CHRISTINA DURÓN

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ACADEMIC EMPLOYMENT

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

High School Teacher *Aug 2013 – June 2019*
Mathematics Department, The Webb Schools of California

RESEARCH INTERESTS

Network Theory; Network Dynamics; 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

Burkow D, **Durón C**, Heal K, Vargas V, Melara LA. *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

DEVELOPMENT AS A RESEARCHER

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

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

- **Postdoctoral Group Governance Non-Academic Liaison** *Spring 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 AND AWARDS

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

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

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

FUNDING

Research Grants

- **Collaborative Research Grant for Postdocs** ($1,500) *June 2020*
  University of Arizona

Travel Awards

- **TDA-BIO** ($1,000) *Oct 2016*
  ACM Conference on Bioinformatics, Computational Biology, and Health Informatics

Fellowships

- **Clinic Fellowship** ($900) *Jan 2020*
  University of California, Irvine

- **Daniel Pick Fellowship** ($10,000) *Oct 2017*
  Claremont Graduate University

- **Joseph and Elizabeth Peeler Endowed Fellowship** ($32,570) *Aug 2015 – June 2017*
  Claremont Graduate University

- **CGU Mathematics Fellowship** ($13,700) *Aug 2014 – June 2015, June 2017*
  Claremont Graduate University

- **CGU Minority Fellowship** ($2,000) *Aug 2014 – June 2016*
  Claremont Graduate University

SKILLS

Programming Languages
- C (moderate proficiency)
- C++ (moderate proficiency)
- MATLAB (proficient)
- Python (proficient)
- R (proficient)

Scientific Applications
- GitHub
- LaTex
- RSweave

Languages
- English (native)
- Spanish (reading, writing, and conversational speaking)