CHRISTINA DURÓN

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ACADEMIC EMPLOYMENT

Postdoctoral Research Associate *Aug 2019 – present*
Mathematics Department, University of Arizona

RESEARCH INTERESTS

Network theory; statistical analysis and modeling of complex networks; mathematics-biology

EDUCATION

Claremont Graduate University *May 2019*
Ph.D. in Mathematics

- **Dissertation**: The Distribution of Betweenness Centrality in Exponential Random Graph Models
- **Advisors**: Dr. Ami Radunskaya (Professor, Pomona College) and Dr. Johana Hardin (Professor, Pomona College)

University of Washington *June 2013*
Master's in Applied Mathematics

Swarthmore College *May 2012*
Bachelor of Arts in Mathematics, Computer Science Minor

PUBLICATIONS

Durón C. *Heatmap Centrality: A Betweenness Centrality Alternative to Identify Nodes that Control Information Flow in Scale-Free Networks*. Resubmitted to PLoS ONE on May 1, 2020.

Durón C, Pan Y, Gutmann DH, Hardin J, Radunskaya A. *Variability of Betweenness Centrality and Its Effect on Identifying Essential Genes*. Bulletin of Mathematical Biology. 2019; 81(9):3655-3673. doi:10.1007/s11538-018-0526-z

Pan Y, **Durón C**, Bush EC, et al. *Graph Complexity Analysis Identifies an ETV5 Tumor-Specific Network in Human and Murine Low-Grade Glioma*. PLoS ONE. 2018; 13(5):e0190001. doi:10.1371/journal.pone.0190001

TECHNICAL REPORTS

D. Burkow, **C. Durón**, K. Heal, A. Vargas, L.A. Melara, *A Mathematical Model of the Emission and Optimal Control of Photochemical Smog*. Technical Report, MTBI-08- 07M, Mathematical and Theoretical Biology Institute, Arizona State University, 2011.

RESEARCH POSITIONS

Graduate Research Assistant *Jan 2017 – June 2018*
Pomona College

- NIH funding under Dr. Ami Radunskaya and Dr. Johana Hardin

Jet Propulsion Laboratory Intern *June 2015*
California Institute of Technology

- Improved the state estimate for autonomous vehicles using inter-robot measurements and the Extended Kalman Filter (EKF)

Mathematical and Theoretical Biology Institute Researcher *June 2011*
Arizona State University
- Mathematical modeled and analyzed the air pollution in Los Angeles

TEACHING EXPERIENCE

Instructor of Record
University of Arizona
- Undergraduate Teaching Assistantship Seminar, Co-Organizer *Fall 2020*
- Math 163 Basic Statistics *Spring 2020*
- Math 122B First Semester Calculus *Fall 2019*
- Math 196L Precalculus Supplementary Seminar *Fall 2019*

Instructor of Record
The Webb Schools of California
- Advanced Placement Computer Science Principles *Fall 2018 – Spring 2019*
- Introduction to Computer Programming with Python *Fall 2014 – Spring 2018*
- Honors Precalculus *Fall 2014 – Spring 2019*
- Precalculus *Fall 2013 – Spring 2019*
- Integrated Mathematics 2 *Fall 2013 – Spring 2014*

CONFERENCE AND SEMINAR TALKS

Contributed
- Identifying Treatment Targets for Pediatric Gliomas using Network Centrality Measures *June 2020*
  SIAM Conference on the Life Sciences (Virtual)

Seminar
- Network Data Analysis Techniques on DESeq and RNASeq Data *Nov 2019*
  University of Arizona

Other Talks
- The Distribution of Betweenness Centrality in Exponential Random Graph Models *April 2019*
  Doctoral Thesis Defense

- A Mathematical Model of the Emission and Optimal Control of Photochemical Smog *Aug 2011*
  The Mathematical and Theoretical Biology Institute (MTBI) at Arizona State University

DEVELOPMENT AS AN EDUCATOR

Certification
- Effective Online Discussions *June 2020*
  University of Arizona

- Introduction to Teach Online *June 2020*
  University of Arizona

WORKSHOPS

- Network Modeling for Epidemics *Aug 2020*
  University of Washington

- BioBridge Clinic — *Jan 2020*
  University of California, Irvine

- Computational Genomics Summer Institute — *May 2020*
  University of California, Los Angeles

Math Outreach And Service

Mentoring

- Math 485 Modeling Group Advisor (team of 4 undergraduates) — *Spring 2020*
  University of Arizona

- Math Club Advisor — *Fall 2017 – Spring 2019*
  The Webb Schools of California

Departmental Service

- Mathematics Undergraduate Teaching Assistantship (UTA) Program, Co-Director — *Fall 2020 – present*
  University of Arizona

Service to the Discipline

- Reviewer for *Revista de Matemática: Teoría y Aplicaciones* — *Oct 2019*

- Mathematics and MATLAB Summer Workshop, Co-Coordinator — *June 2016, June 2017, June 2018*
  Claremont Graduate University

- Mathematics and MATLAB Summer Workshop, Co-Instructor — *June 2016, June 2017*
  Claremont Graduate University

Outreach

- Math Circle — *Aug 2019 - present*
  University of Arizona

Honors, Awards, And Fellowships

Five Star Faculty (Nomination) — *Feb 2020*
University of Arizona

Clinic Fellowship — *Jan 2020*
University of California, Irvine

The Jean E. Miller Excellence in Teaching Award — *June 2018*
The Webb Schools of California

Daniel Pick Fellowship — *Oct 2017*
Claremont Graduate University

Joseph and Elizabeth Peeler Fellowship — *Aug 2015 – June 2017*
Claremont Graduate University

The Thompson and Vivian Webb Excellence in Teaching Award — *June 2015*
The Webb Schools of California

The Heinrich W. Brinkmann Mathematics Prize — *June 2012*
Swarthmore College

GRANTS

Collaborative Research Grant for Postdocs *June 2020*
University of Arizona

SKILLS

Programming Languages

- C
- C++
- MATLAB
- Python
- R
- Maple

Scientific Applications

- GitHub
- LaTex
- RSweave

Languages

- English
- Spanish