

# MAA MISSOURI SECTION NEWSLETTER

## Spring 2017 • VOLUME 36 • NUMBER 3

### **From the Section Visitor (Betty Mayfield)**

*Editor's Note: What follows is the Section Visitor's Report from our MAA section visitor Dr. Betty Mayfield of Hood College in Washington DC. This report was filed with the section officers and to the national MAA office.*

Report from the Missouri Section Annual Meeting  
March 31-April 1, 2017

I spent Final Four Weekend in Joplin, Missouri this year, at the Missouri Section meeting at Missouri Southern State University. The formal part of the meeting is always from noon Friday til noon Saturday, but there are two companion events that take place on Thursday night and Friday morning: the Section NExT workshop and the Missouri Collegiate Mathematics Competition.

Now in its 22nd year, the Collegiate Competition was begun as a way to encourage undergraduate student participation in Section meetings, and it is a great success. This year 31 teams of two or three students (88 students total) worked for 2.5 hours Thursday night and another 2.5 hours Friday morning, collaboratively solving Putnam-type problems. A team of faculty members worked feverishly to grade all the papers in time to announce the top four schools and recognize all the students and their advisors at the Friday night banquet. This year a team from Washington University took the top prize -- a handsome trophy -- and the University of Missouri in Columbia took second place. The excitement and enthusiasm of the students was obvious; faculty report that students participate even during spring break. Many people say that the competition has increased the numbers of faculty members who come to the meetings, and that they cannot imagine a Section meeting without the presence of these talented undergraduates.

The Section has an active NExT program, ably coordinated by Sam Chamberlin and Azadeh Rafizadeh. They meet each year in the fall in conjunction with the Kansas City Math Tech EXPO and again right before the annual Section meeting. There were no new Section NExT Fellows this year, despite Herculean efforts to recruit some. (The leaders looked at the web pages of every math department of every college and university in the state and emailed every assistant professor with an invitation to join them.) But previous Fellows seem to enjoy and appreciate the program enough to stick around for years. After an informal Thursday night reception, the program resumed on Friday morning. Governor/Section Representative Mary Shepherd talked about navigating the political waters of academia, sharing her own story, and I led a discussion about involving undergraduate students in research in the history of mathematics.

There were 57 faculty members registered for the conference, in addition to the 88 students. The program was planned and managed by the faculty at Missouri Southern, led by Department and Section Chair Amila Appuhamy -- more on that later -- and we were in very nice quarters, first in the student center, close to the bookstore and snack bar and rec center (in a nice touch, attendees at the Section meeting could use the exercise facilities for free), and later in a classroom building. The opening plenary talk was given by Professor Linda Hand of Missouri Southern. She described her extensive world travel to see mathematics-related sites and artifacts, from Europe to Central America to Southeast Asia and Easter Island. The rest of the afternoon was dedicated to parallel sessions of 13 contributed papers. I heard faculty members describe the new plurality-with-elimination voting method to be used in Maine and a stochastic approach to planning investment accounts, an undergraduate student talk about his honors project on the Playfair Cipher, and a second-year grad student provide an introduction to Sage.

At the Friday night banquet, students and their advisors were recognized, to general acclaim; certificates were awarded to 25- and 50-year members; and the Section's teaching award winner was announced: Albert Dixon from the College of the Ozarks. (I later learned more about this remarkable institution, offering free tuition to first-generation college students who do much of the work at the college.) This was the first time in several years that the Section had given a teaching award, and everyone was really pleased. I gave the banquet address, on "Women and Mathematics in the Time of Euler."

The Executive Committee met after the banquet. They are an admirably hard-working, dedicated, diverse group. Mary Shepherd described the new MAA governance structure; she had also written about it for their newsletter. The group heard reports from various committees and planned for the following day's business meeting, and for next year's conference. They discussed whether or not they should support a Project NExT Fellow. The Section bank balance hovers at around \$5000-6000 each year, so providing the full \$2500 for a Fellow would wipe out half of their funds. If someone from Missouri is chosen this year as a Project NExT Fellow, they would like to contribute something -- perhaps \$500. The group noted that there was no MAA book sale up at this meeting, which could have provided the Section with a little income.

Saturday morning started out bright and early with a 5K run/walk and a 7:15 breakfast meeting for chairs and liaisons, led by Yungchen Cheng. This Section has a strong liaison program which they would like to keep going, even if the Association-level program has been discontinued. The liaisons meeting is a good venue for people from different departments around the state to discuss common concerns -- even if some of them are not actually MAA members. I hope we can find a way to convince them that an MAA membership is valuable enough that they will join. We also talked a little about departmental memberships and how they might use that program to recruit liaisons. (My limited search skills revealed two departmental members, from SEMO and S&T, as I have recently learned to call those institutions.) Attendees noted that the breakfast meeting time was not ideal, as most of them had brought students with them, so they had to leave this meeting early in order to drive back to a motel to pick up their students; it also conflicts with the 5K. They agreed to try something new next year, a lunchtime meeting on Friday, between the end of the student competition and the beginning of the Section meeting. They will solicit ideas from liaisons ahead of time and publish a formal agenda.

There were eight more contributed papers on Saturday morning, on topics ranging from unique

factorization to biomathematics to teaching college algebra. I was struck by the obvious dedication of these speakers to finding the best ways to teach their students, and of their love of mathematics.

The closing plenary lecture was given by young, energetic faculty member Lance Miller from nearby University of Arkansas, on "Multiplicities in Positive Characteristic." He encouraged the undergraduates in the audience to get involved in the research topics he tossed out throughout his talk.

It was followed by the business meeting, which was attended by about 20 people. Those present elected a new Vice Chair (to host the meeting in two years' time) and re-elected newsletter editor Dan Daly. Various committees gave reports, and the Chair reminded everyone of the dates for MathFest and early bird registration. The dates and site of next year's meeting were announced. The Section did not use the MAA-provided PowerPoint presentation.

This is clearly a close-knit community of mathematicians who look forward to seeing each other at this annual meeting. Young parents bring their toddlers and tag-team so that each parent can attend some talks and events. Students enjoy sitting with their instructors at the banquet and come to hear their talks. There are representatives from many institutions, both public and private.

This Section chooses its Chair based on where the meeting will be held that year. The Chair serves for one year, at which time the Vice-Chair takes over. His/her only real job is to put on the annual meeting -- and it is a huge task. The host institution not only serves as the local arrangements committee, reserving rooms and planning meals and coffee and parking and signage and technology and making hotel arrangements; they are also the program committee, choosing invited speakers, soliciting and receiving contributed papers, putting a printed program together AND creating a meeting website and handling registration. They prepare the budget and set and collect registration fees. They do all of these things exactly one time, with little guidance, and then hand the whole process over to a new committee for the next year.

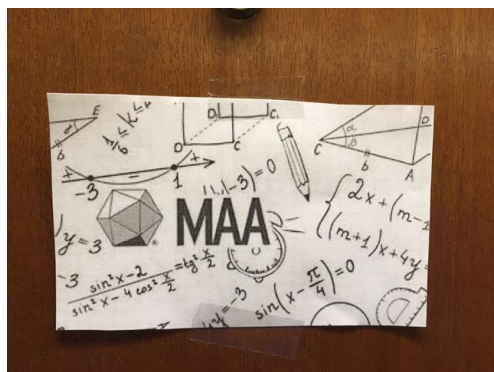
I know that some Sections are accustomed to this structure and apparently like it, but I think it places much too great a burden on the host site and its faculty. More importantly, it also robs the Section of having a steady Chair who serves for several years and has time to address general Section issues and plan for the future. Similarly, a program chair or committee could handle inviting speakers, soliciting and scheduling invited talks, and printing the program. Perhaps the Section webmaster could create web pages for the meeting as part of the Section website, using information provided by these other officers or committees. (Currently there is no repository of previous meeting sites, attendance, program, etc.) The Section Treasurer could collect registration fees; the Secretary or Treasurer could handle registration. I urge the Section leadership to discuss this issue seriously and consider modifying the way it plans and runs its meetings, as well as the roles and duties of its officers. There is a wealth of talent and enthusiasm in this Section which remains to be tapped.

This summer, at the Section Officers Meeting at MathFest, we will hear from two Sections who have recently gone through some planning activities, and we will discuss planning and goal-setting at the Section level. I hope that several of the Missouri Section members can attend and join this discussion. This Section is scheduled for a regular ten-year review of its bylaws the 2019-20 academic year; it would be great to have a new structure in place by that date.

Some resources on the MAA website that might be helpful:

Guidelines for a local arrangements committee:

- <http://www.maa.org/community/maa-sections/guidelines-local-arrangements>
- Guidelines for book sales, including a chart describing the different ways members can purchase books, the various discounts they get, and the Section's take:  
<http://www.maa.org/community/maa-sections/book-sales>
- Past copies of *InterSection*, the quarterly newsletter for Section officers, and instructions on how to join one of the Section officer list serves:  
<http://www.maa.org/community/maa-sections/section-resources>
- A description of the Section Visitors Program, especially the on-site arrangements for the Visitor: <http://www.maa.org/community/maa-sections/section-visitors-program>



**Another great idea:  
signs on hotel room doors**

Or just look around at some other Sections' websites and look at their governance structure. The Committee on Sections is happy to provide suggestions. I will say that this Section has been a faithful participant in the Section Visitors Program, often inviting an Association leader to visit the Section, give a talk, and meet with the Section leadership.

Many thanks to everyone who helped to make my visit so pleasant, especially Richard Laird from Missouri Southern, the Section NExT coordinators, and Section Representative Mary Shepherd.

Submitted by Betty Mayfield, April 2, 2017

## From the Secretary/Treasurer (Phoebe McLaughlin)

### MISSOURI SECTION THE MATHEMATICAL ASSOCIATION OF AMERICA BUSINESS MEETING April 1, 2017

1. Approval of Minutes from April 9, 2016 Business Meeting  
Motion was moved and seconded. All eyes to carry motion.
2. Report on Run/Walk – 7 participated
3. Chair Report – Amila Appuhamy

95 students and 46 faculty members registered for the conference.

4. Governor Report – Mary Shepherd

Proposed Bylaws will change the governance structure of MAA:

- The current Boards of Governors will become the Congress, and the current Executive Council will become the Board.
- The MAA/Department Liaisons program is being discontinued, but sections are encouraged to start or continue a Section Liaison program.
- More changes were described in MO MAA Fall 2016 Newsletter.

MAA has a new website which is much easier to navigate.

5. Nominating Committee Report – Yungchen Cheng

The following slate of officers was presented. There were no additional nominations from the floor. The slate was approved unanimously.

- Christopher Johnston (Vice- Chair), Lindenwood University
- Dan Daly (Newsletter Editor), Southeast Missouri State University

6. Liaison Coordinator Report – Yungchen Cheng

Will switch liaison meeting from Saturday breakfast to Friday lunch, and provide meeting agenda before the meeting.

7. Webmaster Report – Scott Thatcher

Plans to redesign the website. Suggestions are welcome. Will update the section teaching award “description of award” at the section webpage.

8. Vice-Chair – Bob Robertson

Spring 2018 meeting will be at Drury University.

Competition: April 5-6

Meeting: April 6-7

9. Treasurer Report – Phoebe McLaughlin

See the 2017 treasurer’s report

10. Missouri Section NExT Report –

Sam Chamberlin reported that there were two fellows. They met in the fall in conjunction with the Kansas City Math Tech Expo and right before the spring meeting.

Will meet again in the fall during KC Math Tech Expo

Big issue is that there was no new fellow applied. Would like to encourage more faculty to apply

11. Student Chapter Coordinator – Al Dixon

No report

12. Newsletter – Dan Daly

Newsletters will go out every spring, fall, and winter.  
Contact Dan if anyone has not received newsletter.

13. New Business –

It was moved and seconded to send thank you letters to Missouri Southern State University officials for hosting the conference.

| <b>MATHEMATICAL ASSOCIATION OF AMERICA</b>                       |                          |  |                   |
|--|--------------------------|--|-------------------|
| <b>Missouri Section Financial Report - Year Ended 12/31/2016</b> |                          |  |                   |
|  |                          | <b>(A) BEGINNING BANK BALANCE(S), 12/31/2015</b> | <b>\$6,371.20</b> |
| <b>(B) REVENUES</b>  |                          |  |                   |
| B.1  | MAA Subvention           | \$824.81   |                   |
| B.2  | Project NExT             |  |                   |
| B.3  | Meeting - Registrations  |  |                   |
| B.4  | Meeting Income           | \$2,785.00                                       |                   |
| B.5  | Workshop Registrations   |  |                   |
| B.6  | Meeting Exhibitors       |  |                   |
| B.7  | Contributors             |  |                   |
| B.8  | Interest on Checking     | \$0.95   |                   |
| B.9  | Interest Savings/CD      |  |                   |
| B.10   | Book Sales               | \$10.55  |                   |
| B.11   | Dues                     |  |                   |
| B.12   | Advertisements           |  |                   |
| B.13   | Institute Memberships    |  |                   |
| B.14   |                          |  |                   |
| B.15   |                          |  |                   |
|  |                          | <b>(B) TOTAL REVENUES</b>                        | <b>\$3,621.31</b> |
| <b>(C) EXPENSES</b>  |                          |  |                   |
| C.1  | Secretarial              |  |                   |
| C.2  | Honoraria                |  |                   |
| C.3  | Postage                  |  |                   |
| C.4  | Telephone                |  |                   |
| C.5  | Printing                 |  |                   |
| C.6  | Newsletters              |  |                   |
| C.7  | Travel                   | \$852.62   |                   |
| C.8  | Meeting Expenses         | \$3,027.61                                       |                   |
| C.9  | Speakers Travel/Lodging  |  |                   |
| C.10   | Students Lecture Program |  |                   |
| C.11   | Book Sale                |  |                   |
| C.12   | Project NExT             |  |                   |
| C.13   | Awards                   |  |                   |
| C.14   | Miscellaneous Office     |  |                   |
| C.15   |                          |  |                   |
| C.16   |                          |  |                   |
|  |                          | <b>(C) TOTAL EXPENSES</b>                        | <b>\$3,880.23</b> |
|  |                          | <b>(D) ENDING BANK BALANCE, 12/31/2016</b>       | <b>6,112.28</b>   |

## Update: Memorial Brick in Honor of Susan Callahan

Upon the passing of previous section Governor Susan Callahan in 2015, the Missouri Section of the MAA decided to raise donations for a brick in her honor to be located at the MAA Headquarters in Washington DC. Recently, the section received this photo from the MAA confirming that the brick has been installed in the Paul R. Halmos Commemorative Walk at the MAA Headquarters. Thank you to everyone who donated to the brick in honor of Professor Callahan.



### From the Campuses:

#### Missouri S&T (submitted by Robert Roe)

Ilene Morgan received her PhD. from Penn State in May 1994 and began her UMR career that fall. She was granted promotion to associate professor with tenure in 2000. Two students, Grant Lathrom in December 2003 and Reg Brigham in May 2017, completed their Ph.D.'s under her supervision. She also advised two M.S. students with thesis, several M.S. students without thesis, and a large number of undergraduates.

Dr. Morgan was the Director of Undergraduate Studies and Freshman Advisor for the Department of Mathematics and Statistics from Fall 2006 through Spring 2017. A recipient of three campus Outstanding Teaching Awards, she taught a variety of classes but particularly enjoyed teaching courses in her research area combinatorics and modern algebra. She also served



as chair of the Missouri MAA section in 2000-2001 and was a member of the Contest Committee of the MCMC from 2006 to 2015.

Ilene has been a prolific musician during her time in Rolla, having played in orchestras, bands, and musical theatre productions. She hopes to increase her participation in musical activities in retirement.

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Dr Gayla Olbricht was promoted to Associate Professor with tenure. She is a statistician working in biostatistics. She was a Missouri Section MAA NExT Fellow 2012-2014.

Luke Settles, M.S. in Applied Mathematics with Statistics Emphasis, won the Best Graduate Student Presentation Award at the Mid-Missouri American Statistical Association Student Research Symposium at Columbia, MO on April 14th, 2017. Luke will graduate in May 2017 and has accepted a position at Eli Lilly and Company in Indianapolis, IN. Dr Olbricht is Luke's adviser.

During the 2016-2017 academic year, four undergraduate mathematics students were funded to work on research projects with Dr. Olbricht through the Center for Undergraduate Research in Mathematics (CURM) at Brigham Young University. Elizabeth Hollen and Jason Viehman worked on a project titled "Statistical Analysis of DNA methylation in a Cervical Cancer Study". Allie Plunk and Steven Giangreco worked on a project titled "Modeling the Relationship Between Age, Genetics, and White Matter Microstructures". Both groups presented their work at the 14th Midwest Undergraduate Mathematics Symposium at Simpson College in Indianola, IA on April 1st, 2017 and at the 13th Annual Undergraduate Research Conference at Missouri S & T on April 11th, 2017.

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Dr Xiaoming He has been awarded a Humboldt Fellowship. As a Humboldt Research Fellow, Dr He will spend the spring and summer semesters of 2018 working at the Friedrich-Alexander University in Erlangen-Nurnberg Germany.

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Dr W.T. (Tom) Ingram, former Chair of the MO S&T Mathematics and Statistics Department returned to the MO S&T campus April 27-28 to give two lectures in the Ingram Lecture Series, which was established by a generous contribution from Tom on his retirement in 2002. Tom has been very active in his retirement, authoring two texts, "Inverse Limits: from Continua to Chaos", with W.S. Mahavier and "An Introduction to Inverse Limits with Set Valued Functions." Both texts were published by Springer. In addition to the two books he has published numerous articles.

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Siwei Duo, who is completing her PhD under the supervision of Dr Yanzhi Zhang, has accepted a post-doctoral position at the University of South Carolina.

## FUTURE MEETING SITES

The Spring Meeting is held at various locations around the state. The meeting sites for the past several years and the next several years are listed below for your convenience. If your campus would be willing to host a Spring Meeting, please contact Bob Robertson, Chair-Elect (rroberts@drury.edu), or any other member of the Executive Committee.

- 2018 Drury University
- 2019 Lindenwood University
- 2020 University of Central Missouri
- 2021 Truman State University
- 2022 University of Missouri – Kansas City
- 2023 Missouri State University

*The MAA Missouri Section Newsletter is published in November, March and May each year. Please send any news, comments, questions or corrections to me at [ddaly@semo.edu](mailto:ddaly@semo.edu).*

*Dan Daly  
Newsletter Editor*