

Summer Atkins

Ph.D. Candidate ♠ Department of Mathematics ♠ University of Florida
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EDUCATION

Ph.D., Mathematics , <i>University of Florida, Gainesville, FL</i>	(expected) May 2021
M.S., Mathematics , <i>University of Florida, Gainesville, FL</i>	May 2018
M.A., Mathematics , <i>University of Alabama, Tuscaloosa, AL</i>	May 2016
B.S., Summa Cum Laude, Mathematics , <i>University of Alabama, Tuscaloosa, AL</i>	Dec. 2014

RESEARCH INTERESTS

I am interested in optimal control theory, mathematical biology, numerical analysis, and optimization.

PUBLICATIONS

Articles in Preparation or Under Review

1. **S. Atkins**, M. Aghaee, M. Martcheva, W. Hager, *Solving singular control problems in mathematical biology, using PASA*, manuscript submitted for publication, arXiv:[2010.06744](https://arxiv.org/abs/2010.06744) [math.OC], Oct. 2020.
2. **S. Atkins**, G. Einarsson, B. Ames, and Line Clemmensen, *Proximal methods for sparse optimal scoring and discriminant analysis*, manuscript submitted for publication, arXiv:[1705.07194v3](https://arxiv.org/abs/1705.07194v3) [stat.CO], Sept. 2019.
3. **S. Atkins**, M. Martcheva, and W. Hager. *Regularization of a spatially explicit fishery model with harvesting*. (In Preparation).

HONORS AND AWARDS

Fellowships and Grants

<i>University of Florida Graduate Student Fellowship</i> (tuition and stipend)	2016-2020
<i>University of Florida CLAS Dissertation Fellowship</i> (tuition and stipend) - Funded by the Charles Vincent and Heidi Cole McLaughlin Endowment	Spring 2021

Conference Travel Grants

The 2021 Joint Mathematics Meetings - Registration fee funded by the UF Center for Applied Mathematics (CAM) Travel Support	Jan. 2021
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Computational and Mathematical Population Dynamics 5 (CMPD5), Fort Lauderdale, FL	May 2019
- NSF Student Travel Support	
- UF Center for Applied Mathematics (CAM) Travel Support	
- CLAS Travel Award	
NSF-CBMS: Computational Methods in Optimal Control, Jackson, MS	July 2018
- NSF-CBMS Travel Support	
AWM Workshop in Conjunction with SIAM Annual Meeting, Portland, OR	July 2018
- AWM NSF Workshop Grant	

PRESENTATIONS

Contributed Talks

The 2021 Joint Mathematics Meetings	Jan. 2021
AMS Special Session on Women Advancing Mathematical Biology Through Computation and Analytical Techniques	
- <i>Regularization of an optimal fishery harvesting problem via bounded variation</i>	
Computational and Mathematical Population Dynamics 5 (CMPD5), Fort Lauderdale, FL	May 2019
- <i>Penalization of Singular Control Systems</i>	

Poster Presentations

SIAM Annual Meeting (AWM Workshop), Portland, OR	July 2018
- <i>Fast Classification of Big Data: proximal methods for sparse discriminant analysis</i>	
WiSE Symposium, University of Alabama	Feb. 2016
- <i>Fast Classification of Big Data: proximal methods for sparse discriminant analysis</i>	

Department Based Presentations

Oral Qualifying Examination, University of Florida	Oct. 2019
- <i>Penalization of Singular Control Problems that Arise in Math Biology</i>	
SIAM Student Chapter Seminar, University of Florida	Oct. 2019
- <i>Penalization of Singular Control Problems that Arise in Math Biology</i>	
Biomath Seminar, University of Florida	Oct. 2019
- <i>Penalization of Singular Control Problems that Arise in Math Biology</i>	
Applied Math Seminar, University of Alabama	April 2016
- <i>Fast Classification of Big Data: proximal methods for sparse discriminant analysis</i>	

TEACHING EXPERIENCE

Graduate Teaching Assistant

University of Florida, Gainesville, FL

Responsibilities of Recitation Instructor include hosting weekly courses, making quizzes, holding office hours, proctoring exams, and grading exams.

MAC 2313-Calculus 3 (3 sections)	Recitation Instructor	Fall 2020
MAC 2312-Calculus 2 (2 sections)	Recitation Instructor	Spr. 2019

MAC 2311-Calculus 1 (2 sections)	Recitation Instructor	Fall 2018
MAC 2311-Calculus 1 (1 sections)	Recitation Instructor	Spr. 2017
MAC 1140-Precalculus (3 sections)	Recitation Instructor	Fall 2016

University of Alabama, Tuscaloosa, AL

MATH 112 - Precalculus (2 sections)	Lecturer	Spr. 2016
MATH 112 - Precalculus (2 sections)	Lecturer	Fall 2015
MATH 126 - Calculus 2 (1 section)	Recitation Instructor/Grader	Spr. 2015

Professional Mathematics Tutor

Mathematics and Technology Learning Center, University of Alabama	Fall 2015 – Spr. 2016
- I tutored courses ranging from College Algebra to Business Calculus.	
- Other duties include proctoring for exams.	

OUTREACH

Leadership Experience

President, University of Florida SIAM Student Chapter	Fall 2020-Spring 2021
- Invite speakers to give seminar talks.	
- Organize weekly seminars.	
Outreach Co-Chair, University of Florida AWM Student Chapter	Oct. 2019- May 2020
- Took officer position during University of Florida's first year of becoming a student chapter.	
- Organize and advertise opportunities for students to take part in STEM based outreach.	
Vice President of Communications, University of Florida SIAM Student Chapter	Fall 2019- Spr. 2020
- Send announcements pertaining to SIAM Seminars and other SIAM events.	
Secretary, University of Florida Graduate Mathematics Association GMA	Spr. 2017- Fall 2017
- Took board meeting minutes, contacted speakers to receive title and abstract of their talks, and announce GMA Colloquia via emails and poster displays.	

Mentoring Experience

Research Mentor for an Undergraduate Student, University of Florida	Spr. 2018
- Responsibilities include meeting weekly with an undergraduate student and facilitating projects pertaining to using MATLAB to solve an optimal control problem with harvesting.	
- Undergraduate student: Samuel Swanson	
- Undergraduate research advisor: Dr. Martcheva	
Graduate Student Mentor for First Year Ph.D. Students, University of Florida	2017-Present
- Organized by the Graduate Mathematics Association, and its purpose is to help first year Ph.D. students acclimate to life in graduate school.	
- First Year Students: Shaila Segal (Fall 2017), Rhea Shroff (Fall 2018-Spr. 2019), Kalp Patel (Fall 2019-Spr. 2020), and Lezhi Liu (Fall 2020).	
College First Mentor, University of Alabama	June 2014
- Sponsored by A+ College Ready and Impact Alabama	
- Met with high school students who were preparing to take AP Calculus courses the coming year.	

Community

Panelist for Two Graduate School Information Session, *University of Florida* Oct. 2018 & March 2020
-Hosted by UF's undergraduate mathematics organization called [University Math Society](#).

Compactors, *Tuscaloosa, AL* Fall 2015- Spr. 2016
- Mathematics Enrichment Program organized by Dr. Kabe Moen, UA mathematics professor.
- Responsibilities included meeting weekly with fourth grade students at Tuscaloosa Magnet School and facilitating math activities.

Proctor for 34th Annual Math Tournament, *University of Alabama* Nov. 2015
- High School Mathematics Tournament

MEMBERSHIPS

Society of Industrial and Applied Mathematics(SIAM)

American Mathematics Society(AMS)

University of Florida Student Chapter of SIAM

University of Florida Student Chapter of AWM

University of Florida Graduate Mathematics Association