Eagle Undergraduate Mathematics Conference 2020
February 22, 2020

8:45 – 9:15  Registration and Refreshments, IT Building

9:20 – 10:20  Concurrent Student Presentations – 15 minutes each, 5 minutes for changeover

Room 3202  Session A
9:20  Designing Efficient Algorithms for Sensor Placement,
  Gabriel Loos, Georgia Southern University
9:40  Reciprocal Hyperelliptic Curves,
  Timothy Eller, Georgia Southern University
10:00  Equilateral Lattice Triangles in the Fourth Dimension,
  William Farran, Middle Georgia State University

Room 3204  Session B
9:20  Georgia Math Teachers Conference Experience 2019,
  Amber Whitfield, Georgia Southern University
9:40  Numerical Approximation of Nonlinear Duffing Oscillator by Using Adaptive
  Runge-Kutta Method,
  Sammie Clayton, Savannah State University
10:00  Blowup of Solutions to a Damped Fluid Equation with a Homogeneous
  Three-point Boundary Condition,
  Ikechukwu Obi-Okoye, University of North Georgia

Room 3206  Session C
9:20  On the Bratu Equation: A Comparison of Analytical and Numerical Solutions,
  James Orgeron, Georgia Southern University
9:40  Advice On How You Should Choose Numbers,
  Nadou Lawson, Georgia Southern University
10:00  Exploring Grundy Domination,
  Kayla Bell and Kimber Wolff, Clayton State University

Room 3208  Session D
9:20  Modeling the Stock Market Through Game Theory,
  Kylie Hannafey, Georgia Southern University
9:40  A Comparative Study of the Numerical Approximations of the Quenching Time
  for a Nonlinear Reaction-Diffusion Equation,
  Frederick Jones, Augusta University
10:00  Modeling FICO Score and Loan Amount,
  Ashleigh Romer, Georgia College and State University
10:30 – 11:10 Career Panel
Room 1005
Rachel Lewis, Business Intelligence Analyst, JP Morgan Chase, Jacksonville, FL
Richard Steele, Purchasing Coordinator, Colonial Chemical Solution, Savannah, GA

11:15 – 12:15 Team Problem Solving Competition
Room 1005

11:15 – 12:15 Social Hour
Atrium

12:15 – 1:00 Lunch
Atrium

1:00 – 2:00 MAA State Luncheon Address: “Dice, Stamps, and Counting: Putting Polynomials to Work”
Room 1005
Dr. Brian Hopkins, Professor of Mathematics, Saint Peter’s University

2:10 – 3:10 Concurrent Student Presentations – 15 minutes each, 5 minutes for changeover

Room 3202 Session E
2:10 Ramsey Numbers Avoiding Properly Colored Cycles,
Noah Watts, Clayton State University
2:30 Simple $n$-colorings of Pretzel Links,
Noah Caplinger, Georgia Institute of Technology

Room 3204 Session F
2:10 Visualizing Groups,
Sarah Pritchard, Georgia Institute of Technology
2:30 Gröbner Basis and the Ideal Membership Problem,
AliAnn Xu, University of Georgia
2:50 Polynomials Over Hyperfields,
Steven Creech, Georgia Institute of Technology
<table>
<thead>
<tr>
<th>Room 3206</th>
<th>Session G</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:10</td>
<td>Exploring Sums of Powers,</td>
</tr>
<tr>
<td></td>
<td>Max Schneider, University of Georgia</td>
</tr>
<tr>
<td>2:30</td>
<td>Continued Fractions and Pell's Equation,</td>
</tr>
<tr>
<td></td>
<td>Martha Sikora, University of Georgia</td>
</tr>
<tr>
<td>2:50</td>
<td>Proportions of Periodic Points for a Lattes Map,</td>
</tr>
<tr>
<td></td>
<td>Eric Zhu, Georgia Institute of Technology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room 3208</th>
<th>Session H</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:10</td>
<td>Noise-Induced Stabilization of Hamiltonian Systems,</td>
</tr>
<tr>
<td></td>
<td>Julia Garner, College of Coastal Georgia</td>
</tr>
<tr>
<td>2:30</td>
<td>Applications of Group Theory in Music,</td>
</tr>
<tr>
<td></td>
<td>Logan Bayer, University of Georgia</td>
</tr>
</tbody>
</table>

| 3:15      | Closing and Announcement of Awards       |
| Room 1005 |                                           |