Ohio Focus

The MAA Ohio Section Newsletter

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Ohio University – Eastern to Host Five Ohio Speakers for MAA Fall Meeting October 27 - 28

The 2017 Fall Meeting of the Ohio Section of the MAA is scheduled for October 27 - 28 on the campus of Ohio University - Eastern in St. Clairsville, Ohio. The first speaker, **Michelle Younker** from Owens Community College, is sponsored by the Committee on Curriculum (CONCUR). After that, **Partha Srinivasan**, Cleveland State University, will speak on Nuclear Magnetic Resonance (NMR) spectroscopy. **Aaron Montgomery**, Baldwin Wallace University, will provide the after-dinner talk about martingales. On Saturday, attendees will hear from Distinguished Teaching Award recipient, **Carol Schumacher**, Kenyon College, and **Mihai Caragiu**, Ohio Northern University, will conclude the meeting with a talk on prime numbers experiments. Contributed paper sessions are scheduled on both days for meeting participants. Graduate and undergraduate students in mathematics, mathematics education, or related fields are encouraged to attend.

Visit the MAA's *Teaching Tidbits* Blog

Stay fresh on simple and helpful teaching tips by following the MAA's *Teaching Tidbits* blog at maateachingtidbits.blogspot.com. Written by fellow professionals passionate about mathematics education, this blog provides quality, evidence-based ideas with high impact and low time commitment for a wide audience of math educators. Many of these tips and tricks can be read on your device on the way to class, then incorporated the same day!

New *Teaching Tidbits* are posted every other Tuesday during the semester, written primarily for post-secondary math instructors (though many tips would be useful to the K-12 community). Please email suggestions for posts and interesting ideas to teachingtidbits@maa.org.

Shannon Hall, where the meeting will take place, is located on the southern edge of the campus.

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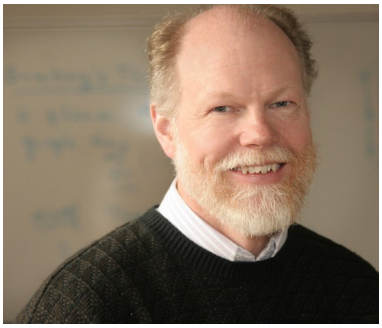
Section Representative Notes Changes in Structure, Leadership

"The mission of the MAA is to advance the understanding of mathematics and its impact on our world." This is the new MAA mission statement developed in spring 2017 and adopted by the MAA Board of Directors at its May meeting. I think this statement does a better and more concise job of emphasizing the broad impact of the MAA compared to the description of the mission of the MAA given in its bylaws (which you will find at the MAA website).



Though I was elected to serve as the Governor of the Ohio Section, that role has turned into serving as the Ohio Section Representative to the MAA Congress. In my new role, I attended the first meeting of the Congress in Chicago prior to MathFest.

The primary goal of the meeting was to understand and develop the roles of the new congress members. Prior to the meeting, I served along with Jenny Langdon, Curt Bennet (chair), and Matt Boelkins as part of a working group to develop draft bylaws for the MAA Congress. The Congress in Chicago adopted an amended version of the bylaws we submitted. Other groups produced a draft agenda for the first meeting of the Congress and discussed the role and influence of the Congress.

Matt Boelkins is the current Chair of the MAA Congress. In Chicago, Su Dorée was elected by the Congress to be its next Chair and will begin serving a 2-year term beginning in February, 2018. The national MAA officer election ended on May 2nd. As a result of that election Michael Dorff from Brigham Young University was elected as President-Elect and Carol Schumacher from Kenyon College was elected as Vice President. Their terms also begin in February, 2018. Schumacher's term is for two years. Dorff will begin serving a two year term as MAA President beginning in February, 2019. These positions are all on the MAA's nine member Board of Directors, which holds fiduciary responsibility for the organization.

A key role of the Congress is to be a conduit for communication. It is essential that this communication is a two-way street, so please let me know of any concerns you have to pass on to the MAA leadership. Another responsibility of the Congress is to "approve MAA strategic goals and priorities" (while the MAA Board of Directors is charged with developing and implementing said goals and priorities). In Chicago, we began discussion of draft strategic goals proposed by the Board and will continue this discussion in January at the Joint Math Meetings in San Diego.

Michael Pearson reported that the MAA has now completed negotiations with Taylor and Francis to publish, market and distribute the MAA journals. The hope is that Taylor and Francis's marketing and distribution channels will expand the audience for MAA journals, especially internationally. It is projected that this partnership will increase revenue to the MAA by about $400K to $500K per year. Michael also reported that an MAA books partnership is in the works as part of an effort to develop a sustainable business plan.

As part of the financial report shared at the MAA Congress meeting, MAA treasurer Jim Daniel said that there have been 13 consecutive years of budget deficits and that in 2016 there was a record deficit of about $1.16 million. He remains optimistic about the financial health of the MAA in years ahead, especially with the publication partnerships coming on board. He stated that it will take a while for the MAA leadership to solve the longstanding financial problems of the MAA, but reported that the first five months of this year looked better than the first five months of last year.

Recently I agreed to serve as a member of a Task Force (appointed by MAA President Deanna Haunsperger and chaired by Ezra (Bud) Brown) on Senior Members and Membership of the MAA. For this Task Force, seniors are defined as those who are in or nearing retirement. Of course, I still consider myself to be young! The task force has been asked to address questions about seniors' involvement in MAA activities, member benefits for seniors, how the MAA can support its members entering retirement and how the MAA can use seniors' skills and knowledge to support the MAA and its members. I'd be happy to hear from you about any of these questions or any other matters. Remember, I serve as a conduit of communication for the MAA.

Bill Higgins, Wittenberg University
Ohio Section Representative to the MAA Congress

President Promotes the Benefits of the Mathematics Major

My son is a high school senior and my family decided to focus family summer vacations on visiting 15 college and universities to which he is considering applying. While he has expressed interest in majoring in computer science for a couple of years, he recently decided that he wanted to add mathematics as a second major. Although you may believe that the 17 years of brainwashing that he received from me had finally affected him, it was his experience in AP Calculus that was the real reason he decided to add this major, stating "Math was challenging and fun again." I am sure many of you can relate to this. It seemed like during at least half of our college visits, the tour guides talked about how they would be able to complete their degrees either without taking a math course or by taking only one mathematics course, which they considered fortunate as they claimed not to be good in math. At one point, my wife asked me, "Does it ever wear on you to hear so many people state they aren't good in math?" While it does somewhat, and when I am feeling particularly snarky, I reply with, "That's OK. I ain't no good in English," it does remind me of our responsibility as math faculty to promote the major among those students who are also bombarded with this message and are not aware of the benefits and job opportunities available to mathematics majors. This President's message will focus on sharing my thoughts on how to promote the major.

A common question that I receive from prospective students is "What can I do with a mathematics major?" My answer to this for years has been, "You are asking the wrong question. The real question should be, 'What **can't** I do with a mathematics major?'" I need to credit one of my undergraduate mathematics professors (I believe Dottie Sherling) at Denison University for this response. As the readers know, the mathematics major develops a student's analytical, problem-solving and critical thinking skills. While most companies are not going to hire a student with a bachelor's degree in mathematics to do geometry all day, they will hire the student because he/she has developed these skills. Furthermore, companies recognize the mathematics major as a demanding major and know that students who are successful in this major can be quickly trained to complete the tasks related to the job for which they are being hired. A recent graduate of Ashland University working as a financial analyst at LexisNexis in Dayton told me last semester how the skills he developed as a mathematics major helped him receive promotions more quickly than usual as he was able to analyze and solve problems more efficiently than his colleagues.

I also share with prospective students that the mathematics major leads to top jobs, typically citing the CareerCast.com website. Looking at the 11 (insert Spinal Tap reference here) best jobs of 2017 according to its Jobs Related report (http://www.careercast.com/jobs-rated/2017-jobs-rated-report), 6 of them are jobs for which students should consider pursuing undergraduate majors in mathematics, statistics or actuarial science -

#1 Statistician
#3 Operations Research Analyst
#5 Data Scientist
#6 University Professor
#7 Mathematician and
#11 Actuary.

One of the many reasons these are top jobs are for the salaries a student can expect to earn. Payscale.com ranks the highest paying bachelor degrees based on median salaries with 10 years experience (http://www.payscale.com/college-salary-report/majors-that-pay-you-back/bachelors) for 336 majors. Here are some of the rankings –

#3 Actuarial Science – $119,000
#11 Computer Science and Mathematics – $111,000
#11 Physics and Mathematics – $111,000
#13 Applied Mathematics - $110,000
#37 Statistics – $97,500
#42 Mathematics – $95,700
#44 Mathematics & Statistics – $95,300.

While some of these rankings may seem a little low, they are higher than the rankings for

#66 Finance – $89,600
#132 Accounting – $77,200
#164 Business Administration - $72,400,

a few of the majors that students with strong math backgrounds may choose as they believe those majors

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Fall Workshop to Focus on Applied Writing Projects and How to Use Them

Applied writing projects are a good mechanism for providing students with evidence that the mathematics that they are studying is relevant in a way that standard assignments may not, and for promoting their conceptual understanding of mathematics. They may even pique students' interest in the course material! In this workshop presentation, we will consider the essentials of using applied writing projects in a range of undergraduate mathematics courses. We will first attempt a definition of what "applied writing projects" may be, consider what they require of students, how they may be incorporated into a course, and explore different ways to grade them with a minimum of pain and suffering (on the instructor's part, at least). Resources for finding projects and thoughts on how to create new projects will also be offered.

Gavin LaRose is the Karen Rhea Collegiate Lecturer in Mathematics at the University of Michigan and program manager for instructional technology in the Department of Mathematics there. His graduate background is in applied mathematics (at Northwestern University), and he taught at a small liberal arts college before moving to the University of Michigan. He has used writing projects as the opportunity has presented itself, and is co-author of an MAA publication on their use. He served as a member of the leadership team of the MAA's Project NExT from 1997--2012.

As usual, the workshop will begin immediately following the conclusion of the conference program and will include lunch. The fee for the workshop is $25 which includes the meal. Participants may register for the workshop at the time of on-line registration for the Fall meeting. If not registering on-line, contact Paige Rinker at prinker@jcu.edu or 216-397-4417.

President's Message

(Continued from page 3)

will lead to higher salaries. (Note: The Ohio Section of the MAA is not liable for any damage caused to colleges or universities by math faculty members who read the salaries above and decide to change professions.)

While the last two paragraphs give some general thoughts on the benefits of the mathematics major, I do think it is important at your individual institutions to try to track what happens to your majors upon graduation – what jobs they received, where did they go to graduate school, did they have any summer internships or participate in REU programs. I believe these stories will be more effective recruiting students to the mathematics major than the information in the previous paragraphs.

I promised to share Math Fun Facts from Francis Su's website hosted by Harvey Mudd College, so here is the 6th most popular Fun Fact as of 8/14/2017:

Kaprekar's Constant: Take any four digit number (whose digits are not all identical), and do the following:

- Rearrange the string of digits to form the largest and smallest 4-digit numbers possible.
- Take these two numbers and subtract the smaller number from the larger.
- Use the number you obtain and repeat the process.

What happens if you repeat the above process over and over? The process eventually hits 6174, in at most 7 steps, and then stays there! (Su, Francis E., et al. "Kaprekar's Constant." Math Fun Facts. http://www.math.hmc.edu/funfacts.)

I wish to thank the Program Committee chaired by Laurie Dunlap and the local arrangements coordinator Najat Baji for the wonderful Spring 2017 Meeting of the Ohio Section at Sinclair Community College. Another delightful meeting is planned for us at Ohio University – Eastern this fall featuring invited speakers Michelle Younker of Owens Community College, Aaron Montgomery of Baldwin Wallace College, Partha Srinivasan of Cleveland State University, Mihai Caragiu of Ohio Northern University and 2017 Section Teaching Award winner Carol Schumacher of Kenyon College. Also, Gavin LaRose of the University of Michigan will be leading the Fall Workshop on project-based courses. I look forward to seeing you in St. Clairsville on October 27-28. John Prather, local arrangements coordinator, recommends reserving your hotel room early as not many of the hotels are willing to reserve a block of rooms for the meeting.

Chris Swanson, Ashland University
Ohio Section President

About Ohio University - Eastern Campus and Its Opportunities

In the 1950's, the need for veterans returning from the Second World War to afford educational opportunities increased. It was the vision of then Governor James Rhodes to have a post-secondary educational facility located within 30 miles of every resident in Ohio. To accommodate this need, a series of regional campuses of the State University System of Ohio began to emerge. The city of Martin's Ferry became the initial location of the University Campus established in eastern Ohio. Under the leadership of the Belmont County Commission and Consolidated Coal, over 330 acres of land were dedicated along the National Road near St. Clairsville as an educational site on what was once an experimental agricultural farm.

Shannon Hall, the main academic building of the Eastern campus, was named after an early governor in the state. Later, a science and engineering building was leased to Belmont College, and a Health and Physical Education Recreation Community Center was established in 1997, completing the present-day setting of the campus. The grounds are also home to a one-room schoolhouse, an 1800's tavern/roadhouse used by those traveling the National Road, and a covered bridge on the eastern side of the campus property.

Today, Ohio University's Eastern campus, and all of the regional campuses in Ohio, provide a vital service to the people of Ohio. As the smallest regional campus of Ohio University, the Eastern campus students benefit from the resources of an internationally recognized university while retaining the advantages of a small college environment. Being an open enrollment institution, it attracts students who want to stay closer to home, or who might not have the academic credentials to enroll at the main campus. Here students have an opportunity to complete 12 different bachelor's degrees on the campus, or to prove themselves academically, and move forward with one to three years of credits toward almost any Ohio University degree. In mathematics, on top of a number of lower-level courses, the campus offers a few junior level courses in service to our Middle Childhood Education major which allows students to nearly complete a minor on campus.

Ohio NExT Program has New Meeting Schedule

Ohio NExT (New Experiences in Teaching) is a program for new faculty members. Its goal is to help newer faculty network with colleagues, to share ideas and experiences that promote professional growth, and to encourage faculty to become involved in the Ohio Section.

Please note that the Ohio NExT schedule has changed significantly. If you have attended previously then you will want to pay particular attention to the new schedule. We hope that this new schedule will fit better with attendees' travel plans.

Preceding the Ohio Section Fall Meeting on the morning of Friday, October 27th, members of Ohio NExT will gather for lunch at 11 a.m. in Room 205 of the Ohio University Eastern Campus. This is a great opportunity to meet old friends and make new ones. After the lunch, the NExTers will spend an hour or so discussing a topic related to the profession.

Then, on Saturday, October 28th, following the Ohio Section Fall meeting, the Ohio NExT program will continue in Room 205 on the campus of Ohio University Eastern Campus. The program will begin with the CONSACT workshop on building project-based courses. Immediately following the CONSACT workshop the NExT fellows will hear contributed talks from Ohio NExTers. We are pleased to announce that Carol Schumacher of Kenyon College will lead a final workshop for the NExT program.

The Ohio NExT lunch, CONSACT workshop and following Ohio NExT program are free to Ohio NExT fellows. Ohio NExT is open to anyone in the Ohio Section who is in his/her first five years of teaching in Ohio. If this applies to you, please consider joining us this fall. Contact Katie Cerrone (kc24@uakron.edu) for membership information and details. Ohio NExT is coordinated by committee chair Chandra Dinavahi of the University of Findlay (dinavahi@findlay.edu) and committee members Katie Cerrone, University of Akron (kc24@uakron.edu) and Michael Schroeder of Marshall University (schroederm@marshall.edu).

Anyone interested in the national level of Project NExT can get additional information at https://www.maa.org/programs/faculty-and-departments/project-next.

Ohio Northern University and Case Western Reserve University Lead in the 2017 Student Team Competition at Sinclair Community College

The fourteenth annual Leo Schneider Student Team Competition was held at Sinclair Community College on Friday, March 31, 2017. Fifty-six students participated, forming twenty-one teams and representing nine institutions: Ashland University, Baldwin-Wallace University, Case Western Reserve University, Cleveland State University, Malone University, Marietta College, Ohio Northern University, Sinclair Community College, and the University of Findlay.

First Place ($150): Ohio Northern University --- Mathew Golden, Zack Goodchild, Takumi Kijima.
Second Place ($120): Case Western Reserve University --- Raul Arturo Hernandez Golzalez, Tejas Joshi, and David Pendergast.
Third Place ($90): Case Western Reserve University --- Jennifer Lin, Alex Balsells, and Heather Weaver.

The winning team from Ohio Northern University was composed of Matthew Golden, Zack Goodchild, and Takumi Kijima. The team sponsor was Mihai Caragiu.

Sudoku games and a pizza party were held during the evening of that same day.

The fifteenth annual competition will take place April 6, 2018, at Miami University of Ohio. For more information regarding the competition, check out the CONSTUM website: http://www.constum.ohiomaa.org/.

Many thanks go to the members of CONSTUM who created, administered, and graded the 2017 competition exam:
Matt Davis (Muskingum College)
Melissa Dennison (Baldwin Wallace University)
David Gerberry (Xavier University)
Matt McMullen (Otterbein University)
Tom Wakefield (Youngstown State University)

University of Dayton Hosting Undergraduate Mathematics Day

On Saturday, November 11, 2017, the University of Dayton will host Undergraduate Mathematics Day, an undergraduate mathematics conference that extols all aspects of mathematics. Undergraduates are invited to contribute talks celebrating mathematics in all forms – research, learning, teaching and history. Talks presented by high school students, graduate students and faculty are also welcome. The 18th annual Kenneth C. Schraut Memorial Lecture will be delivered by Dr. Joe Gallian of University of Minnesota Duluth. Dr. Allison Henrich of Seattle University will deliver a second plenary lecture. Details about the conference are available at http://go.udayton.edu/UndergradMathDay.

Registration Information for the Meeting

Online registration is preferred. Visit the Section web site at http://www.maa.org/Ohio on or after September 12, for one-stop registration, banquet reservation, and abstract submission. The deadline for meeting pre-registration and banquet reservations is October 20. Abstracts for contributed papers must be submitted by October 13.

On-site meeting registration is always available, but last-minute banquet tickets cannot be guaranteed. Early registration helps those making the meeting arrangements and is always appreciated. Registration will be held from 12:00 pm to 4:00 pm on Friday in the Main Lobby of Shannon Hall and will continue Saturday at 8:00 am.

Meeting participants who are unable to register online at http://www.maa.org/Ohio may register by mail by sending: name, affiliation, address, phone, e-mail address (if any), type of position, and banquet buffet reservation. Send with check, payable to Ohio Section MAA, for applicable fees [registration fee ($30 ordinary registration, $15 retired or part-time, no fee for students or first-time attendees), banquet buffet fee ($35 per person)] to:
Ohio Section MAA Fall Meeting, c/o John Prather,
Ohio University Eastern, 45425 National Road, St. Clairsville, OH 43950.
Registration by mail will be pending receipt of registration fees.

News From Across the Section

From **Ashland University**, **Darren Wick** will be on senior study leave during the Spring 2018 semester.

Dr. **Kemal Aydin** joined **Franklin University** as a lead faculty member of Computer Science Department. Before this position, he was an associate professor of computer science at North American University in Houston, Texas. There, he developed and taught courses in algorithms, networks, data structures, high performance computing, app development, operating systems, programming languages, and software engineering (among others!) He holds a Ph.D. in Applied Computing from the University of Arkansas at Little Rock, and he earned his bachelor's degree in Computer Science from Dokuz Eylül University in İzmir, Turkey.

At **Sinclair Community College**, the Mathematics and Developmental Mathematics departments merged into one department in summer 2017. **Karl Hess** is chair of the merged department and we now have 34 full-time faculty in the department, of which 26 are tenure-track.

Paul Eloe received the 2017 George B. Noland Research Award from the **University of Dayton**'s Sigma Xi chapter. Sigma Xi is the Scientific Research Honor Society. The Noland Award of $1000, sponsored by the University of Dayton Research Institute, acknowledges outstanding research in the sciences and engineering.

Two new faculty will join the Department of Mathematics at the **University of Dayton** in the fall of 2017. **Ying-Ju Tessa Chen** received a PhD in statistics from Bowling Green State University in 2015, and she comes to UD from Miami University, where she spent two years as a visiting assistant professor. **James Cordeiro** received a PhD in Operations Research from the Air Force Institute of Technology in 2007. Most recently, he has been working at MediaDyne Systems Engineering and the Air Force Research Laboratory at Wright Patterson Air Force Base. **Shannon Driskell** will be on sabbatical leave for the 2017-2018 academic year. **Undergraduate Mathematics Day**, an undergraduate conference, on Saturday, November 11, 2017. Details will be available at http://go.udayton.edu/UndergradMathDay.

The Department of Mathematics and Computer Science of **Denison University** is happy to announce that **Bill Robinson** will be joining as a three-year visiting assistant professor. Bill completed his PhD in commutative algebra under Uwe Nagel at the University of Kentucky in 2015. He has taught at Monmouth College in Illinois and at the University of Maryland University College as traveling faculty in Europe. He and his wife are excited to get settled for a while and start exploring central Ohio.

Wittenberg University had a new chapter of Pi Mu Epsilon (Ohio Upsilon) installed in April, 2017.

The faculty at **University of Findlay** would like to welcome Dr. **Won Chul Song** who joins us fresh from a Post-Doc at Purdue in Statistics. We would also like to congratulate Dr. **Dan Baczkowski** on receiving tenure and a promotion to Associate Professor. In addition, Dr. **Chandra Dinavahi** will be taking over the chair duties from Dr. **Pam Warton** after nine years and we wish him the best in his new role.

At **Marshall University**, two have been awarded tenure and promotion to associate professor. Dr. **Elizabeth Niese**'s research is in algebraic combinatorics, looking at symmetric and quasisymmetric functions. These functions often have very nice combinatorial definitions in terms of weights on tableaux or other objects, as well as deep connections to representation theory.

Dr. **Michael Schroeder**'s area of expertise is graph theory and combinatorics. His student research projects have studied reorganizing police patrol areas and waste collection routes, both in Huntington, WV. Pending voter approval, ambulance reorganization in Wayne County has also been optimized by one of Dr. Schroeder's students .

Dr. **Evelyn Pupplo-Cody** has moved to the position of Associate Dean for **Marshall**'s College of Science. Dr. **Raid Al-Aqtash** moved from his temporary position to a tenure-track position of Assistant Professor in Statistics. Dr. **Alaa Elkadry** joined the department on a 3-year position of Assistant Professor in Statistics.

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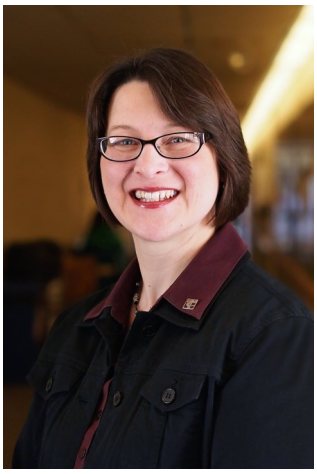
Michelle Younker, Owens Community College

"Ohio Mathematics Initiative – Re-visioning Post-Secondary Mathematics in Ohio"



In 2014, the Ohio Mathematics Initiative (OMI) challenged faculty to re-envision post-secondary mathematics in Ohio's public colleges and universities. In response to this call, faculty from both two- and four-year institutions are working to develop high quality entry-level courses connected in meaningful ways to programs of study, updating Ohio Transfer Module (OTM) courses and learning outcomes, and implementing communication strategies that provide opportunities for members of the mathematics community from across the state to share data and ideas. The work of the Ohio Mathematics Initiative connects with other state initiatives to promote transfer of coursework and progress toward a credential for students in Ohio.

Michelle (Chelle) Younker is Associate Professor and Chair of the Mathematics Department in the School of STEM at Owens Community College. She has been involved in Ohio's math pathways initiative since its inception in July 2013, serving on the Steering Committee whose recommendations called for changes in post-secondary mathematics. Younker serves on the Ohio Transfer Module Mathematics, Statistics, and Logic Review Panel and is Co-lead of the Communications, Outreach, and Engagement Subgroup for the Ohio Mathematics Initiative. She worked with the team who established learning outcomes for a quantitative reasoning course that is included in Ohio's transfer module. Younker is the current Midwest Regional Representative to the American Mathematical Association of Two-Year Colleges' (AMATYC) Placement and Assessment Committee and serves as a Math Advisory Group (MAG) member for Transforming Post-Secondary Education (TPSE) in Mathematics.

Partha Srinivasan, Cleveland State University

"Extracting Structural Information from NMR Spectroscopy as Inverse Problems"

Over the last few decades, Nuclear Magnetic Resonance (NMR) spectroscopy has become a tool for extracting distance and orientation information for structures of biological samples like proteins. We will show how to extract information that is useful in obtaining protein structures using NMR experiments in solution, and describe how this extraction of information can be presented as an inverse problem in an appropriate system of ordinary differential equations.

In the case of NMR of solids, the information that is present is much more abundant, and it is much more challenging to isolate and obtain the information of interest. We will outline the role of solid state NMR in structural biology. We will also address a few basic techniques used in this experimental method, and sketch a few advanced ideas.

Partha Srinivasan joined the Department of Mathematics at Cleveland State University in 2008 after completing his postdoctoral work at the NSF funded Mathematical Biosciences Institute at the Ohio State University. His research is in mathematical biology, and he has worked on modeling various biological systems ranging from honey bees nest-site selection to the regeneration of axons of neurons.

More Campus News From Marshall

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Dr. **Carl Mummert**, Dr. **Elizabeth Niese**, and Dr. **Michael Schroeder** won **Marshall**'s 2017 Distinguished Artists and Scholars Team Award. Dr. **Carl Mummert** won the John and Frances Rucker Graduate Adviser of the Year Award.

Ms. **Jennifer Niemann**, an undergraduate in our department, has won 3rd place in the Undergraduate Statistics Research Project (USRESP) competition for 2016. It is a national-level research award sponsored by the American Statistical Association (ASA) and the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE). She was under supervision of Dr. **Avishek Mallick**.

Aaron Montgomery, Baldwin Wallace University

Martingales: For Fun But Not Profit

Loosely speaking, a martingale describes a sequence of random variables whose expected increments are all zero. For instance, a martingale might be used to describe the fortunes of a gambler who places a sequence of fair bets. In this talk, we will give an overview of martingales and state the Optional Stopping Theorem, from which we will wring a number of interesting corollaries ranging in topic from gambling to monkeys typing Shakespeare. This talk is intended to be accessible to anyone who enjoys mathematics.

Aaron Montgomery is an Assistant Professor of Mathematics at Baldwin Wallace University. He obtained B.S. degrees in Mathematics and Physics from Northwest Nazarene University and received a Ph.D. in Mathematics at the University of Oregon in 2013. Aaron is a national Project NExT fellow (Gold '14 dot) and has recently begun co-advising the Baldwin Wallace Math Club. His research interests include discrete stochastic processes and combinatorial designs, which he regards as the semi-natural progression of a lifelong obsession with dice and games of chance.

Carol Schumacher, Kenyon College

"What is the Definition of Definition? and Other Mathematical Cultural Conundrums"

Helping our students think like mathematicians should be at the center of every class we teach. The particular topic will affect which parts of thinking mathematically we might address, but the goal of every math class should be to turn out students who can bring mathematical reasoning to bear in the context of the material taught in the course. In order to help our students think like mathematicians, we teachers must think deeply about what is going on in our students' heads. But this also takes an unusual amount of self-reflection. We need to understand how we think about things. Unfortunately, thinking mathematically is often something that comes naturally to people who eventually go on to get Ph.D.'s in mathematics. Thus we have no idea how we learned to think this way, and we are often not even aware of how much is really going on in our own heads when we attack a mathematical question. I can attest to the fact that this was certainly true of me. As I have become more self-aware, I believe my teaching has improved tremendously. In addition to trying to illustrate some of the insights acquired over many years, the talk would be filled with illustrative examples of activities that can be used in different courses to help students engage the mathematical ideas of the course as mathematicians do every day.

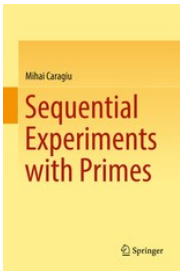
Carol Schumacher is Professor of Mathematics at Kenyon College faculty. She received her BA from Hendrix College and her Ph.D. in mathematics from The University of Texas at Austin. Schumacher is the recipient of Kenyon's Trustee Teaching Award and of the Ohio Section MAA's Distinguished Teaching Award. Schumacher has served three terms as department chair and recently completed a term as chair of the Kenyon faculty. She is the author of *Closer and Closer: Introducing Real Analysis* and *Chapter Zero: Fundamental Notions of Abstract Mathematics, 2E*.

Schumacher is active in the Mathematical Association of America. She was co-chair of the steering committee for the 2015 CUPM Curriculum Guide to Majors in the Mathematical Sciences and is Vice-President- Elect of the MAA. In recent years she has been invited to address the Project NExT fellows at their summer workshop and has been a workshop leader in workshops that help faculty incorporate inquiry into their classrooms.

Mihai Caragiu, Ohio Northern University
Sequential Experiments With Primes

Simply put, we try to place prime numbers in "chambers of experimentation" with specific rules, and observe their behavior to produce knowledge. One such experimental setup involves recurrent sequences of primes in which every term is the greatest prime factor of a linear combination of preceding terms. Such sequences may exhibit wild oscillations at first, yet they appear to be ultimately periodic – a conjecture that we proved in special cases like "GPF-Fibonacci" sequences. Other experiments involve algebraic structures on the set of primes. For example, we may associate the greatest prime factor of $2p+q$ to a pair (p,q): a surprising observation this time is that under this operation, it appears that the prime 2 generates all primes! Similar experiments including Ducci-type games, non-associative cellular automata, and potential applications to cryptography, will also be discussed.

Mihai Caragiu is a Professor of Mathematics at Ohio Northern University. He received his M.S. in mathematics in 1988 from the University in Bucharest and his Ph.D. in mathematics in 1996 from Penn State. At Ohio Northern University since 2000, he got involved in undergraduate research resulting in 11 joint publications with students. Mihai's research interests are in experimental mathematics, elementary number theory and integer sequences or structures based on the greatest prime factor function or Conway's subprime function. Some of these ideas are presented in his new book "Sequential Experiments with Primes" (Springer 2017) (see below). He would like to acknowledge invaluable mathematical mentorship and inspiration from the late Serban Basarab from the Institute of Mathematics at Bucharest, and Leonid Vaserstein from Penn State.



About the Text: With a specific focus on the mathematical life in small undergraduate colleges, this book presents a variety of elementary number theory insights involving sequences largely built from prime numbers and contingent number-theoretic functions. Chapters include new mathematical ideas and open problems, some of which are proved in the text. This book is perfect for the pure-mathematics-minded educator in a small undergraduate college as well as graduate students and advanced undergraduate students looking for a significant high-impact learning experience in math.

Call for Presenters for Contributed Paper Sessions

Fifteen-minute presentations on any topic of general interest in mathematics or related areas are encouraged for the Contributed Paper Sessions on Friday afternoon and Saturday morning at the fall Ohio Section meeting. Your reports on projects, research announcements, or anything you believe would be of interest to those in attendance are welcome. Contributors should send a title and brief abstract by Friday, October 13.

Online submission with your meeting registration (at http://sections.maa.org/ohio/) is strongly preferred, but if necessary, you may submit your title and abstract to the chair of the Program Committee, Barbara Margolius, by e-mail at b.margolius@csuohio.edu, or by U.S. mail at

Barbara Margolius
Cleveland State University
Dept. of Mathematics, RT1557
2121 Euclid Ave.
Cleveland, OH 44115-2214

Abstracts should be between 25 and 75 words in length and should employ proper English grammar and spelling. One speaker per session is greatly preferred, but two speakers in one session can be accommodated if necessary. Please use only plain text in your title and abstract as the abstract submittal system cannot process TeX or other graphics code.

Each presentation room will have a PC, a computer projector, and laptop connections. Presenters can either plug their laptops into the overhead projection system or plug a flash drive into the resident computer. If you wish to project from an Apple device then you must bring your own adapter. Internet access will be provided. Specific questions about technology availability should be addressed to John Prather at prather@ohio.edu. You may submit abstracts online at the Section web page: http://sections.maa.org/ohio.

Fall Meeting Program

Friday, October 27		
12:00-4:00	Registration	Main Lobby, Shannon Hall
12:00-1:00	Committee Meetings:	
	CONCUR (Curriculum)	205
	CONSACT (Section Activities)	227
	CONTEAL (Teacher Education & Licensure)	235
1:00-4:00	Vendor & Book Exhibits	Art Gallery
1:15-1:30	Welcome and Announcements	Theater
1:30-2:30	CONCUR Sponsored address: **"***Ohio Mathematics Initiative – Re-visioning Post-Secondary Mathematics in Ohio***"** **Michelle Younker**	Theater
2:30-2:50	Break	Art Gallery
2:50-3:50	Invited Address: **"***Extracting Structural Information from NMR Spectroscopy as Inverse Problems*" **Partha Srinivasan**	Theater
4:00-5:40	Executive Committee Meeting	321
5:00-6:15	Contributed Paper Sessions	209,219, 229
6:15-6:50	Social Time	Art Gallery
6:50-8:00	Banquet	Undo's (Hampton Inn)
8:00-9:00	Invited Address: "*Martingales: For Fun But Not Profit*" **Aaron Montgomery**	Undo's (Hampton Inn)

Saturday, October 28		
8:00-10:00	Registration	Main Lobby, Shannon Hall
8:00-10:00	Book Vendors and Exhibits	Art Gallery
8:00-9:25	Coffee and Pastries	Art Gallery
8:50-9:25	Committee On Local Arrangements	205
8:50-9:25	Executive Committee Meeting (if needed)	321
9:25-9:35	Welcome and Announcements	Theater
9:35-10:35	Invited Address by winner of the Distinguished Teaching Award: "*What is the Definition of Definition? and Other Mathematical Cultural Conundrums*" **Carol Schumacher**	Theater
10:35-10:50	Break	Art Gallery
10:50-11:45	Contributed Paper Session	209,219, 229
11:45-12:00	Break	Art Gallery
12:00-1:00	Invited Address: **"***Sequential Experiments with Primes***"** **Mihai Caragiu**	Theater
1:00-1:10	Closing Remarks	Theater

Event locations are subject to change. Check the official program you receive when you register for the meeting in the Main Lobby of Shannon Hall. Also, check the Section web page, www.maa.org/Ohio, for program updates, online registration, and contributed paper submissions.

Directions:
The campus is just off interstate 70 at exit 213. So the basic directions are get to interstate 70, and head east from almost all parts of Ohio. Normally, this would be very easy as we are close to the exit. However, there is construction that we expect to continue which restricts traffic on US 40 in front of our campus to one direction. As a result, you will need to use our back entrance.

GPS: Our address is 45425 National Road, St. Clairsville, OH 43950. This address may give directions to our main entrance using exit 208 and U.S. 40 rather than our back entrance as described below. These may be more straightforward, but because of construction will take 1-2 minutes longer than the directions below.

From the west (most people upon arriving): After you take exit 213 from the interstate, you will be forced to turn right. The next left will be State Route 331. Turn left on State Route 331, and go back over the interstate, and through a light at the intersection. After the light, take the second left which will take you onto the campus. The road will go past our fitness center and another building into a large parking lot. If you don't mind stairs, you can park in this lot and walk up to our main building, Shannon Hall. If you would like to avoid stairs, you can park in the faculty lot by going out the other side of the large lot, and driving past the front of Shannon Hall to the lot. It should provide enough parking for most people, but some may have to park in the larger lot.

From the east (coming back from the hotel area): After you exit from the interstate, turn right on State Route 331. After turning right, take the second left which will take you onto the campus. The road will go past our fitness center and another building into a large parking lot. If you don't mind stairs, you can park in this lot and walk up to our main building, Shannon Hall. In order to avoid the stairs, you can park in the faculty lot by going out the other side of the large lot, and driving past the front of Shannon Hall to the lot. It should provide enough parking for most people, but some may have to park in the larger lower lot.

Leaving campus to get home (trying to go west): Even if you came in the back entrance, if you want to go west to get home, you will want to leave via our main entrance. You will turn left on U.S. 40 and the ramp to the interstate heading west will be shortly on your right. If you leave via our back entrance, you cannot get to this ramp, and will be taken two miles east before getting on the next ramp west.

Parking:
There are two lots near Shannon Hall. Closest is to park in the Faculty lot. This lot says that a permit is required, but that will not be enforced on the day of the conference. The capacity of this lot will be very close to the number of attendees, and so you may need to park in our lower lot which will require you to climb a significant number of stairs.

Hotel Information:
The Eastern Campus of Ohio University is located just off exit 213 on Interstate 70. There are at least 10 different hotel options at exit 218 which are about five miles from campus. Not too much farther east is Wheeling, WV which would have even more options about 20-25 minutes from campus. Part of the reason there are so many is the fracking boom in our area. The down side is that many may be booked. As a result, **we would strongly recommend that you make reservations early.**

We have reserved two blocks of rooms. The only issue with these is that they would only block rooms with a king bed because of the fracking boom. So if you want two double beds, you will need to reserve the rooms through other means. Also, you may be able to get better rates at other hotels, as the hotels in the area are resistant to reserving blocks of rooms.

For both of the following, you should refer to the **Ohio MAA**, and make reservations by Sept. 27, 2017.

Hampton Inn Wheeling/St. Clairsville
740-695-3961
51130 National Road E
St. Clairsville, OH 43950
$119.00 for room with one king bed
The Friday night banquet will be held in a restaurant adjacent to this hotel.

Microtel Inn & Suites by Wyndham
740-338-4500
51128 National Road E
St. Clairsville, OH 43950
$99.00 for room with one king bed
This hotel is also near the banquet facility.

2016-2017 Ohio Section Officers and Committees

ELECTED OFFICERS

President
Chris Swanson, Ashland University (2018)
419-289-5264; cswanson@ashland.edu

President-Elect
Katie Cerrone-Arnold, University of Akron
330-927-8809; kc24@uakron.edu (2018)

Section Representative
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937-327-7859; whiggins@wittenberg.edu
(2018)

Secretary
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Treasurer
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OTHER OFFICERS

Department Liaisons Coordinator
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OhioMATYC Liaison
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OCTM Liaison
Aaron Blodgett, University of Findlay
419-434-6920; Blodgett@findlay.edu (2018)

Archivist
Daniel Otero, Xavier University
513-745-2012; otero@xavier.edu (2020)

COMMITTEES

* Denotes committee chair. Elected Officers and Committee Chairs are voting members of the Executive Committee. Terms expire at the end of the Spring meetings of the year listed. See the Bylaws.

Ohio NExT Organizing Committee
*Chandra Dinavahi, U. of Findlay (2018)
419-434-6598; dinavahi@findlay.edu
Michael Schroeder, Marshall U. (2019)
304-696-6643; schroederm@marshall.edu
Katie Cerrone-Arnold, Univ of Akron (2020)
330-927-8809; kc24@uakron.edu

CONTEAL
*Aaron Blodgett, Univ of Findlay (2020)
Najat Baji, Sinclair Comm College (2017)
James Fitzsimmons, Wilmington Coll (2019)
Jenna Van Sickle, Cleveland State U (2019)
Laurie Dunlap, University of Akron (2020)

CONSTUM
*Tom Wakefield, Youngstown State U (2019)
David Gerberry, Xavier University (2018)
Melissa Dennison, Baldwin Wallace U (2019)
Matt Davis, Muskinghum University (2019)
Alyssa Hoofnagle, Wittenberg Univ (2020)
Matthew McMullen, Otterbein Univ (2020)

CONSACT
*Paige Rinker, John Carroll University (2018)
M B Rao, University of Cincinnati (2019)
Aurel Stan, Ohio State University (2019)
Yong Wang, Ohio Northern University (2019)
Lokendra Paudel, University of Akron (2020)
Zhijun Yin, University of Akron (2020)

CONCUR
*Chandra Dinavahi, U of Findlay (2019)
William Fuller, Ohio Northern Univ (2017)
Mihai Caragiu, Ohio Northern Univ (2019)
Glen Lobo, Sinclair Comm College (2019)
Kelly Bubp, Ohio University (2020)

OTHER COMMITTEES

Program Committee
*Barbara Margolius, Cleveland State U
(2018)
Michael Schroeder, Marshall Univ (2019)
Moez Ben-Azzouz, Sinclair Comm C (2020)

Nominating Committee
*Adam Parker, Wittenberg Univ (2018)
John Prather, Ohio Univ-Eastern (2019)
Chris Swanson, Ashland University (Pres)
Pam Warton, University of Findlay
(Secretary, nonvoting)

Teaching Award Committee
*Katie Cerrone-Arnold, University of Akron
(President-Elect)
Bonita Lawrence, Marshall University (2018)
Carol Schumacher, Kenyon College (2019)
Pam Warton, University of Findlay
(Secretary, nonvoting)
Barbara D'Ambrosia, John Carroll Univ
(Secretary-Elect, nonvoting)

LOCAL ARRANGEMENTS FOR MEETINGS

Fall 2017: Ohio University - Eastern
John Prather, prather@ohio.edu

Spring 2018: Miami University
Doug Ward, wardde@miamioh.edu

Fall 2018: Malone University
Kyle Calderhead, kcalderhead@malone.edu

Thank You to the many people who work together to help with this newsletter as well as the other aspects of the Ohio section.

David Stuckey, Editor

If you would like to become a part of one of these committees, or would be interested in having your institution host a meeting, contact President Chris Swanson at cswanson@ashland.edu. There is a checklist for local arrangements under the governance option on the section website at http://sections.maa.org/ohio/governance.html as well as a meeting on Saturday morning at Ohio University - Eastern.

Calendar

Ohio Section Meetings

Fall 2017 Section Meeting, October 27 - 28
Ohio University - Eastern, St. Clairsville, Ohio

Spring 2018 Annual Meeting, April 6 - 7
Miami University, Oxford, Ohio

Fall 2018 Section Meeting, October 26 - 27 tentative
Malone University, Canton, Ohio

National MAA- AMS Meetings

Annual Joint Meetings, January 10 - 13, 2018,
San Diego, CA

MathFest, August 1 - 4, 2018, Denver, CO

Annual Joint Meetings, January 16 - 19, 2019,
Baltimore, MD

MathFest, July 31 - August 3, 2019, Cincinnati, OH

Annual Joint Meetings, January 15 - 18, 2020, Denver, CO

OHIO FOCUS

The newsletter of the Ohio Section of the Mathematical Association of America first appeared in 1973 and is published twice yearly, in time to reach members before the fall and spring meetings. Newsletters are published online at www.maa.org/Ohio. Notification postcards are sent using labels provided by the MAA.

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The deadline for the next newsletter is **January 22, 2018.** E-mail copy is preferred. Early submission is appreciated. Please send copy to the editor (see above).

Other Meetings: Ohio and Surrounding States

Indiana Section MAA Section Meeting, October 7, 2017, Manchester University, North Manchester, IN
http://sections.maa.org/indiana/

OCTM Annual Meeting, October 19 - 20, 2017, Columbus Convention Center, Columbus, OH
http://www.ohioctm.org/conferences/67th-annual-conference-columbus

MichMATYC Conference, October 20 - 21, 2017, Baker College, Muskegon, MI
http://michmatyc.org/

University of Dayton Undergraduate Mathematics Day, November 11, 2017, Dayton, OH
http://go.udayton.edu/UndergradMathDay

Tri-section Meeting (Illinois, Indiana, Michigan), March 23 - 24, 2018, Valparaiso University, Valparaiso, IN
http://sections.maa.org/illinois/meetings/2018AnnualMeeting.html

Central Section AMS, March 17 - 18, 2018, Ohio State University, Columbus, OH
http://www.ams.org/meetings/sectional/sectional.html

Kentucky Section MAA Section Meeting, April 6 - 7, 2018, Western Kentucky University, Bowling Green, KY
http://sections.maa.org/kentucky/information/newsletters/KYMAANews2017S.pdf

Allegheny Section MAA Section Meeting, April 6 - 7, 2018, Penn State Behrend, Erie, PA
http://sections.maa.org/allegheny/

Other National Meetings

AMATYC Annual Conference, Nov 9 - 12, 2017, San Diego, CA https://amatyc.site-ym.com/?2017ConfHome

T^3 International Conference, March 2 - 4, 2018, San Antonio, TX
http://education.ti.com/en/us/pd/international

International Conference on Technology in Collegiate Mathematics (ICTCM), March 15 - 18, 2018, Washington, D.C. HE.Events@pearson.com