MATTHEW R. JUST   MRJ

PERSONAL INFORMATION

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Address	*The University of Georgia, 1023 D. W. Brooks Drive*
	Athens, GA 30605

EDUCATION

2016–present
PhD in Mathematics (In Progress)
University of Georgia · Athens, GA

2014–16
M.S. in Mathematics (In Progress, Expected Completion May 2016)
Georgia Southern University · Statesboro, GA
Thesis: *Combinatorial Optimization of Subsequence Patterns in Words* · Advisor: Hua WANG

2008–2012
B.S. in Physics
Georgia Southern University · Statesboro, GA

EMPLOYMENT

2016–present
Teaching Assistant
University of Georgia · Department of Mathematics · Statesboro, GA
- Teaching assistant for Writing Intensive Program Fall 2016: Arithmetic for Middle Grades Teachers and Geometry for Elementary School Teachers.
- Currently teaching Analytic Geometry and Calculus.

2015–2016
Teaching Assistant
Georgia Southern University · Department of Mathematical Sciences · Statesboro, GA
- Taught recitations for Calculus I and II.
- Provided tutoring for undergraduate mathematics courses.

2014–2015
Research Assistant
Georgia Southern University · Department of Public Health · Statesboro, GA
- Three projects involving **interdisciplinary collaboration**.
- Work led to two publications.
- Assisted teaching a course in Advanced Infectious Disease Modeling.

2013–2014
Secondary Mathematics Teacher
Bulloch Academy · Statesboro, GA
- Taught Geometry, Trigonometry and Advanced Algebra.
- Served as faculty sponsor for Math Team and Beta Club.
- Coached cross country and track and field teams.

2010–2012
Teaching Assistant
Georgia Southern University · Department of Physics · Statesboro, GA
- Taught lab sections for introductory Physics and Astronomy courses.
- Assisted primary professor in creating and grading exams.
- Provided tutoring for students in introductory Physics.

RESEARCH EXPERIENCE

2014–2016   **Combinatorics**

- Pattern packing in colored permutations.
- Pattern containment in words and compositions.
- **Supported by grants from the Simons Foundation (#245307)**

2014–2016   **Graph Theory**

- Embedded graphs in ordered bipartite graphs.
- Modeling infectious disease spread on random social network graphs.

2014-Present   **Epidemiology**

- Analyzing mathematical models to guide field epidemiologists collect data.
- Development and implementation of ODE models via R and Matlab.
- Parameter estimation via Latin hypercube sampling, multivariate statistical analysis.
- **Supported by internal grants**

PUBLICATIONS

Public Health Publications

Authors of papers in Public Health journals are listed in order of contribution with the senior author being placed last.

Aug. 2015   *Transmission Models of Historical Ebola Outbreaks*
Emerging Infectious Diseases. 21(8): 1447-1450.
Authors: John Drake, Iurii Bakach, Matthew Just, Suzanne O'Regan, Manoj Gambhir, Isaac Chun-Hai Fung

Sept. 2015   *Typhoid transmission: a historical perspective on mathematical model development*
Transactions of the Royal Society of Tropical Medicine and Hygiene, 109 (11): 679-689. Authors: Iurii Bakach, Matthew Just, Manoj Gambhir, Isaac Chun-Hai Fung

In Preparation   *Optimal Intervention Strategies for Shared Sanitation: A mathematical model of Cholera and Norovirus*
Authors: Matthew Just, Isaac Chun-Hai Fung

Mathematical Publications

Authors of papers in Mathematical journals are listed in alphabetical order.

Accepted   *Colored patterns and their packing densities*, to appear in
Congressus Numernatium
Authors: Matthew Just, Hua Wang

Accepted   *Note on packing patterns in colored permutations*
Authors: Matthew Just, Hua Wang

In Preparation   *Embedded Paths in Ordered Bipartite Graphs*
Authors: Matthew Just, Colton Magnant

Submitted   *Pattern Containment in Strongly and Weakly Layered Words*
Authors: Daniel Gray, Matthew Just, Hua Wang

ACADEMIC TALKS

Sept. 2016   *Restricted Parts in Cyclic Compositions*
Contributed Talk, Graduate Seminar, Athens, GA

June 2016   *Combinatorial Optimization of Subsequence Patterns in Words*
To fulfill MS Mathematics degree, Statesboro, GA

March 2016   *Pattern Containment in Various Words*
Contributed Talk, AMS Spring Southeastern Sectional Meeting, Athens, GA

Sept. 2015   *Subsequence Pattern Packing in Permutations and Compositions*
Discrete Math Seminar, Armstrong Atlantic State University, Savannah, GA

May 2015   *Optimal Permutations in Restricted Permutation Sets*
28th Cumberland Conference, Columbia, SC

April 2015   *Packing Densities of Colored and Non-Colored Permutations*
Georgia Southern Graduate Research Symposium, Statesboro GA
2nd Place Presentation, Natural Sciences

March 2015   *On Colored Packing Densities*
**Special Session on Discrete Mathematics, MAA Southeastern Section
Conference, Wilmington, NC**

Feb. 2015   *Pattern Packing in Colored Permutations*
46th Southeastern International Conference, Boca Raton, FL

COMPUTER SKILLS

R Programming Certificate
John Hopkins University
Awarded: September 4, 2014

R, MatLab, python, LaTeX, Mathematica

HONORS AND OTHER ACTIVITIES

2015 · **2nd Place Presentation**, Natural Sciences, Georgia Southern Graduate
Research Symposium

AMS (American Mathematical Society) member

Refereed for Theory and Applications of Graphs

Accomplished Guitarist