

Biographical Sketch

Ariel Cintrón-Arias

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Professional Preparation

University of Puerto Rico Cayey, Mathematics, B.S., 1999.
Cornell University, Applied Mathematics, M.S., 2004.
Cornell University, Applied Mathematics, Ph.D., 2006.
North Carolina State University, Generalized Least Squares Inverse Problems, 2006—2009.

Appointments

August, 2015—present: Associate Professor, Department of Mathematics and Statistics, East Tennessee State University.

August, 2009—2015: Assistant Professor, Department of Mathematics and Statistics, East Tennessee State University.

August, 2006—July, 2009: Postdoctoral Research Associate, Center for Quantitative Sciences in Biomedicine, North Carolina State University; Statistical and Applied Mathematical Sciences Institute.

Products

1. Cintron-Arias, A, Godbole, A.: A Decade of Undergraduate Research for All ETSU Mathematics Majors. *Involve* **7**, 281—293 (2014).
2. Cameron, S.M., Cintron-Arias, A.: Prisoner's Dilemma on Real Social Networks: Revisited. *Mathematical Biosciences and Engineering* **10**, 1381—1398 (2013).
3. Banks, H.T., Cintron-Arias, A., Kappel, F.: Parameter selection methods in inverse problem formulation. In: J.J. Batzel, M. Bachar, F. Kappel (eds.) *Mathematical Modeling and Validation in Physiology: Application to the Cardiovascular and Respiratory Systems*, Lecture Notes in Mathematics, Mathematical Biosciences Subseries, Springer-Verlag, Berlin, 2013.
4. Cintron-Arias, A., Banks, H.T., Capaldi, A., Lloyd, A.L.: A sensitivity matrix based methodology for inverse problem formulation. *J. Inv. Ill-Posed Problems* **17**, 545-564 (2009).

Synergistic Activities

- Developer of digital content and instructor of record for *MATH 5880 Modeling of Infectious Diseases and Social Networks*. This class is exclusively offered online and is part of a graduate certificate on Mathematical Modeling in Biosciences (the only one of its kind in the state of Tennessee). East Tennessee State University. January, 2015—present.
- Principal investigator of scholarship program “*Preparation of Data Drive Mathematical Scientists for the Workforce*”. August 1, 2014—July 31, 2019. National Science Foundation grant number DUE-1356397 (\$622,498). My duties include: recruitment of students; advisement of students; selection of applicants; lectures on social network analysis; invitation of speakers; scheduling of topics and lecturers in seminar; monitoring of participants academic progress; reporting; budget management.

- Participant of US Department of Energy Visiting Faculty Program. Oak Ridge National Laboratory (\$13,000). May 27—August 1, 2014.
- Project director of an Access and Diversity Initiative called “*Improving Minority Graduation in Mathematics at ETSU*”. July 1, 2013—June 30, 2014. Tennessee Board of Regents, grant number E210024 (\$39,965). A year-round undergraduate research experience that involved interacting with principal investigators of external REU programs who were actively recruiting while visiting ETSU. Moreover, participants gave oral or poster presentations in regional and national conferences. Only five out seven project participants were eligible to apply for summer REU’s across the nation. All five of them successfully landed REU appointments: Rochester Institute of Technology REU; East Tennessee State University Ronal McNair Program; Indiana University REU; Mathematical Biosciences Institute REU; Maryland Robotic Center REU at University of Maryland.
- Co-organizer of workshops hosted by the National Institute for Mathematical and Biological Synthesis (NIMBioS): *Parameter Estimation for Dynamic Biological Models*, May 19—21, 2014; *Summer Graduate Workshop: Connecting Biological Data with Mathematical Models*, June 17—28, 2013. I am also a member two ongoing NIMBioS working groups: Expanding Data Nuggets; Vector Movement and Disease.
- Instructor of record for *MATH 4010 Undergraduate Research* (Writing & Oral Intensive). East Tennessee State University. August, 2010—December, 2013. My research program is continuously enhanced by student participation. Over six years I have supervised a total of 28 undergraduate students. The total production in student research supervision is documented by: 20 unpublished technical reports (15-page minimum length), and [12 posters](#) (presented at regional and national conferences)¹.
- Principal Investigator and co-organizer of a regional conference: *2011 CBMS Mathematical Epidemiology with Applications*. East Tennessee State University, July 25—29, 2011. National Science Foundation grant number DMS-1040928 (\$38,726). The lecture notes were published as a special volume by the Society for Industrial and Applied Mathematics: F. Brauer and C. Castillo-Chavez, *Mathematical Models for Communicable Diseases*. CBMS-NSF Regional Conference Series in Applied Mathematics, **84**. SIAM, Philadelphia, 2013.

Collaborators and Other Affiliations

Collaborators: H.T. Banks, North Carolina State University; Sharon Cameron, East Tennessee State University; Alex Capaldi, Valparaiso University; Anant Godbole, East Tennessee State University; Henriette Jager, Oak Ridge National Laboratory; Franz Kappel, University of Graz; James Legg, International Institute for Tropical Agriculture; Alun L. Loyd, North Carolina State University;

Co-Editors: There are no co-editors.

Graduate Advisors and Postdoctoral Sponsors: Carlos Castillo-Chavez (Arizona State University), H.T. Banks (North Carolina State University), Alun L. Lloyd (North Carolina State University).

Thesis Advisor and Postgraduate-Scholar Sponsor:

- *Former MS students:* Eric Numfor (Georgia Regents University), Geophrey Odero (Mississippi State University), Ivan Ramirez (University of Pittsburg).

¹ Copies of posters are posted in http://faculty.etsu.edu/cintronarias/student_res.html