

TUGBA KARABIYIK, PH.D.

*Department of Mathematics and Statistics
Sam Houston State University
Huntsville, TX 77341*

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EDUCATION

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| Florida State University, Tallahassee, Florida
Ph.D., Biomathematics
Dissertation: "A Game-Theoretic Analysis of Competition Over Indivisible Resources"
Advisor: Mike Mesterton-Gibbons | <i>August 2015</i> |
| Florida State University, Tallahassee, Florida
M.S., Applied and Computational Mathematics | <i>August 2010</i> |
| Firat University, Turkey
M.S., Math Education | <i>August 2006</i> |
| Firat University, Turkey
B.S., Mathematics | <i>June 2004</i> |

RESEARCH INTERESTS

Mathematical Biology, Game Theory, Dynamic Games, Thermal Games, Security Games, Mathematical Modeling, Applied Mathematics, Agent-Base Modeling, Cyber Security, Financial Mathematics

EXPERIENCE

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| Sam Houston State University
<i>Visiting Assistant Professor of Mathematics</i> | <i>Aug 2016 - Present
Huntsville, TX</i> |
| <ul style="list-style-type: none"> • Teaching College Mathematics and Elementary Functions courses • Mentoring undergraduate students when requested by students • Working on research projects in Biological Mathematics, Cyber Security and Digital Forensics and various application of Mathematics | |
| Sam Houston State University
<i>Lecturer of Mathematics</i> | <i>Aug 2015 - 2016
Huntsville, TX</i> |
| <ul style="list-style-type: none"> • Taught Precalculus Algebra, College Mathematics, and Mathematics for Managerial Decision Making courses • Mentored undergraduate students when requested by students • Worked on research projects in Financial Mathematics and Computer Science | |
| Florida State University
<i>Postdoctoral Researcher</i> | <i>May 2015 - Aug 2015
Tallahassee, FL</i> |
| <ul style="list-style-type: none"> • Worked on a project about agent-base modeling with evolutionary game theory • Collaborated with colleagues in finance and mathematics | |
| Florida State University
<i>Adjunct Instructor</i> | <i>Aug 2014 - Dec 2014
Tallahassee, FL</i> |
| <ul style="list-style-type: none"> • Taught Calculus with Analytic Geometry I in a technology enhanced large lecture hall • Prepared course materials including lecture notes, quizzes and exams • Created online homework assignments and online quizzes for practice using WebAssign and Blackboard | |

- Lectured in classroom using overhead projector and white-board when needed

Florida State University

Jan 2012 - May 2014

*Graduate Teaching Assistant - Course Instructor**Tallahassee, FL*

- Taught Precalculus Algebra and Calculus with Analytic Geometry I in a technology enhanced classroom
- Prepared course materials including lecture notes and exams
- Created online homework assignments and online quizzes using WebAssign in addition to hard copy in class quizzes
- Lectured in classroom using overhead projector and white-board when needed

Florida State University

Aug 2010 - Dec 2011

*Graduate Teaching Assistant - Recitation Instructor**Tallahassee, FL*

- Instructed in problem-solving sessions held in computer laboratories for College Algebra, Precalculus Algebra, Trigonometry, Mathematics for Liberal Arts and Biocalculus
- Proctored weekly computer based quizzes and exams for College Algebra, Precalculus Algebra, Trigonometry, Mathematics for Liberal Arts and Biocalculus
- Helped students for implementing Biocalculus programming problems using Scilab tool
- Graded homework assignments and exams for Ordinary Differential Equations

Elazig FEM Training Center

2005-2007

*Mathematics Teacher**Elazig, Turkey*

- Taught high school students Precalculus Algebra, Trigonometry, and Calculus
- Tutored and mentored high school students for the nationwide university entrance exams and academic careers
- Organized field trips, academic and non-academic events

Hatay ONEM Training Center

2004-2005

*Mathematics Teacher**Hatay, Turkey*

- Taught high school students Precalculus Algebra, Trigonometry, and Calculus
- Tutored and mentored high school students for the nationwide university entrance exams and academic careers
- Organized field trips, academic and non-academic events

PUBLICATIONS

Karabiyik, T. "A game-theoretic analysis of competition over indivisible resources." PhD diss., THE FLORIDA STATE UNIVERSITY, 2015.

Mesterton-Gibbons, M., **Karabiyik**, T. and Sherratt, T. N. "On the Evolution of Partial Respect for Ownership, " *Dynamic Games and Applications*, doi(10.1007/s13235-015-0152-4), 2015.

Mesterton-Gibbons, M., **Karabiyik**, T. and Sherratt, T. N. "The iterated Hawk-Dove game revisited: The effect of ownership uncertainty on Bourgeois as a pure convention," *Dynamic Games and Applications*, doi(10.1007/s13235-014-0111-5), 2014.

Karabiyik, U. and **Karabiyik**, T. "Digital Forensics Tool Selection with Multi-armed Bandit Problem", To appear in the *ADFSL 2017 Conference on Digital Forensics, Security and Law*, 2017.

Karabiyik, T., Akal, O. and Aktas, E. "Long-term and Sustainable Market Equilibrium within a Stock Market: Agent-Based Modeling with Evolutionary Game Theory Applied to Traders," *International Journal of Business, Accounting, and Finance*, 2017.

CONFERENCE PRESENTATIONS

“On the Evolution of Partial Respect for Ownership: Infinite Regress Revisited,” Joint Mathematics Meetings, San Antonio, TX , January 2015

“The Effect of Ownership Uncertainty on Bourgeois vs. Anti-Bourgeois,” SIAM Conferences on the Life Sciences, Charlotte, NC, August 2014

“Musth: a game-theoretic model,” Joint Mathematics Meetings, San Diego, CA, January 2013

“Musth: a game-theoretic model,” MAA Florida Section, University of West Florida, Pensacola, FL, November 2012

PROFESSIONAL PRESENTATIONS

“A Game-Theoretic Analysis of Competition Over Indivisible Resources”, Department of Math and Statistics Colloquium, Sam Houston State University, Huntsville, TX, March 2016

“Work and Family Balance,” Academic Workshop for Young Scholars, North American University, Houston, TX, October 2015

“A Game-Theoretic Analysis of Competition Over Indivisible Resources,” Biomathematics Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, March 2015

“Partial Ownership Effects in Asymmetric Hawk-Dove Games,” Biomathematics and Game Theory and Social Complexity Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, September 2013

“The Active-Inactive Model,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, March 2013

“Musth: A game theoretic model,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, November 2012

“Strategic Mating with Age Dependent Preferences,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, September 2012

“Evolutionary Game Theory: A New Approach For Cancer Treatment,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, February 2012

“Mutation-Selection Equilibrium in Games with Mixed Strategies,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, January 2012

“Age, Musth and Reproductive Success in Male African Elephants,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, November 2011

“Models of Social Behavioral Dynamics,” Game Theory and Complexity Science Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, May 2011

“Social Networks in African Elephants,” Biomathematics Seminar, Department of Mathematics, Florida State University, Tallahassee, FL, March 2011

HONORS AND AWARDS

Ermine M.Owenby, Jr. Travel Award, College of Arts and Sciences, Florida State University, 2014

Honorable Mention Outstanding Scholarship Award, Association for Academic Advancement, 2014

Millie and Dwight Goodner Mathematics Fellowship Award*, Florida State University, 2014

*Recognizes outstanding teaching in the field of mathematics.

Distinguished Teaching Assistant Award, Department of Mathematics, Florida State University, 2014

Graduate Student Full Scholarship, Florida State University, 2010-2014

Republic of Turkey Ministry of National Education Full Scholarship, 2007-2010

Graduated from the Firat University Department of Mathematics with 1st place, Turkey, 2004

Placed 56th nationwide Turkish University Entrance Examination out of 1.2 million students, Turkey, 2000

GRANTS

Florida State University, Department of Mathematics Travel Grant(Joint Mathematics Meetings), January 2015.

Florida State University, Congress of Graduate Students Travel Grant(Joint Mathematics Meetings), January 2015.

Florida State University, Department of Mathematics Travel Grant(SIAM Conferences on the Life Sciences), August 2014.

Florida State University, Congress of Graduate Students Travel Grant(SIAM Conferences on the Life Sciences), August 2014.

Florida State University, Department of Mathematics Travel Grant(Joint Mathematics Meetings), January 2013.

Florida State University, Congress of Graduate Students Travel Grant(Joint Mathematics Meetings), January 2013.

TECHNICAL SKILLS

Computer	C, C++, MATLAB, XPPAUT, Fortran, Maple, Mathematica, Word, Excel, Power Point, Latex, Unix/Linux environments
Languages	English, Turkish, Kurdish, Arabic (Reading and Writing)

MEMBERSHIPS AND CERTIFICATES

Member of American Mathematical Society (AMS)

Member of Society for Industrial and Applied Mathematics (SIAM)

Member of Florida Beta chapter of Pi Mu Epsilon, Mathematical Honor Society

Member of Association for Academic Advancement (ASACAD) Scholars

Member of FSU Alumni Association

Program for Instructional Excellence, FSU PIE certificate, 2011

Certificate of Mathematical Biostatistics Boot Camp 1, Coursera, 2012

SERVICE

Judge, Southeast Texas BEST Robotics Competition, Sam Houston State University, October 2015

Chair, AMS Contributed Paper Session on Game Theory, Economics, and Social and Behavioral Sciences, Joint Mathematics Meetings, San Antonio, TX, January 2015

Representing FSU at Grad School Fair, Joint Mathematics Meetings, San Antonio, TX, January 2015

Graduate Co-advisor of Pi Mu Epsilon Florida Beta Chapter, Florida State University, 2014-2015

Vice President of Tolerance and Dialogue Group, Tallahassee, 2009-2011

Assistant Director, Cultural exchange USA-Turkey program, Istanbul Cultural Center, July 2010