

ACADEMIC
APPOINTMENTS**Associate Professor (2024–Present)**

Department of Astronomy, Mathematics, and Physics
Regis University (RU)
Denver, CO, USA

Visiting Assistant Professor (2023–2024)

Department of Mathematics
Fort Lewis College (FLC)
Durango, CO, USA

Associate Professor with rolling contract (2018–2023) – *Institutional equivalent to tenure***Assistant Professor (2013–2018)**

Department of Mathematics
Southern New Hampshire University (SNHU)
Manchester, NH, USA

~~~~~

## EDUCATION

**North Carolina State University, Raleigh, NC, USA**

Ph.D., Applied Mathematics, August 2013

Dissertation Title: *Compartmentalizing the Sunlight Vitamin: Physiologically Based Pharmacokinetic Modeling and Vitamin D*

Advisors: Dr. Hien T. Tran (NSCU) and Dr. Marina V. Evans (US EPA)

M.S., Mathematics, August 2010

**Smith College, Northampton, MA, USA**

Post-Baccalaureate Studies in Mathematics, May 2008

**University of Colorado Denver, Denver, CO, USA**

B.S., Mathematics Education, May 2007

*Magna cum laude*, Departmental and Academic Honors

~~~~~

TEACHING
EXPERIENCE

Algebra for Calculus, BIG Problems in Mathematics, Calculus I/II/III, Combinatorics, Cryptology, Differential Equations, Finite Mathematics, Game Theory, Heart of Mathematics, Linear Algebra, Mathematical Modeling, Statistics

~~~~~

TEACHING  
AWARDS

Southern New Hampshire Excellence in Teaching Award, *Nominated, 2014; Finalist, 2015, 2017.*

~~~~~

CURRICULA
DEVELOPED
(SNHU)**Minor/Concentration in Mathematical Modeling**

Classes emphasized the use of mathematical modeling techniques to solve applied problems. A statistical track was included in the curricula. Note this minor and concentration are no longer offered at SNHU due to restructuring of curricula.

BIG Problems in Mathematics

This course uses relevant questions from Business, Industry, and Government partners to motivate semester-long research problems for teams of students.

Cryptology

This course explores the mathematical background behind ciphers and crypto-systems at a level accessible to a general education student.

Introduction to Game Theory

This course is designed to bring the mathematics of game theory to an accessible level appropriate for first-year students while introducing enough rigor for mathematics majors and minors to see the broader scope of the topic.

Introduction to Mathematical Modeling

This course explores and analyzes a variety of types of discrete and continuous time models.

~~~~~

UNDERGRADUATE  
RESEARCH  
ADVISING  
(SNHU)

**Jessica McElwain**, 2019–2020.

Major: Mathematics with a concentration in Mathematical Modeling.

*Exploring Global Sensitivity Analysis with a Physiologically-based Pharmacokinetic (PBPK) Model of Bromochloromethane.*

**Contributing author to [5]**

**John W. Kenney**, 2019–2020.

Major: Mathematical Modeling with Physics.

*Optimization of a Physiologically-based Pharmacokinetic (PBPK) Model of Bromochloromethane.*

**Contributing author to [5]**

**Marisa Jellison**, 2018–2019

Majors: Mathematics and English Language & Literature.

*An Exploration of Physiologically-based Pharmacokinetic (PBPK) Models.*

**Mary Shakshober**, 2017–2018.

Majors: Mathematics and Graphic Design.

*Fractals as a Mathematically Aided Art Form.*

<https://www.youtube.com/watch?v=zVCY8-PpedQ>

**Co-Advisor:** Tracy Dow (Graphic Design, SNHU)

**Kevin Tasley**, 2016–2017.

Majors: Economics and Finance.

K. Tasley. *Modeling Public-Education Spending vs. Allocation as Independent Factors of Educational Outcomes*. Undergraduate Economic Review, 2016, 13:1.

<http://digitalcommons.iwu.edu/uer/vol13/iss1/10>

**Co-Advisor:** Dr. Adam Gilbert (Mathematics, SNHU)

~~~~~

UNIVERSITY
STUDENT
ADVISING
(SNHU)

Generation Equality

SNHU LGBTQ+ Advocacy Club

New Advisor Mentor: 2017–2018.

Club Advisor: 2013–2017.

SNHU Alternative Break: January 2016

No More Damsels in Distress: Fighting Gender-Based Violence

Advisor/Chaperone, 12 students

~~~~~

CONFERENCES  
ORGANIZED

**Queer in Computational and Applied Mathematics (QCAM)**

June 24–28, 2024. Co-organizer.

ICERM Workshop to celebrate research advances and foster strong research networks of LGBTQIA+ mathematicians in computational and applied mathematics

[https://icerm.brown.edu/topical\\_workshops/tw-24-qcam/](https://icerm.brown.edu/topical_workshops/tw-24-qcam/)

**Mathematical Association of America (MAA) Northeast Sectional Fall Conference**

November 16–18, 2018. Co-organizer.

Multi-day regional conference for MAA members; focused on teaching and research topics.

**#TransThriving2018**

September 29, 2018. Co-organizer.

Student-focused LGBTQIA+ conference focused on the experiences of transgender individuals

<https://transthiving2018.wordpress.com/>

~~~~~

PUBLICATIONS
(TEACHING AND
LEARNING)

Note: Some publications and presentations are still listed under my previous name, Megan E. Sawyer

- [1] Sawyer, C.W. & Buckmire, R. (2024). The automathography: A humanistic autobiographical writing assignment for mathematics courses. *Journal of Humanistic Mathematics*, 14(1), 54-73. DOI:[10.5642/jhummath.KHJA2262](https://doi.org/10.5642/jhummath.KHJA2262)
- [2] Sawyer, M.E. (2021, June/July). Rehumanizing mathematics: Discovering the real-life mathematicians among us. *MAA FOCUS*, 36–37. <http://digitaleditions.walworthprintgroup.com/publication/?i=711461>.
- [3] Dow, T., Gilbert, A., Sawyer, M.E., & York, K. (2017). Inspiring interdisciplinary collaboration experiences. *Experiential Learning & Teaching in Higher Education*, 1(2), 71–89.

~~~~~

PUBLICATIONS  
(MATHEMATICS)

- [4] Sawyer, C.W., Tuey, S.M., West III, R.E., Nolin, T.D., & Joy, M.S. (2022). *Physiologically based pharmacokinetic modeling of vitamin D<sub>3</sub> and metabolites in vitamin D insufficient patients*. *Drug Metabolism and Disposition*, 50(9) 1161-1169. DOI:[10.1124/dmd.121.000609](https://doi.org/10.1124/dmd.121.000609)
- [5] Sawyer, M.E., McElwain, J., & Kenney, J.W. (2021). Applications of global sensitivity analysis to the optimization of a dermal PBPK model of bromochloromethane. *Missouri Journal of Mathematical Sciences*, 33(2), 137-150. DOI:[10.35834/2021/3302137](https://doi.org/10.35834/2021/3302137)
- [6] Sawyer, M.E., Tran, H.T., & Evans, M.V. (2017). A physiologically based pharmacokinetic model of vitamin D. *Journal of Applied Toxicology*, 37, 1448-1454. DOI:[10.1002/jat.3489](https://doi.org/10.1002/jat.3489)
- [7] Sawyer, M.E., Evans, M.V., Wilson, C.A., Beesley, L.J., Leon, L.S., Eklund, C.R., Croom, E.L., & Pegram, R.A. (2016). Development of a human physiologically based pharmacokinetic (PBPK) model for dermal permeability for lindane. *Toxicology Letters*, 245, 106-109. DOI:[10.1016/j.toxlet.2016.01.008](https://doi.org/10.1016/j.toxlet.2016.01.008)
- [8] Cuello, W.S., Janes, T. A.T., Jessee, J.M., Venecek, M.A., Sawyer, M.E., Eklund, C.R., & Evans, M.V. (2012). Physiologically based pharmacokinetic (PBPK) modeling of metabolic pathways of bromochloromethane in rats. *Journal of Toxicology*, vol. 2012, Article ID 629781. DOI:[10.1155/2012/629781](https://doi.org/10.1155/2012/629781)

*Underlined authors were undergraduate students at the time of research.*

~~~~~

RESEARCH
HONORS

US Environmental Protection Agency 2013 Level III Scientific and Technological Achievement Awards (STAA) for contributed work in [8].

~~~~~

RESEARCH  
GRANTS AND  
AWARDS

- Southern New Hampshire University Summer Research Grant* (2021). \$4000.  
A physiologically based pharmacokinetic model of vitamin D for patients with chronic kidney disease under deplete and replete conditions. (**Article published, [4]**)
- Southern New Hampshire University Summer Research Grant* (2019). \$4000.  
Exploration of global sensitivity analysis methods for physiologically-based pharmacokinetic (PBPK) models. (**Article published with students, [5]**)
- Mathematical Association of America PIC Math Grant* (2018–2019). \$4000.  
Participation in a nationwide program helping prepare students for industry positions through a research-based course. (**Article published with students, [5]**)
- Southern New Hampshire University Summer Research Grant* (2018). \$3000.  
Exploring the transitivity of mentorship from experiences as a student to experiences in teaching students.
- Southern New Hampshire University Summer Research Grant* (2017). \$3800.  
Development of a computer model for prediction of dermal permeability parameters.
- Southern New Hampshire University Summer Research Grant* (2015). \$3500.  
Investigation of PBPK models in the context of dermal permeability. (**Article published, [7]**)
- Southern New Hampshire University Undergraduate Research Grant* (2014). \$500.  
Awarded to work with students on an introduction to various PBPK models.
- Southern New Hampshire University Summer Research Grant* (2014). \$3200.  
Exploration and modification on a PBPK model of vitamin D. (**Article published, [6]**)

~~~~~

RECENT
MATHEMATICS
PRESENTATIONS
AND POSTERS
(2016–Present)

- Sawyer, C.W. (Planned: 2024, October 17). *An exploration of physiologically-based pharmacokinetic models with Superman*. [**Invited Speaker**]. Smith College Undergraduate Mathematics Seminar Series, Northampton, MA.
- Sawyer, C.W. (2023, December 8). *An exploration of physiologically-based pharmacokinetic models with Superman*. [**Invited Speaker**]. Virginia Commonwealth University Biomathematics Seminar, Richmond, VA.
- Sawyer, C.W. (2022, May 10). *A triphasic physiologically based pharmacokinetic model of vitamin D3 and metabolites in vitamin D insufficient patients*. [Conference Presentation]. BAMM!: Biology in Mathematics and Medicine. Virginia Commonwealth University, Richmond, VA.
- Sawyer, M.E. (2021, April 10). *Physiologically based pharmacokinetic modeling of vitamin D and three metabolites in vitamin D deficient patients*. [Virtual conference presentation]. Hudson River Undergraduate Mathematics Conference.
- Sawyer, M.E. (2020, September 1). *Exploration of physiologically-based pharmacokinetic models*. [**Invited Speaker**]. DEKA Lecture Series. Manchester, NH.
- Sawyer, M.E. (2020, May). *Global sensitivity analysis of a physiologically-based pharmacokinetic (PBPK) model of bromochloromethane*. [Accepted for conference presentation, conference canceled due to COVID-19 pandemic]. BAMM!: Biology in Mathematics and Medicine. Virginia Commonwealth University, Richmond, VA.
- Sawyer, M.E. (2019, October 12). *Exploration of global sensitivity analysis methods for physiologically-based pharmacokinetic (PBPK) models*. [Conference presentation]. ICMA VII: Seventh International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems. Tempe, AZ.
- Sawyer, M.E. (2019, August 3). *BIG problems in mathematics*. [Conference presentation]. Mathfest 2019. Cincinnati, OH.

Sawyer, M.E. (2019, May 16). *A PBPK model of low-concentration vitamin D supplementation in the absence of sunlight*. [Conference presentation]. BAMM!: Biology in Mathematics and Medicine. Virginia Commonwealth University, Richmond, VA.

Sawyer, M.E. (2017, March 8). *It's a bird! It's a plane! It's...PBPK modeling?*. [Invited Speaker]. WSU Applied Mathematics Seminar Series, Worcester State University, Worcester, MA.

Sawyer, M.E. (2017, March 7). *We're all mad here*. [Invited Speaker]. FSU Applied Mathematics Seminar Series, Fitchburg State University, Fitchburg, MA.

Dow, T., Sawyer, M.E., Weinstein, M., York, K., Gilbert, A. (2016, September 27). *Project IICE: Inspiring interdisciplinary collaboration experiences*. [Conference presentation]. National Society for Experiential Education, 45th NSEE Annual Conference, San Antonio, TX.

~~~~~

DIVERSITY,  
EQUITY, AND  
INCLUSION  
PRESENTATIONS  
AND PANELS

Sawyer, M.E. (2021, May 6). *Cooking and Conversation: A Lesson in Learner-Centricity through Experiences in the Kitchen* [Host]. SNHU 2021 Closure. Virtual.

Sawyer, M.E. (2019, November 6). *Trans-STEM-ing the binary* [Invited Speaker]. Vassar College, Poughkeepsie, NY.

Sawyer, M.E. (2019 May 9). *Experiencing academe as an unintentional token faculty member* [Moderator]. Center for Teaching and Learning, Southern New Hampshire University, Manchester, NH.

Sawyer, M.E. (2019, May 8). *Recommendations for hiring and supporting DEI faculty* [Workshop leader]. Center for Teaching and Learning, Southern New Hampshire University, Manchester, NH.

Sawyer, M.E. (2019, April 27). *Beyond the binary* [Invited panelist]. University of Hartford, Hartford, CT.

Sawyer, M.E. (2019, April 1). *Allies: Who needs 'em?!* [Moderator]. Humanities Profanities Discussion Series. Southern New Hampshire University, Manchester, NH.

Sawyer, M.E. (2017, March 6). *Opportunities and challenges: transgender identity in a binary world*. Southern New Hampshire University. Manchester, NH.

Sawyer, M.E. (2016, February 5). *Inclusivity in the classroom* [Moderator]. Co-sponsored by the President's Commission for LGBTQ Advocacy and the Center for Teaching and Learning, Southern New Hampshire University, Manchester, NH.

~~~~~

RECENT
CONFERENCES
AND WORKSHOPS
(2016–Present)

Association of Jesuit Colleges and Universities Diversity and Equity Network Conference. Regis University, Denver, CO. June 9-12, 2024.

BAMM!: Biology in Mathematics and Medicine. Virginia Commonwealth University, Richmond, MA. May 20-22, 2016; May 15-17, 2019; May 18-20, 2022.

ICMA VII: Seventh International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems. Tempe, AZ. October 12-14, 2019.

MAA Mathfest. Cincinnati, OH. July 31-August 3, 2019.

Association of American Colleges & Universities 2019 Diversity, Equity, and Student Success Conference. Pittsburgh, PA. March 28-30, 2019.

PIC-Math Workshop. Provo, UT. May 29-June 1, 2018.

International Symposium on Biomathematics and Ecology Education and Research (BEER). Normal, IL. October 6-8, 2017.

National Society for Experiential Education. 45th NSEE Annual Conference. San Antonio, TX. September 26-28, 2016.

~~~~~

ACADEMIC  
SERVICE  
(FLC)**Digital Accessibility Committee***Member, 2023–2024*

~~~~~

ACADEMIC
SERVICE
(SNHU)*University-Level Service***SNHU Professional Employee Association (SNHUPEA) University Human Resources Committee***Chair, 2017–2018, 2021–2023. Member, 2016–2023.***Scholastic Standing Committee***Member, 2022–2023.***Joint Task Force on Reimaging Higher Education at SNHU***Faculty Senate Task Force member, 2020.***University College Academic Policy Committee***Secretary, 2018–2020.***Center for Teaching and Learning***Diversity, Equity, and Inclusion Faculty Liaison, 2018–2019.**Webmaster, <https://snhuctldiversity.weebly.com>, 2018–2019.**Mentor, New Faculty Mentorship Program, 2016–2019, 2022.***SNHU Diversity, Equity, and Inclusion Strategic Plan Committee***Member, 2018–2019.***President's Commission on LGBTQ+ Advocacy***Member, 2013–2018.**Co-Author, Annual Letter to the President, 2016, 2017.**Co-Author, Inclusivity and Non-Discrimination Policy, 2016.**Co-Organizer, Faces of Pride Initiative, 2014–2018.***Undergraduate Research Committee***Member, 2013–2016.**Undergraduate Research Day**Proposal Reviewer: 2016.**Judge: 2014, 2015.**STEM Initiatives Subcommittee**Co-Organizer: Project IICE: Inspiring Interdisciplinary Collaboration Experiences, Fall 2015.**Organizer: STEM Housing Design Competition, March 16–23, 2015.**Travel Grant and Rubrics Subcommittee**Proposal Reviewer: 2015.**School-Level Service***School of Arts, Sciences, and Education Committees**

- Promotion; *Member, 2018–2020, 2022–2023.*
- Scholarship; *Chair, 2016–2020.*
- Curriculum; *Member, 2014–2016.*

Mathematics Department

- Program Coordinator, 2019–2020, 2022–2023
- Chair, 2020–2022.

Note: On sabbatical leave during Spring 2021 semester

- Mathematics Colloquia Series Coordinator, 2014–2016.

*Search Committees***School of Arts, Sciences, and Education**

- Assistant Professor of Mathematics
Chair/Co-chair, 2016, 2017, 2022. Member, 2013.
- Game Programming Instructor
Member, 2017.
- Assistant Professor of Science
Member, 2014.

Office of Diversity Programs

- Director of the Office of Diversity Programs
Member, 2016.
- LGBTQ Graduate Assistant
Member, 2014.

Service to Profession

American Association of University Professors (AAUP)

SNHU Member Chapter President, 2018–2020.
Member, 2016–2023.

Ad-Hoc Reviewer

Mathematics Biosciences and Engineering
SIAM Undergraduate Research Online
MAA Reviews

~~~~~

EXTERNAL  
SERVICE

Guest Lecturer, University of Colorado Denver Anschutz Medical Campus

*Special topic speaker for graduate level course on physiologically-based pharmacokinetic (PBPK) modeling.* 2021–2023.

COMAP Mathematical Competition in Modeling

*Judge.* 2019–2023.

Moody’s Mega Math Challenge

*Judge.* 2016, 2017.

Great Bay Community College

*Member*, Mathematics Department Advisory Board, 2014–2016.  
*Member*, Engineering Program Review, 2016.

New Hampshire Inclusive Excellence Symposium

- Project Inclusion: Institutionalization of Inclusive Excellence and Student Success in New Hampshire’s Colleges and Universities. May 19, 2015.
- Self-Assessment Rubric for Institutionalization of Diversity, Equity and Inclusion in Higher Education. May 22, 2014.

~~~~~

CURRENT
PROFESSIONAL
MEMBERSHIPS

American Association of University Professors (AAUP)
American Women in Mathematics (AWM)
Mathematical Association of America (MAA)
National Association of Mathematicians (NAM)

~~~~~