sequencing"

9. FaceBase Scientific Meeting, Boston, MA May 1 – 2, 2017
   "A differential network analysis of palatal development"

## Projects

My github account hosts various projects including the R package SeqNet that simulates RNA-sequencing data from any underlying association network; course projects such as a stochastic approximation algorithm for minimum graph bisection; conference challenges including the CAMDA 2017 Neuroblastoma challenge; and other personal projects.

## Professional Memberships

American Statistical Association (ASA)
International Society for Computational Biology (ISCB)

## Journal Referee

BMC Bioinformatics (3)
Communications in Statistics - Simulation and Computation (2)

## Service

**Seminar Committee Chair** - Doctoral Student Council 2018 – present
College of Public Health and Health Professionals, University of Florida

**Founding President** - Biostatistics Student Organization 2017 – present
Department of Biostatistics, University of Florida

**Executive Board Member** - Doctoral Student Council 2017 – 2018
College of Public Health and Health Professionals, University of Florida

## Honors and Awards

Travel fellowship 2018
Granted by CAMDA committee to present at ISMB/CAMDA 2018, Chicago, Illinois

Travel fellowship 2017
Granted by CAMDA committee to present at ISMB/ECCB 2017, Prague, Czech Republic

PhD Student Travel Award 2017
College of Public Health and Health Professionals, University of Florida

Student Travel Award 2017
Department of Biostatistics, University of Florida

Outstanding Graduate Student in Statistics 2016
University of North Florida

UCF Scholars Award (scholarship and summer grant) 2012 – 2013
University of Central Florida

Florida Academic Scholars Award (four-year scholarship) 2010 – 2014

## Funding

**U.S. Department of Veterans Affairs IPA**, Sept. 1 2018 – Aug. 31 2019; VA supervisor: Somnath Datta

**National Institutes of Health**, "Exploratory Statistical Analysis of Differential Network Behaviors based on Gene Expression Atlas of Palate Development", Aug. 2016 – July 2019; PI: Somnath Datta