



SIMIODE at the JMM 2024 presents...

AMS Special Sessions on

Modeling to Motivate the Teaching of the Mathematics of Differential Equations

Organizers:

Brian Winkel, SIMIODE, BrianWinkel@simiode.org

Kyle T Allaire, Worcester State University, kallaire@worcester.edu

Maila B. Hallare, US Air Force Academy, maila.hallare@afacademy.af.edu

Yanping Ma, Loyola Marymount University, Yanping.Ma@lmu.edu

Lisa Naples, Fairfield University, lisa.naples@fairfield.edu

Session 1: Wednesday January 3, Room 004, The Moscone Center

8:00 am *Analyzing the Richardson Arms Race Model at the Beginning, Middle and End of a Differential Equations Course*

Michael Olinick*, Middlebury College

8:30 am *AMS Expects that every Mathematician will do their ODEs: From the Battle of Trafalgar to Calculus (or Nelson to Newton)*

Steven Joel Miller*, Williams College

9:00 am *The modeling first approach in an ODE classroom: utilizing fictional dragons as a practical modeling illustration*

Yanping Ma*, Loyola Marymount University

9:30 am *Dynamical Systems Modeling for Biologists & Doctors -- without Prerequisites!*

Jennifer A Czocher, Texas State University

Eric Deeds, Alan Garfinkel*, UCLA

Brendan A Kelly, Harvard

10:00 am *A Master Class in Modeling the Life Sciences, for Mathematics Faculty*

Jennifer A Czocher*, Texas State University

Eric Deeds, Alan Garfinkel*, UCLA

Brendan A Kelly, Harvard

10:30 am *Getting to the Good Part: An Applications-First Approach to Calculus II through Differential Equations Modeling*

Adam Rumpf*, Florida Polytechnic University

11:00 am *Fostering Mathematical Curiosity: Using Real-Life Modeling to Teach Differential Equations*

Brittany Oletti*, United States Military Academy

Session 2: Wednesday January 3, Room 004, The Moscone Center

1:00 pm *Model More by Doing Less*

James S Wolper*, Idaho State University

1:30 pm *SIMIODE Discussion*

2:00 pm *Using a Model to Give a Grand Tour of a First Course in Differential Equations*

Samuel M Graff*, John Jay Coll of Criminal Justice, CUNY

Yi Li, n/a

2:30 pm *Sustainability Modeling*

Vikram Duvvuri, Amakoe Gbedemah, Miguel Modestino, Ingrid Paredes, Abby Rabinowitz, Andrea Silverman, Lindsey G Van Wagenen*, NYU Tandon School of Engineering

3:00 pm *SIMIODE Discussion*

3:30 pm *SIMIODE Discussion*

4:00 pm *Using our Medical Simulation Center to Bring Modeling of Lung Capacity to Life in The Differential Equations Classroom*

Melissa A Stoner*, Salisbury University

Session 3: Thursday January 4, Room 076, The Moscone Center

1:00 pm *Using Student Projects for General Public Education*

Lawrence C Udeigwe*, Manhattan College & MIT

1:30 pm *SIMIODE Discussion*

2:00 pm *Promoting Technology in a Mathematical Modeling Class*

Li Zhang*, The Citadel

2:30 pm *WikiModel: A Web-based Software Application to Rapidly Create, Simulate, Fit and Share Mathematical Models*

Sami S Kanderian*, WikiModel LLC

3:00 pm *Learning Introductory Undergraduate Physics Through Maple Immersion*

Scot Appleton Gould*, Claremont McKenna, Pitzer, Scripps colleges
Karishma Punwani, Maplesoft

3:30 pm *A Nonlinear Oscillator with Damping in Continuous and discrete time*

Behzad Djafari-Rouhani*, UTEP

4:00 pm *A Model For Currency Exchange Rates*

Sundar Tamang*, UAB PhD Thesis

SIMIODE EXPO 2024

INTERNATIONAL ONLINE CONFERENCE

SYSTEMIC
INITIATIVE FOR
SIMIODE
MODELING
INVESTIGATIONS &
WITH OPPORTUNITIES
DIFFERENTIAL
EQUATIONS

February 9 - 11, 2024

1 pm – 9 pm EST

Register now!

**Submit talk abstract
by January 22, 2024**



SCAN TO REGISTER

TWO KEYNOTE SPEAKERS

- **Frank Wattenberg**
"Mathematical Modelers
Understanding and Using
Artificial Intelligence"
- **Doan Winkel**
"The AI Differential:
Unraveling Mathematics
with ChatGPT"

FEATURING

- Contributed presentations
- Designated and informal conversation groups
- Practical classroom possibilities
- Rich and interactive conference platform
- Instant conversations
- Conference videos posted on SIMIODE YouTube Channel
- Special session on SCUDEM – student modeling challenges

For more information, Call for Presenters, Registration, visit
<https://qubeshub.org/community/groups/simiode/expo>

FOR FACULTY

- Modeling resources
- Technical sessions
- Teaching ideas
- Active workshops
- Publication venues
- Useful panels
- Prison Math Project

FOR STUDENTS

- SCUDEM stories
- Judges/Coaches/
Students share

