

Theodore Emil Galanthay III

Department of Mathematics
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Education

PhD, Applied Mathematics
University of Colorado, 2013
MS, Applied Mathematics
University of Colorado, 2010
BS, Mathematics
Duke University, 1994

Employment

Associate Professor
Ithaca College, 2019-present
Assistant Professor
Ithaca College, 2013-2019
Commodities Trader
TEG Investments, LLC, 2004-2006
Ronin Capital, 1999-2004
NationsBanc-CRT, 1995-1999
Swiss Bank Corporation, 1994-1995

Research Interests

My main interests are creating and studying mathematical models to explain the ecological and evolutionary dynamics of heritable traits, such as dispersal and aggression.

Publications

- T. E. G., V. Křivan, R. Cressman, and T.A. Revilla. “Evolution of Aggression in Consumer-Resource Models.” *Dynamic Games and Applications*, Vol. 13 (2023): 1049-1065.
- T. E. G. and T. J. Pfaff. “Normal isn’t “Normal” when it comes to income.” Mathematics for Social Justice: Focusing on Quantitative Reasoning and Statistics, eds. Karaali, G. and Khadjavi, L. S. MAA Press, 2021, pp. 109-124.
- T. E. G. and T. J. Pfaff. “Get the lead out: The connection between lead and crime,” Mathematics for Social Justice: Focusing on Quantitative Reasoning and Statistics, eds. Karaali, G. and Khadjavi, L. S. MAA Press, 2021, pp. 125-136.
- V. Křivan, T. E. G., and R. Cressman. “Beyond replicator dynamics: From frequency to density dependent models of evolutionary games.” *J. Theoretical Biology*, Vol. 455 (2018): 232-248.

- T. E. G. “Mathematical study of the effects of travel costs on optimal dispersal in a two-patch model.” *Discrete and Dynamical Systems - Series B*, Vol. 20, no. 6 (2015): 1625-1638.
- T. E. G. and S. M. Flaxman. “Generalized movement strategies for constrained consumers: Ignoring fitness can be adaptive.” *American Naturalist*, Vol. 179, no. 4 (2012): 475-489.

Grants

- European Union Horizon 2020, Evolutionary games and population dynamics: from theory to applications (€3,980,390.04), Student research advisor, 2021-2025
Advised Ph. D. candidate in summer research. Interviewed candidates and participated in international meetings.
- National Science Foundation, NSF-REU: Ithaca College Dynamical Systems (\$287,672), PI, 2021-2024
Set up, supervised, and maintained summer research program for nine undergraduate students.
- Mathematical Association of America, Tensor Grant (\$6000), Co-PI, 2018-19
Maintain and improve local programs to increase retention of female students in mathematics.
- Mathematical Association of America, Tensor Grant (\$6000), Co-PI, 2017-18
Establish local programs to increase retention of female students in mathematics.
- NSF Travel Grant, October 2017
 ICMA VI: 6th International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems

Invited Presentations

- “Using math to solve real-world problems in the COMAP Mathematical and Interdisciplinary Contest in Modeling,” Ithaca College Math Colloquium, Joint with Earth Sonrod, September 2024
- “Lessons learned from extending the Hawk-Dove game,”
 Mathematical Biology colloquium, University of South Bohemia and Czech Academy of Sciences, April 2022
- “Mathematics research experience for undergraduates (REU) at Ithaca College,” (joint with Dave Brown and Dan Visscher), Provost’s Colloquium, Ithaca College, October 2021
- “COVID modeling at Ithaca College,” (joint with Dave Gondek and Leann Kanda), Ithaca College Math Colloquium, April 2021
- “Evolutionary games we play: Hawks, Doves, and More,” Rochester Institute of Technology, September 2020
- “The games of life: From unicellular organisms to mammals and cancer,”
 Paleontological Research Institution, Science in the Virtual Pub, August 2020
- “Remote pedagogy: What’s working?,” Center for Faculty Excellence, Ithaca College, April 2020

- “Evolutionary games we play: Hawks, Doves, and More,” SUNY-Geneseo, February 2020
- “Optimal dispersal for constrained consumers in the presence of dispersal costs,” Current Topics Workshop: Evolutionary Game Theory, Mathematical Biosciences Institute at The Ohio State University, April 2015

Other Presentations

- “Evolution of aggression in consumer-resource models,” Mathematical Models in Ecology and Evolution, July 2024
- “Evolution of aggression in consumer-resource models,” Joint Mathematics Meetings, January 2024
- “Evolution of aggression in consumer-resource models,” SIAM Conference on Applications in Dynamical Systems, May 2023
- “Life lessons from a mathematician.” Department of Mathematics Colloquium, Ithaca College, October 2022
- “A game-theoretic approach to foraging dynamics,” Conflict, Competition, Cooperation and Complexity: Using evolutionary game theory to model realistic populations, July 2018
- “A game-theoretic approach to foraging dynamics,” ISDG 2018, 18th International Symposium on Dynamic Games and Applications, July 2018
- “A game-theoretic approach to modelling ecological dynamics,” MPDEE '18, Models in Population Dynamics, Ecology, and Evolution, April 2018
- ICMA VI, 6th International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, October 2017
- “Extending the Hawk-Dove game,” Faculty Scholarship, Research, and Creative Inquiry Fair, Ithaca College, October 2017
- “How does evolution shape the dispersal (movement) strategies of organisms?,” Department of Mathematics, Ithaca College, September 2016
- “Hawks, Doves, and Population Dynamics,” American Institute of Mathematical Sciences Conference on Dynamical Systems, Differential Equations, and Applications, July 2016
- “Mathematical study of the effects of travel costs on optimal dispersal in a two-patch model,” Society for Industrial and Applied Mathematics Conference on Applications of Dynamical Systems, May 2015
- “Ecological and evolutionary stability of single-species dispersal in a two-patch habitat,” Society for Industrial and Applied Mathematics Conference on Applications of Dynamical Systems, May 2013

Awards

- Department merit, 2023-24, 2015-16
- Graduate Student Teaching Excellence Award, 2012-13

Teaching Experience

Applied Linear Algebra	Fall 2024
Business Statistics	Fall 2023, Spring 2023, Fall 2019, Fall 2018, Fall 2017, Spring 2017, Fall 2015, Fall 2014, Spring 2014
Calculus 1	Fall 2015, Fall 2013
Calculus 3	Fall 2018, Spring 2016, Spring 2015
College Algebra and Trigonometry	Spring 2015
Differential Equations	Spring 2024, Spring 2021, Spring 2020, Spring 2019, Spring 2014
Finite Mathematics with Calculus	Fall 2022, Fall 2020
Independent Study: Survey of Mathematical Modeling of the Economics of Agricultural Resources	Spring 2024
Independent Study: GARCH Analysis and Application	Spring 2021
Independent Study: Game Theory and Corruption	Spring 2020
Independent Study: Technical Analysis	Spring 2018
Intermediate Statistics	Spring 2024, Spring 2021, Spring 2017
Linear Algebra	Spring 2025, Spring 2018, Fall 2016, Fall 2014, Fall 2013
Junior Seminar	Fall 2024, Fall 2022, Fall 2019, Fall 2016
Math Boost	Spring 2025
Numerical Analysis	Fall 2016
Probability	Spring 2024, Spring 2021, Spring 2018
Quantifying Sustainability	Spring 2025, Spring 2019
Research Experience in Mathematics	Spring 2023, Spring 2020, Spring 2017
Special Topics (Advanced Linear Algebra)	Spring 2019
Special Topics (Mathematical Modeling)	Fall 2017
World of Mathematics	Spring 2020

Mentoring Experience

Capstone advisor

Fall 2024

Mentored two undergraduate students on senior capstone projects:
“Evaluating winning probabilities in Skat: A conditional
probability approach” and “Game Theory and Agriculture.”

Fall 2023

Mentored one undergraduate student on senior capstone project:
“Evolution through the lens of the Hawk-Dove game.”

Fall 2018

Mentored two undergraduate students on senior capstone projects:
“An analysis of fuzzy modelling and its application to the stock
market” and “Analysis of the geometric nature in financial price data.”

Fall 2016-Spring 2017

Mentored three undergraduate students on senior capstone projects:
“Chronic condition analysis through machine learning algorithms,”
“The Thue-Morse sequence,” and “Modeling with architecture trends.”

Fall 2015-Spring 2016

Mentored two undergraduate students on senior capstone projects:
“Bond pricing using the binomial and Monte Carlo methods”
and “Juggling numbers.”

COMAP Mathematical Contest in Modeling advisor

2022-2024, 2017-2020, 2015

Organized and advised student teams in preparation for a four-day international mathematical modeling contest.

Fall 2016-Spring 2017

Managed a semester-long independent study in mathematical modeling for three students who participated in the modeling contest.

Research group mentor

Summer 2023, 2022, 2021

Mentored three undergraduates students in the “NSF-REU: Dynamical Systems at Ithaca College” program.

Research advisor

Summer 2022

Co-developed project with Thomas Marcou, Ph.D. student at University of South Bohemia as part of the European Union Horizon 2020 grant. Thomas Marcou’s mentoring included integration with the NSF-REU students.

Honors thesis advisor

Fall 2020 - Spring 2021

Mentored two undergraduate students on senior honors projects.
“Egoism and altruism: Finding the dominant strategy in a self-driving car crash scenario” and “Explorations in recursive sequences”

Faculty mentor

Fall 2019 - May 2020

Mentored two early-career faculty at Ithaca College.

Professional Development

Chairs’ Academy, Center for Faculty Excellence, Ithaca College,

June 2024-May 2025

Center for Civic Engagement, “Teaching Strategies: Building Community through Hands On Learning,” Ithaca College, April 2023

Communicating Mathematics Conference, Cornell University, August 2022

CAUSE/JDSE webinar - “Think-Aloud Interviews: A Tool for Exploring Student Statistical Reasoning,” June 2022

Institute for Mathematical and Statistical Innovation, “Multiscale microbial communities: Dynamics models, ecology, and one health,” February 2022

Summer Institute for Faculty - Flexible by Design, Center for Faculty Excellence, Ithaca College, June 2020-July 2020
 Early Career Excellence Institute, Center for Faculty Excellence, Ithaca College, January 2018-December 2018
 Applied Improv for Higher Ed, Center for Faculty Excellence, Ithaca College, September-October 2017
 Assessment Summit 2017, Center for Faculty Excellence, Ithaca College, May 2017
 MAA Seaway Section meeting, Rochester Institute of Technology, October 2016
 Society for Industrial and Applied Mathematics Annual Conference, July 2016
 Talking about the “A” word: Cross-campus assessment exchanges, Center for Faculty Excellence, Ithaca College, May 2016
 Diversity training workshop delivered by Kirby Edmonds and Laura Branca, Ithaca College, May 2016
 ICC+CFE Series on Effective Pedagogy, Center for Faculty Excellence, Ithaca College, April 2015
 Project NExT regional meeting, Colgate University, April 2015
 Early Career Excellence Institute, Center for Faculty Excellence, Ithaca College, January 2015-May 2015
 Workshop on Mathematical Biology and Nonlinear Analysis, University of Miami, December 2014
 Ideas from the Scholarship of Teaching and Learning Conference 2014, Center for Faculty Excellence, Ithaca College, December 2014
 Using Storytelling in the Classroom, Center for Faculty Excellence, Ithaca College, October 2014
 H&S Advising workshop hosted by Kathy Lucas, Assistant Dean, School of Humanities & Sciences, Ithaca College, October 2014
 Inquiry-based Learning workshop, Cornell University, August 2014
 Project NExT regional meeting/MAA Seaway Section meeting, Buffalo State, April 2014
 Teacher Development Workshop, Center for Faculty Excellence, Ithaca College, January 2014
 Service-Learning Series, Center for Faculty Excellence, Ithaca College, October 2013

Service to the College

Hiring committee

Member, September 2024 - April 2025

Interviewed and evaluated candidates for Professor of the Practice in Personal Finance

Faculty sponsor, Men’s Club Soccer, 2022-24

School of Humanities and Sciences representative, Faculty Council,
August 2022-May 2024, August 2014-May 2018

Session moderator, Whalen Symposium, April 2023, April 2017

Co-creator, “Using student journaling in the classroom, a five-part series” podcast (jointly with Marcy Sutherland), available at <https://threadcfe.wordpress.com/category/pedagogy/>, January - December 2020

Collaborator, Mathematical modeling of COVID-19 virulence on campus (jointly with Leann Kanda and Dave Gondek), August-October 2020

Member, Signature Liberal Arts Program Committee, December 2019-August 2020

Member, Review Committee for Center for Faculty Research and Development grants, Spring 2018, Fall 2017, Spring 2017, Fall 2016

Co-presenter, Ithaca College Data Day, February 2018

Co-organizer and presenter, R Roundtable discussion, February 2018

Session contributor, “Designing assignments in ICC Quantitative Literacy courses,” Center for Faculty Excellence, March 2015

Co-organizer, Actuarial career information session for students, March 2015

Guest lecturer, Writing 19402: Ignorance and inquiry, March 2014

Service to the Department

Department Chair, August 2024 - current

Data Science Ad-Hoc Committee

Member, January 2024-December 2024

Negotiated the development of a cross-disciplinary data science program.

Activities Committee

Chair, August 2022-May 2024, January 2021-May 2021

Co-organized Math Exploration Day, March 2023

Member, August 2022-current, August 2020-May 2021

Helped plan and organize department events. Recruited speakers for the math colloquium series, created and updated virtual math lounge Sakai site for students and faculty.

Interim Department Chair, January-May 2023

Created agenda for and conducted department meetings, attended two admissions events with prospective students, oversaw departmental business.

Curriculum Committee

Member, January 2023-May 2023

Participated in curriculum discussions with committee Chair.

Chair, August 2015-May 2017

Assisted in planning curricular changes to the department’s majors, approved submission of new courses.

Assessment Committee

Chair, August 2019-May 2020, August 2018-May 2019

Assisted in completing assessment procedures for the Math major.

Assisted in compiling a set of learning goals for Calculus.

Member, August 2023-May 2024, August 2017-May 2018

Prepared for 2024-25 assessment cycle.

Created and revised departmental learning goals for Linear Algebra and Statistics.

Guest lecturer, Math 191: World of Mathematics

Mathematical modeling, April 2024, February 2023, February 2019, March 2018

Game theory, March 2017

World map projections, February 2016

Game theory and evolutionary game theory, April 2015

Scientific inquiry and the game of Eleusis, April 2014

Hiring Committee

Member, August 2019-February 2020, October 2015-March 2016

Reviewed candidate materials and interviewed applicants.

Organizer, Student mentoring program, 2017-2020

Recruited current students to mentor incoming math students, organized two formal lunches (Tensor grant).

Participant, Department of Mathematics working group, 2015

Discussed learning goals for introductory statistics courses.

Member, Merit Committee, Spring 2025, 2024, 2015, 2014

Reviewed applications and made recommendations for department merit.

Professional Service

Judge, SIMIODE Challenge Using Differential Equations Models

(SCUDEM) VI, VII, and VIII, 2021-2024

Read and evaluated three team solutions to math modeling problems.

Manuscript referee

PLOS ONE (2025, 2017), Dynamic Games and Applications (2024),

Chaos (2024), College Mathematics Journal (2023),

SIAM Undergraduate Research Online - SIURO (2023),

Proceedings of the Royal Society A (2019),

J. Theoretical Biology (2023, 2022, 2021, 2020, 2019 (2), 2018, 2015),

PRIMUS (2020, 2019, 2018, 2017),

Mathematical and Biosciences Engineering (2016),

Journal of Mathematical Biology (2014)

Reviewer, October 2022

Katherine Meyer's proposal for leave of absence for research for Carleton College

Book reviewer, DSWeb - SIAM, January 2022

Published a review of Discovering Dynamical Systems Through Experiment and Inquiry by Thomas LoFaro and Jeff Ford, Chapman and Hall/CRC Press, Boca Raton, 2021.

Guest lecturer, Math 190: Game Theory, Fall 2019

Presented a primer on evolutionary game theory.

Local organizer, MAA Seaway Section Meeting, 2019

Coordinated faculty and student volunteers.

Co-organizer, IC Women in Math Day, March 2018-2021, 2023-2024

Assisted in planning and running the event, including organizing activities for students and parents, assembling a career panel, publicizing

the event, and organizing lunch (Tensor grant).

Presenter, Ithaca College Math Day, 2023-25, 2018-19, 2014-16

Hosted tables on recreational math problems and the Pythagorean theorem (and the Law of Cosines).

Presented interactive lecture on game theory to high school students (2024, 2025)

Grader, Ithaca College Math Day, April 2017

Graded student team competition tests.

Presenter, Community Math Day, November 2014

Organized and supervised arithmetic-oriented card games with regional elementary school children and their caregivers.

Presenter, Mathematics Professional Development Day, December 2013

Presented methods and facilitated activities on how to represent expressions when teaching geometry through the Common Core to 7th grade mathematics teachers.

Professional Associations

Society for Industrial and Applied Mathematics, 2007-present

American Mathematical Society, 2018-2020, 2015-2017, 2012-2013

Pi Mu Epsilon, 2014-present