100th Meeting of the Southeastern Section of the Mathematical Association of America, March 5th, 6th, 12th, and 13th, 2021

Full Program for Friday, March 12th and Saturday, March 13th
All Times are Central Standard Time (GMT-6)

Friday, March 12th

Project NExT-SE: 2:00 PM – 4:00 PM, CST
Organizers: Kristen Abernathy (Winthrop University), Zach Abernathy (Winthrop University), Molly Fenn (North Carolina State University)

Zoom link was provided to pre-registrants by email.

Time	Event
2:00-3:00	Jenna Carpenter, Campbell University, Hands on Approaches for Teaching Mathematics: Making the Abstract Real
3:00-3:15	Breakout room discussions
3:15-4:00	Neat Teaching Ideas/Discussion

Social Event: Time 6:30 PM – 7:30 PM CST: Kahoot Math Quiz
Planning Team: Ron Taylor

- Zoom link: https://wakeforest-university.zoom.us/j/96698814441
- Faculty and students are invited to participate!

Saturday, March 13th

Virtual Registration and Help Desk: 8:00 AM – 11:05 PM CST
- Zoom link: https://davidson.zoom.us/j/95687005868
  One tap mobile
  +13126266799,,95687005868# US (Chicago)
  +16465588656,,95687005868# US (New York)

Morning Session: 8:30 AM – 11:10 AM, CST

Workshop: Demystifying Desmos Activities, Chris Raridan and Daniel Bizzell (Clayton State University)
Zoom link: https://belmontu.zoom.us/j/85439982727

Undergraduate Paper Session, Moderator: Wei-Kai (Bryan) Lai (USC Salkehatchie)				
Zoom link: https://wakeforest-university.zoom.us/j/94240202899				
Time	**No.**	**Title**	**Author**	**Affiliation**
8:30 AM	UT.1	A Brief Survey of List-Edge-Critical Graphs	Hannah Reavis	Middle Georgia State University
		Additional authors: Dr. Joshua Harrelson (Middle Georgia State University)		
8:50 AM	UT.2	Prime Progressions	Aaron Fannin	The Citadel
9:10 AM	UT.3	Neural Networks and Their Applications in Sports	Stanley Miller	Lee University
		Additional authors: Dr. Schmurr, professor		
9:30 AM	UT.4	Generalizations of Leibniz and Lie algebras	Christian Payne	
9:50 AM	UT.5	Counting Linear Chord Diagrams that Avoid Chords of Length One	Meagan Hodge	Spelman College
		Additional authors: Dr.Naiomi Cameron (Spelman College)		
10:10 AM	UT.6	Enumerating Cyclic Compositions and Their Parts	Gabriel Loos	Georgia Southern University
10:30 AM	UT.7	When is a Polynomial Isomorphic to an Even Polynomial?	Hanna Noelle Griesbach	
		Additional authors: Dr. Chad Awtrey (faculty), Dr. Jim Beuerle (faculty)		

Special Session on Inquiry Based Learning in Online and Socially Distanced Classrooms, Part 1, Organizers: Joseph Barrera (Converse College), Mandy Mangum (Converse College), Allie Ray (Birmingham-Southern College), Hwayeon Ryu (Elon University), Joseph Spivey (Wofford College)				
Zoom link: https://converse.zoom.us/j/97671433710				
Time	**No.**	**Title**	**Author**	**Affiliation**
8:30 AM	IBL1.1	IBL Techniques for Hybrid First-Year Seminar Math Class	Joseph Spivey	Wofford College
8:50 AM	IBL1.2	If You Hopped Like a Frog: Group Work and Creativity in an Online Setting	Jacob Dennerlein	University of Tennessee, Knoxville
		Additional authors: Dr. Jeneva Clark (UT Knoxville)		
9:10 AM	IBL1.3	Teaching an IBL Intro to Proofs course Virtually	Jessie Hamm	Winthrop University
9:30 AM	IBL1.4	Online Combinatorics IBL: A team sport.	Phong Le	Goucher College
9:50 AM	IBL1.5	Digitally Collaborative IBL in Abstract Algebra	Jessica Sorrells	Converse College

Contributed Paper Session 3, Moderator: Frank Patane (Samford University)				
Zoom link: https://uu.zoom.us/j/94965511680				
Time	**No.**	**Title**	**Author**	**Affiliation**
8:30 AM	CP3.1	When Additive and Multiplicative Inverses are the Same	Karen Briggs	University of North Georgia
		Additional authors: Caylee Spivey (University of North Georgia, Undergraduate Student)		
8:50 AM	CP3.2	Extremal Khovanov homology and the girth of a knot	Dan Scofield	Francis Marion University
		Additional authors: Radmila Sazdanovic (North Carolina State University)		
9:10 AM	CP3.3	Understanding knots and links via the topology and geometry of their complements	Christian Millichap	Furman University
		Additional authors: Jeffrey Meyer (California State University, San Bernardino) and Rolland Trapp (California State University, San Bernardino)		
9:30 AM	CP3.4	An Analysis of Melzak's Conjecture in Taxicab Space	Gladden, Debra Mimbs	Lee University
		Additional authors: William Fulford, Samuel D. Gruber, Alexandra L. Squires (Lee University)		
9:50 AM	CP3.5	Improving Topological Intuition by Exploiting Finite Spaces	Ivan Dungan	Francis Marion University
10:10 AM	CP3.6	Counting Intersections of Polygons	Jason Schmurr	Lee University
		Additional authors: Jaime Lynne McCartney (Dalton State College)		
10:30 AM	CP3.7	Dessins d'Enfant and Rational Billiards Surfaces	Dr. Richard Moy	Lee University
		Additional authors: Dr. Jason Schmurr (Lee University Faculty), Madison Mabe (Lee University Undergraduate Student), and Japheth Varlack (Lee University Undergraduate Student)		
10:50 AM	CP3.8	Investigation of a numerical approach in solving geological problems	Leina Wu	Department of Mathematics and Physics, Queens University of Charlotte, Charlotte, North Carolina, USA
		Additional authors: Tsun-Zee Mai (Sichuan University Pittsburgh Institute, Sichuan University, Chengdu, Sichuan, China)		

General Session 3: 12:00 PM – 1 PM, CST

- Zoom link: https://mhu.zoom.us/j/94846330350
- 2020 Distinguished Teaching Award Winner: Ratnasingham Shivaji (University of North Carolina at Greensboro)
  - Title: A comparison result when the forcing terms are close in L^1 norm
- 2020 Distinguished Teaching by a Beginning Faculty Award Winner: Andrew Penland (Western Carolina University)
  - Title: Fun and Games

Virtual Registration and Help Desk: 1:00 PM – 3:15 PM CST

- Zoom link: https://davidson.zoom.us/j/95687005868
  One tap mobile
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  +16465588656,,95687005868# US (New York)

Afternoon Session: 1:15 PM – 3:15 PM, CST

No.	Title	Author	Affiliation
Undergraduate Poster Session, Moderator: Karen O'Hara (High Point University)			
Zoom link: https://us02web.zoom.us/j/82574479795			
UP.1	An Analysis of Star Periodograms: The Lomb-Scargle Method	Aaron Gilberto	The Citadel, the Military College of South Carolina
UP.2	Decoding COVID-19 Patient Blood Tests With Machine Learning	Amyirell Harrington	
UP.3	Simulating Long-Term Wealth Distribution in the United States	Arun Kirk	Chapel Hill High School
	Additional authors: Dr. Crista Arangala (Elon University)		
UP.4	A Proof Involving Balancing Numbers	Ben Race	The Citadel
	Additional authors: Ernest James (The Citadel)		
UP.5	A Mathematical Model of Interspecies Behavioral Patterns	Catherine LoGrande	Elon University
	Additional authors: Dr. Crista Arangala, Chair of the Mathematics and Statistics Department at Elon University		
UP.6	An Exploration of Evolutionary Game Theory	Daniel Hammer	
	Additional authors: Dr. Andrew Penland, Nicholas O'Kelley, Andrew Shelton		
UP.7	Mathematical Models of COVID-19	Ernest James	The Citadel
	Additional authors: Dr. Mei Chen (The Citadel Faculty)		
UP.8	Statistics and Feature engineering used to Evaluate the Effectiveness of Healthcare's Diabetes Management Program.	Ethan Nussio	East Tennessee State University.
UP.9	Methods for Finding Convex Partitionings of Polygonal Structures	Gabriel Loos	Georgia Southern University
UP.10	At Least Squares Can Solve Fluid Flow Equations	Ja'Nya Breeden	Francis Marion University

		Additional authors: Jada Lytch (Francis Marion University), Taylor Boatwright (Francis Marion University)		
UP.11		Taylor Series solution and a related numerical technique for the Van der Pol equation	Joseph Semler	Austin Peay State University
		Additional authors: Samuel Jator, Ph.D. (Austin Peay State University)		
UP.12		Confidence Intervals and Pool Noodles	Joycelyn Young	Austin Peay State University
UP.13		Using AI to Improve Student Learning in Abstract Algebra	Kenya Isller	
		Additional authors: Ronald Linton (Columbus State University Math Department)		
UP.14		Using machine learning to determine boardgame ratings	Maximo Rainwater	Francis Marion University

Special Session on Opportunities in Data Science for Undergraduate Programs, Part 2, Organizers: Kristen Abernathy and Zach Abernathy (Winthrop University)				
Zoom link: https://winthrop-edu.zoom.us/j/81945630644				
Time	**No.**	**Title**	**Author**	**Affiliation**
1:15 PM	DSC2.1	Introducing a Data Science Minor at a Liberal Arts College	Holly Rosson	Warren Wilson College
1:35 PM	DSC2.2	In the Trenches: A First-Hand Look at the Skills Data Scientists Need	Kristen Abernathy	Winthrop University
		Additional authors: Zach Abernathy (Winthrop University)		
1:55 PM		Talk withdrawn		
2:15 PM	DSC2.4	Penalized Regressions with Different Tuning Parameter Choosing Criteria and the Application in Economics	Mingwei Sun	Samford University
		Additional authors: Sheng Gao (Samford University)		
2:35 PM	DSC2.5	Modeling drought in South Carolina	Fidele Ngwane	University of South Carolina - Salkehatchie

Special Session on Inquiry Based Learning in Online and Socially Distanced Classrooms, Part 2, Organizers: Joseph Barrera (Converse College, Mandy Mangum (Converse College), Allie Ray (Birmingham-Southern College), Hwayeon Ryu (Elon University), Joseph Spivey (Wofford College)				
Zoom link: https://converse.zoom.us/j/96959028980				
Time	**No.**	**Title**	**Author**	**Affiliation**
1:15 PM	IBL2.1	Maintaining Student Interactions in a Socially Distanced IBL Classroom	Allie Ray	Birmingham-Southern College
1:35 PM	IBL2.2	Classroom poster presentations	Vicky Klima	Appalachian State University
1:55 PM	IBL2.3	Student presentations in socially distanced classrooms	Joel Louwsma	Niagara University
2:15 PM	IBL2.4	Oral Quizzes in Online and Face-to-Face Classes	George Moss	Union University

Contributed Paper Session 4, Moderator: Tom Fitzkee (Francis Marion University)				
Zoom link: https://ncsu.zoom.us/j/97405462875				
Time	**No.**	**Title**	**Author**	**Affiliation**
1:15 PM	CP4.1	Embedding K-Dimensional Grid Graphs in Orientable Surfaces	Fabian Salinas	Furman University
		Additional authors: Christian Millichap (Furman University)		
1:35 PM	CP4.2	A Data-Driven Mathematical Model of the Heroin and Fentanyl Epidemic in Tennessee	Tricia Phillips	Birmingham-Southern College
		Additional authors: Suzanne Lenhart (University of Tennessee, Knoxville) and W. Christopher Strickland (University of Tennessee, Knoxville)		
1:55 PM	CP4.3	Exploration Using Without-Replacement Sampling of Actions is Sometimes Inferior	Stephen Carden	Georgia Southern University
		Additional authors: S. Dalton Walker (Air Force Material Command)		
2:15 PM	CP4.4	An Introduction to Market Basket Analysis-Association Rules	Mahmoud Aldeni	Western Carolina University
2:35 PM	CP4.5	A Simple Non-commutative Oblivious Transfer	Maggie Habeeb	California University of PA
2:55 PM	CP4.6	A Recursive Formulation of Poset CC-Shellability	Grace Stadnyk	Furman University
		Additional authors: Patricia Hersh (University of Oregon)		

General Session 4: 3:30 PM – 4:30 PM, CST

- Zoom link: https://davidson.zoom.us/j/91069611727
- Presiding: Laurie Heyer (Davidson College), MAA-SE Chair
- Awards, announcements, and closing remarks