## PROGRAM for the Indiana Section MAA Spring 2019 MEETING University of Indianapolis Friday and Saturday, April 5 & 6, 2019

|           |  | Friday, April 5                               |   |  |  |  |
|-----------|--|---|---|--|--|--|
|           | Do minturations  | 3:30-3:50                                     | ICMC Registration                       |  |  |  |
| 3:00-5:00 | Registration Health Pavilion first floor atrium  | 4:00-4:15                                     | ICMC Orientation                        |  |  |  |
|           |  |   | Health Pavilion 138                     |  |  |  |
| 5:00-6:15 | Executive Board Meeting  | 4:30-6:30                                     | ICMC                                    |  |  |  |
|           | Health Pavilion 202  |   | (Various rooms)                         |  |  |  |
|           | Contributed Talks  |   |   |  |  |  |
|           | Health Pavilion Room 205   | Health Pavilion 206                           | Health Pavilion 208                     |  |  |  |
|           | Moderator: Rick Gillman  | Moderator: Ken Luther                         | Moderator: Stacy Hoehn                  |  |  |  |
| 4:30-4:50 | The value of unique representation for   |   |   |  |  |  |
|           | permutations (+)   |   | Open Discussion of Innovative Ideas for |  |  |  |
|           | William Weakley  |   | Linear Algebra Instruction              |  |  |  |
| 5:00-5:20 | An Elementary Approach to Galois   | A Mathematical Modeling Course (+)            | Roza Aceska and Crystal Lorch           |  |  |  |
|           | Theory of Cubics and Quartics (+, #)   | David Housman                                 |   |  |  |  |
|           | Rodney Lynch   |   |   |  |  |  |
| 5:30-5:50 | The behavior of a function derived from  | Incorporating a Modeling First Approach       | Pushing Hurwitz's Bound: History and    |  |  |  |
|           | a test for divisibility by three (+)   | into a Traditional ODE Course (+, #)          | recent results in finding the bound of  |  |  |  |
|           | John Rickert   | Michael Karls                                 | the automorphism group of a variety of  |  |  |  |
|           |  |   | general type                            |  |  |  |
| 6.00.6.20 | Buck Condend of The Condend Co | Leave to Be distribute to a Calling Calling   | Christopher Creighton (*)               |  |  |  |
| 6:00-6:20 | Reeb Graphs and Their Applications (+)   | Increasing Participation in an Online College | The Specialization Homomorphism for     |  |  |  |
|           | Sarah Percival (*)   | Algebra Class (+, #) John LaMaster            | Elliptic Surfaces (+)                   |  |  |  |
|           |  | JOHN Lawlaster                                | Tyler Billingsley (*)                   |  |  |  |
| 6:30-8:00 | Banquet and Awards Presentation  |   |   |  |  |  |
|           | Schwitzer Student Center, UIndy Hall A   |   |   |  |  |  |
| 8:00-9:00 | Dr. Deanna Haunsperger Carleton College and 2017-2018 MAA President  |   |   |  |  |  |
|           | A Glimpse at the Horizon   |   |   |  |  |  |
|           | Schwitzer Student Center, UIndy Hall A   |   |   |  |  |  |

|            |  |                                   | Coloreda Avello                   |                         |                 |  |  |
|------------|--|-----------------------------------|-----------------------------------|-------------------------|-----------------|--|--|
|            | Saturday, April 6  |                                   |                                   |                         |                 |  |  |
| 7:00-8:30  | Registration   |                                   | ealth Pavilion first floor atrium |                         |                 |  |  |
| 8:20-8:30  | Welcome – Dr. Debra Feakes, Dean, Shaheen College of Arts and Sciences     |                                   |                                   |                         |                 |  |  |
|            | Health Pavilion 138  |                                   |                                   |                         |                 |  |  |
| 8:30-9:30  | 0 Dr. Alissa Crans Loyola Marymount University                             |                                   |                                   |                         |                 |  |  |
|            | Cracking the Cubic: Cardano, Controversy, and Creasing Health Pavilion 138 |                                   |                                   |                         |                 |  |  |
|            |  |                                   |                                   |                         |                 |  |  |
| 9:30-10:00 | 2:00 Snacks and Conference Photo Health Pavilion second floor lobby        |                                   |                                   |                         |                 |  |  |
|            |  | Contributed talks                 |                                   |                         |                 |  |  |
|            |  | Cor                               | itributed talks                   |                         | Workshop        |  |  |
|            | Health Pavilion 204  | Health Pavilion 205               | Health Pavilion 206               | Health Pavilion 208     | Health Pavilion |  |  |
|            | Moderator:   | Moderator: Ken Luther             | Moderator: Mel Royer              | Moderator:              | 380             |  |  |
|            | Ranjan Rohatgi   |                                   |                                   | Katie Ansaldi           |                 |  |  |
| 10:00-     | Boost the  | A Fresh Look at Cauchy's          | Comparing Intervention            | On Triangular           | Recognizing     |  |  |
| 10:20      | Performance of   | Convergence Criterion:            | Strategies for Reducing           | Numbers (#)             | Gerrymandering: |  |  |
|            | Rocket without   | Some Variations and               | Clostridium difficile             | Bir Kafle               | Are you smarter |  |  |
|            | Calculus   | Generalizations (+)               | Transmission: An Agent-Based      |                         | than a Supreme  |  |  |
|            | (+, #)   | Dan Coroian                       | Modeling Study (+)                |                         | Court Justice?  |  |  |
|            | Michael Xue  |                                   | Brittany Stephenson               |                         |                 |  |  |
| 10:30-     | Math-Learning  | Differentiating by Parts?         | Designing Optimal Strategies      | Estimation of the       | Mindy Capaldi   |  |  |
| 10:50      | through  | (+, #)                            | for DNA Self-Assembly (+)         | Population Mean with    |                 |  |  |
|            | Performance (+, #)   | Phil Mummert                      | Amanda Harsy                      | the Sample Maximum      |                 |  |  |
|            | Jihyeon Jessie Yang  |                                   |                                   | (+, #)                  |                 |  |  |
|            |  |                                   |                                   | Tiffany Kolba           |                 |  |  |
| 11:00-     |  | A general blow-up                 | Design Strategies for Modeling    | Defining Equations of   |                 |  |  |
| 11:20      |  | phenomenon for C <sup>1</sup>     | Mongolian Tent Graphs using       | Rees Algebras (+)       |                 |  |  |
|            | Section NExT panel:  | function in R <sup>n</sup> (+, #) | DNA Self-Assembly (+)             | Edward F. Price III (*) |                 |  |  |
|            | Teaching Students  | Yifei Pan                         | Jackson Hansen (**)               |                         |                 |  |  |
| 11:30-     | to Think about   | Cotangent Averaging               | Using Environmental DNA to        | Rees Algebras and       |                 |  |  |
| 11:50      | Learning   | and Euler's Product               | Predict Sea Lamprey Population    | Normal Ideals (+)       |                 |  |  |
|            |  | Formula (+)                       | Size in Great Lakes Tributaries   | Rachel Lynn (*)         |                 |  |  |
|            |  | Andy Rich                         | (+, #)                            |                         |                 |  |  |
|            |  |                                   | Emily Morris (**)                 |                         |                 |  |  |

| 12:00-1:15 | <b>Lunch</b><br>Health Pavilion first floor atrium  |  |   |   |  |  |
|------------|---|--|---|---|--|--|
| 1:30-2:30  | Dr. Manda Riehl Rose-Hulman Institute of Technology  Discrete Mathematics Applied to Biology  Health Pavilion 138     |  |   |   |  |  |
|            | Contributed talks   |  |   |   |  |  |
|            | Health Pavilion 204<br>Moderator: Tiffany Kolba   | Health Pavilion 205<br>Moderator: Mindy Capaldi          | Health Pavilion 206<br>Moderator: Josh Holden   | Health Pavilion 208<br>Moderator: Bir Kafle   |  |  |
| 2:35-2:55  | Impact of Time-Restricted Feeding on Digestive Health (+) Carley Maupin (**)  | Is Fantasy Football Profitable? (+) Gavin Roswarski (**) | Proof of a Construction of<br>Odd Order Magic Cubes (+)<br>Joshua Arroyo (**)                                       | Generalization Theory of Linear Algebra I: An embedding Algorithm (+) Christina Pospisil (**) |  |  |
| 3:00-3:20  | Spectral Dynamics for the<br>Second Order Differential<br>Equations with Singular<br>Weight (+, #)<br>Son Nguyen (**) | Any Given Sunday (+) Victoria Pflueger (**)              | Best Strategy for Each Team in The Regular Season to Win Champion in The Knockout Tournament (+, #) Zijie Zhou (**) | Investigating the Picnic Problem with The Geometer's Sketchpad (+, #)  José Contreras         |  |  |
| 3:30-4:15  | Business Meeting<br>Health Pavilion 138   |  | "So You Think You Know Math?"<br>Game Show for Students organized by Paul Fonstad<br>Health Pavilion 208            |   |  |  |
|            | General Adjournment: See you October 26, 2019 at Wabash College!  |  |   |   |  |  |

Key for contributed talks (as reported by speakers):

(\*) graduate student (\*\*) undergraduate student (+) of interest to undergraduates (#) of interest to K-12 faculty

For any comments, please contact the 2018-2019 Chair of the Section, Lara Pudwell, at: <u>Lara.Pudwell@valpo.edu</u>