

2006 Spring Newsletter

Spring meeting at Loyola College in Baltimore

On April 7-8, 2006, Loyola College in Baltimore will host the spring 2006 MD-VA-DC Regional Meeting of the MAA. Loyola College is located on the corner of Cold Spring Lane and North Charles Street in Baltimore City.

On Friday afternoon from 4-5:30, **Stefan Treatman** from the National Security Agency will be sharing a workshop titled, "Two millennia of cryptography in sixty minutes".

Stefan Treatman will also be the banquet speaker on Friday evening. The title of his talk is "The Polish attack on the German ENIGMA".

On Saturday, **Fern Y. Hunt** of the National Institute of Standards and Technology and **Laura Taalman** of James Madison University will be providing our invited talks. Fern shares, "Techniques for visualizing frequency patterns in DNA" and Laura shares, "Sudoku Variations and Explorations".

There is also an **undergraduate mathematics conference** that will run parallel to the meetings. There will be a mathematics jeopardy session and undergraduate paper and poster sessions. All undergraduates are invited to attend and are welcome to give a talk or present a poster. For more information and submission forms see <http://www.morgan.edu/maa/spr06/home.html>

Participants should pre-register for the meeting. You **MUST** pre-register if you wish to attend either the dinner on Friday evening or the lunch on Saturday. While on-site registration is available, pre-registration simplifies the process. Your badge, receipt, and any meal or workshop tickets will be waiting for you at the registration desk when you arrive.

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Dates to remember

Deadline for contributed talks: March 22
Deadline for student talks/posters: March 22
Conference pre-registration: March 27
Banquet registration ends: March 27
Hotel reservations: 3/7,3/8,4/7 (varies)
Spring meeting: April 7-8

MathFest: August 10-12

Lodging

Ramada Inn, Towson (rooms blocked until 3/7)
8712 Loch Raven Blvd., Towson, MD 21204
Phone: 410-823-8750
MAA Rate: \$80 plus 13% tax (*incl. free hot breakfast*)
6.0 miles to Loyola College in Maryland

Radisson Cross Keys (rooms blocked until 3/8)
100 Village Square, 5100 Falls Road, Baltimore, MD 21210
Phone: 410-532-6900
MAA Rate: \$129 (single or double) plus 12.5% tax
1.9 miles to Loyola College in Maryland

Motel-6 (rooms blocked until 6 pm, 4/7)
1564 Whitehead Ct. & 695, Baltimore MD 21207
Phone: 410-265-7660
MAA Rate: \$59.99 plus 13% tax
8.19 miles to Loyola College in Maryland



Stefan Treatman

[National Security Agency](#)

Talk Title: The Polish attack on the German ENIGMA

Abstract:

In this talk, I will describe the design of the infamous German Enigma device, which was used before and during World War II. I will present the miraculous, but little known attack developed secretly by Polish mathematicians in the 1930's. Alan Turing later modified this attack in the 1940's to help win the Battle of Britain and eventually turned the tide of World War II.

Bio: Stefan Treatman-Clark started as a mathematician at the National Security Agency in 1998 after earning his Ph.D. from the University of Michigan. He designed and taught a course in Cryptography for talented middle and high school students at Johns Hopkins' Center for Talented Youth summer program. Stefan has sung in the Master Chorale of Washington for seven years. He also loves solving and creating puzzles, especially those that drive Bud Brown mad. He and his wife Kate have a one-year old son named Jamie



Fern S. Hunt

[National Institute of Standards and Technology](#)

Talk Title: Techniques for visualizing frequency patterns in DNA

Abstract:

Many biological properties of a DNA sequence can be deduced from the frequencies of its constituent nucleic acids A,C,G,T and the subsequences they form. We will discuss some statistical properties of DNA that are amenable to visual and graphic display. Two examples among others to be presented are a visual representation of rare or avoided subsequences and an extension of Chargraff's rule.

Bio:

Fern Hunt is a New York City native who attended public schools including the Bronx High School of Science. She majored in Mathematics and got an A.B.

degree from Bryn Mawr College. Fern earned a master's degree and PhD from New York University's Courant Institute. She has taught at various institutions including the City University of New York, University of Utah and Howard University. She was recruited by NIST in 1993 and has been there ever since as a mathematician in the Mathematical and Computations Sciences Division. In 2000 she was awarded the Arthur Flemming award for outstanding achievements in science. In 2005 she won special recognition from Spectrum magazine in its Emerald Awards program for minority achievers in science.



Laura Taalman

[James Madison University](#)

Talk Title: Sudoku Variations and Explorations

Abstract:

Sudoku puzzles and their variants are linked to many mathematical problems involving combinatorics, Latin squares, magic squares, polyominoes, symmetries, computer algorithms, the rook problem, knight tours, graph colorings, and permutation group theory. In this talk we will explore variations of Sudoku and the many open problems and new results in this new field of recreational mathematics. Many of the problems we will discuss are suitable for undergraduate research projects. Puzzle handouts will be available for all to enjoy!

Bio:

Laura Taalman is an Associate Professor of Mathematics at James Madison University. She received her Ph.D in mathematics from Duke University, and did her undergraduate work at the University of Chicago. Her research includes singular algebraic geometry, knot theory, and the mathematics of puzzles. She is the author of a textbook that combines calculus, pre-calculus, and algebra into one course, and one of the organizers of the Shenandoah Undergraduate Mathematics and Statistics (SUMS) Conference at JMU. Her awards include the MAA Trevor Evans award for her jointly written article "Simplicity is not Simple: Tessellations and Modular Architecture", and the MAA Alder Award for Distinguished Teaching.

CHAIR'S REPORT

The centennial of the MAA is in 2015 and the sections are encouraged to start planning for the celebrations. Now is a good time to look into the history of our Section. We need the memories of our longtime members. If you are interested in working on planning the centennial celebration at the regional or national level or on researching MD-DC-VA Section history please let me know. And if you have ever seen our Section flag or banner or know where it resides you will be greatly rewarded for this information.

The spring is often hiring season and many of you are hard at work on search committees. Be sure to mention the strength of the MD-DC-VA Section to your prospective faculty. And please encourage your new faculty to join Section NExT. It is a wonderful way to introduce your new faculty to the profession.

The fall meeting at Montgomery College was a great success! Thanks to Jon Scott and his colleagues for hosting us. The spring meeting at Loyola promises to be another exciting mathematical weekend. The plenary talks by Stefan Treatman, Fern Hunt, and Laura Taalman will cover a range of topics from the history of cryptography, to studying patterns in DNA, and the very popular game Sudoku.

Along with contributed papers and Section NExT activities there will be a Special Conference for Undergraduate Students. Students will participate in papers sessions and a poster session as well as presenting solutions to the COMAP modeling contest problems and participating in the first MD-DC-VA Math Jeopardy contest! So borrow the college van, fill it with your students, and head to Baltimore April 7 - 8.

It is not too early to start thinking about MathFest in Knoxville, August 10 - 12. Contributed paper proposals are due by May 23 for faculty and in late June for students. If you have never attended a MathFest I encourage to go this year since it conveniently takes place in a Section border state.

Continued in next column

Chairs report cont...

The atmosphere at MathFest is more relaxed than the Joint meetings and the sessions are always interesting. This is your chance to escape the heat and humidity of August and head to the mountains of Tennessee.

Eve Torrence, Chair

GOVERNOR'S REPORT

We hope to see you at the spring meeting April 7 and 8 at Loyola College. Many of us remember the excellent facilities and gracious hosts from our last meeting at Loyola and are looking forward to a superb program assembled by Program Chair Bud Brown and Program Chair Elect Laura Taalman. Please consider contributing a paper for what promises to be a very stimulating meeting.

Meetings have also been a subject of some interest with the National MAA. Mathfest has been very successful in recent years, and Mathfest in Knoxville August 10-12 promises to continue this success. The deadline for contributed papers (abstracts.maa.org) is May 23. Many of you are aware that we have finalized plans to return to New Orleans in January 2007. We expect the city to be in good condition to host a very fine meeting, with a high level of energy and enthusiasm.

Please visit the MAA webpage (www.maa.org) often. There are continual updates on MAA programs, events of interest to the mathematics community, and links to much of the most interesting mathematics on the web. Particularly interesting are MAA programs initiatives in K-12 education, the Mathematics Digital Library, and news about the American Mathematics Competitions.

See you on April 7!

David Carothers, Governor

TREASURER'S REPORT

FEBRUARY 17, 2006

General Account Balance, September 13, 2005 **\$ 8055.24**Receipts

Meeting Registrations, Fall 05	\$ 3286.00
Interest	12.26

<u>Total Receipts</u>	\$ 3928.26
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Expenses

Meals, Fall 05	\$ 2990.00
Badge holders	91.52

<u>Total Expenses</u>	\$ 3081.52
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General Account Balance, February 17, 2006 **\$ 8271.98**John G. Milcetic Memorial Student Achievement

<u>Fund Balance, Sept. 13, 2005</u>	\$ 1233.38
Contributions	97.00
MAA Booksale, Spring 05	95.01
Interest	1.88

<u>Balance, February 17, 2006</u>	\$ 1427.27
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<u>Section NExT Fund Balance, Sept. 13, 2005</u>	\$ 65.26
From registration fees	400.00
Meals, Spring 05	(532.00)
Book Awards	(371.00)

<u>Balance, September 13, 2005</u>	\$(437.74)
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<u>Project NExT Fund Balance, Sept. 13, 2005</u>	\$ 730.00
From registration fees	400.00
Contributions	270.00

<u>Balance, February 17, 2006</u>	\$ 1400.00
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Robb T. Koether
Treasurer

Frostburg State University

Dr. Edward White will retire from Frostburg State University where he has been a much valued member of the Mathematics Department since 1979.

George Mason University

Evelyn Sander was promoted from Assistant to Associate Professor of Mathematics with tenure effective this year. Her area of research is in differential equations and dynamical systems. She is a member of the Center of Neuroscience within the Krawnsnow Institute.

Eastern Mennonite University

Owen Byer and Deirdre Smeltzer, both Associate Professors of Mathematics at Eastern Mennonite University, took sabbaticals in the 2005-06 academic year (Owen in the fall and Deirdre in the spring). Each spent the sabbatical teaching English at North Sichuan Medical College in Nanchong, China. In addition to the teaching, they worked on their book project, a college-level geometry textbook that emphasizes mathematical methods used to solve problems in Euclidean geometry.

This has been a busy year for the **Longwood University Mathematics and Computer Science department!** On the education front, we hosted a statewide Probability and Statistics Institute this past summer (2005). Approximately 50 teachers from around the state attended the two-week residential institute. Drs. Sharon Emerson-Stonnell and Bob Webber were very involved in the Institute both in its planning and implementation. In October, LU and the Piedmont Council of Teacher of Mathematics hosted a conference for approximately 40 K-12 mathematics teachers. As usual, Dr. Sharon Emerson-Stonnell did a great job planning this conference.

We are also implementing a new graduate program! The Curriculum and Instruction Specialist with a concentration in K-8 Mathematics is designed to prepare teachers to work with other teachers to improve mathematics instruction and curriculum in their schools.

Dr. Michael Capps and Ms. Virginia Lewis collaborated with LU's Natural Sciences Department and received an MSP grant from the Virginia Department of Education for \$168,000. Through this grant, LU will offer several graduate level courses (for grades 4-8 math and science teachers) beginning summer 2006.

Continued on next page

Section news cont...

Our student Math Club and Pi Mu Epsilon society, advised by Dr. Phillip Poplin and Dr. David Shoenthal, respectively, have been very active this year, hosting screenings of Numb3rs (along with pizza!) and a well-attended game night (with more pizza!). We were also pleased that Dr. Leigh Lunsford advised two student teams for the COMAP MCM and ICM.

Lastly, we are looking forward to co-hosting, along with Hampden Sydney, the Fall '06 Section meeting.

ANNOUNCEMENTS

The **35th annual Frostburg State University Mathematics Symposium** will be held on April 7, 2006, from 9:00 a.m. until 2:30 p.m. on the Frostburg State campus. Symposium speakers will present talks on mathematics, mathematical pedagogy, and current issues in mathematics education at levels from elementary through college. The featured speaker at this year's Symposium is Francis "Skip" Fennell, NCTM President-Elect. For further information, please contact Karen Parks at kparks@frostburg.edu or 301-687-4296.

The second **PascGalois Summer Undergraduate Research Retreat** will be held at the New College of Florida on June 5 - June 9, 2006. Participants will spend one week at New College working on undergraduate-level research projects that investigate questions related to the PascGalois project. Students will examine properties of group generated cellular automata, including periodic properties of finite cellular automata and fractal dimensions for infinite cellular automata. Combinatorial and p-adic approaches will be examined as well as techniques treating cellular automata as algebraic systems.

Undergraduate students interested in mathematics, mathematics education, computer science, and/or statistics are encouraged to apply. Up to ten undergraduate students will be supported with a stipend, free room and board, and travel costs.

Participants will attend short lectures on topics related to the project and will be given ample time for exploration and group work with other students. We will also arrange for outings to explore the area and social events. Students interested in participating in this project must submit an application and two reference forms from their mathematics professors. Screening will begin April 1, 2006 and continue until all the slots are filled. To apply go to <http://www.ncf.edu/poimenidou/PascGalois.html>. For more information you can also contact Michael Bardzell at mjbardzell@salisbury.edu, Kathleen Shannon at kmshannon@salisbury.edu, and Eirini Poimenidou at Poimenidou@ncf.edu.

announcements cont...

George Mason University is accepting graduate students for its new Ph.D. in Mathematics program. It was approved by SCHEV last spring. Limited Assistantships up to 14k are available. The mathematics doctoral program is designed to train mathematicians for careers involving research in private industry, government, or higher education. For further information please visit <http://math.gmu.edu/> or contact the Graduate Coordinator, Professor David Walnut at dwalnut@gmu.edu

Members of the section have been invited to attend the **Washington Academy of Sciences** second biennial pan-Affiliate Conference, *Capital Science*. The conference is on March 25-26, 2006 and will be held at the conference facility of the National Science Foundation in Ballston. For more information see <http://www.washacadsci.org/capsci2006/index.htm>.

From MAA Online.

2007 Joint Mathematics meetings

As many of you may already know, the final decision to hold the 2007 meetings in New Orleans has been made. For the formal statement see http://www.ams.org/amsmtgs/2098_intro.html

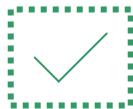
MathDL

In January 2006, the MAA's Mathematical Sciences Digital Library (MathDL) added two new components: *MAA Reviews* and *Classroom Capsules and Notes*. These components are available to MAA members as a privilege of membership. To sign in, you will need the same MAA number that you use to order materials and pay dues online. This number may be found on any copy of FOCUS.

New online journal

Do you have some neat application of mathematical history that you use in your classroom? The new electronic journal, *Convergence: Mathematics, History and Teaching*, is looking for new material. You can submit completed manuscripts, article ideas, interesting quotations, historical problems, etc.. Currently, they would like classroom ideas that can be immediately implemented by teachers. For more information see <http://www.maa.org/news/082405convergence.html>

THINGS TO DO



Give a talk at the spring meeting. Submit your abstracts by March 22. Use the form at:
<http://www.math.vt.edu/people/brown/call4papersf05.html>

Bring your students to the spring meeting. There is a great undergraduate conference that will be held this spring. Events include a poster session, paper session, and mathematics jeopardy. For more information and the call for papers and posters see:
http://www.morgan.edu/maa/spr06/home_ugrad.html

Include some history of mathematics into your teaching. Explore the MAA's online journal of the history of mathematics.
<http://convergence.mathdl.org/jsp/index.jsp>

Attend and present at MathFest this August 10-12 in Knoxville. The registration and abstract submission forms will be posted sometime in March at
<http://www.maa.org/mathfest/>

Future National MAA meetings

Joint Mathematics Meetings, January

2007 New Orleans
2008 San Diego
2009 Washington
2010 San Francisco
2011 New Orleans

MathFest, August

2006 Knoxville
2007 San Jose
2008 Madison



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