

Oyita B. Udiani

Simon A. Levin Mathematical, Computational, & Statistical Modeling Center
Arizona State University
Tempe, Arizona, USA.

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Education

Arizona State University

Applied Mathematics for the Life and Social Sciences, Ph.D.

Advisor: Yun Kang, Ph.D.

Tempe, AZ

2012 -

The Ohio State University

Mathematical Bioscience, M.Sc.

Thesis: “*Stability Analysis of Aggression Levels in a Coercive Mating Model*”

Advisor: Yuan Lou, Ph.D.

Columbus, OH

2010 - 2012

Saint Augustine’s University

Engineering Mathematics, B.Sc.

– Summa Cum Laude

– NIH MARC U*STAR Fellow

Raleigh, NC

2006 - 2010

Professional Interests and Skills

• Research Areas

– Non-linear dynamics, Collective behavior, Evolutionary game theory, and Social Evolution

• Projects

– The regulation of collective foraging activity with non-spatial recruitment in harvester ants (*Pogonomyrmex barbatus*).

– Non-linear effects of social environment on aggression and division of labor in ant foundress associations (*Pogonomyrmex californicus*).

– Cooperation & coordination in human social networks: modeling the effects of social preferences.

– On the dynamics of adaptive predator-prey systems with Allee effects.

• Programming and Markup Languages

– **Expert:** Netlogo, L^AT_EX

– **Intermediate:** C++, HTML

• Software

– **Expert:** Maple, Matlab, R, MS Excel, MS Word, MS Power Point

– **Intermediate:** Mathematica, MatCont

– **Beginner:** XPPAuto

Work Experience

Mathematical and Theoretical Biology Institute (MTBI)

Arizona State University

Mentor

June 2013 - August 2013

- Served as a research advisor for undergraduate project
- Led problem-solving sessions & graded assignments

Graduate Teaching Associate

The Ohio State University

Instructor

August 2010 - May 2012

- Recitation duties for Algebra & Trigonometry, and Calculus for Business Students.
- Administered quizzes and grading for all written work including term papers and exams.

University Writing Center

Saint Augustine's University

Senior Consultant

Jan 2007 - April 2010

- Held weekly office hours, assisting student writers with drafting, revising and editing in various contexts including essays, screenplays, & technical reports.
- Planned and conducted writing workshops

Awards, Grants & Honors

Alfred P. Sloan Fellowship	2013
GAANN Graduate School Fellowship	2013
GPSA Travel Grant (ASU)	2013
Graduate college Doctoral Enrichment Fellowship (ASU)	2012
Leadership & Academic Achievement Award (NCSU)	2009
Intel Corporation Scholar	2009
Lockheed Martin Corporation Scholar	2009
MARC U* STAR Awardee, National Institutes of Health	2008

Publications

- Udiani O., Pinter-Wollman, N, and Kang Y., A Dynamical Model of Foraging Activity Regulation in Ant Colonies. (*under review*)
- Kang, Y., & Udiani, O. (2014). Dynamics of a single species evolutionary model with Allee effects. *Journal of Mathematical Analysis and Applications*.
- Janssen, M. A., Manning, M., & Udiani, O. (2014). The Effect Of Social Preferences On The Evolution Of Cooperation In Public Good Games. *Advances in Complex Systems*, 17(03n04).

Presentations

- Udiani, O., Regulation of Foraging Activity in Seed Harvester Ant *P. Barbatus*. BEER . Oct 11 - 13, 2013 Marymount University, Arlington, VA.
- Udiani, O., Evolutionary dynamics of a Predator-Prey system with component Allee effects. ICMA IV. Oct 4 - 7, 2013 Texas Tech University, Lubbock, TX.

Conference Posters

- Udiani, O., Kang, Y., and McKay, J. , An Eco-evolutionary model of predator-prey interactions. The Society for Mathematical Biology Annual Meeting and Conference (SMB), Tempe, AZ. 2013
- Udiani, O. Investigating the Conservation of Transcription Factor Binding Sites Between Evolutionary Related Species. Annual Biomedical Research Conference for Minority Students (ABRCMS). Orlando, FL. 2008

Professional Development

- 20th annual Compact for Faculty Diversity Institute on Teaching and Mentoring. Arlington, VA. November, 2013.
- The Field of Dreams Conference. Arizona State University, Tempe, AZ. November, 2012
- Intel Diversity Scholar Summit. Intel Corporation. San Jose, CA. August, 2009
- Emerging Leaders Workshop. Virginia Tech. Roanoke, VA. August, 2008

Affiliations and Memberships

- Society for Industrial and Applied Mathematics (SIAM)
ASU Chapter President (2013-2014)
- Society for Mathematical Biology (SMB)
- American Mathematical Society (AMS)