Spring Meeting at University of Virginia

On April 1-2, 2005, University of Virginia will host the Spring 2005 MD-DC-VA Regional Meeting of the MAA.

On Friday afternoon between 4-6p.m., James Tanton will be conducting a workshop activity titled, "Accessible - but surprisingly sophisticated - Math Activities for Students, Clubs, and Research."

James Tanton will also be the banquet speaker on Friday evening. His talk is titled, "A Dozen Proofs that 1 = 2: A Misguided Review of all of Mathematics."

For Saturday, Harrison Straley of Wheaton College and Adrian Rice of Randolph-Macon College have accepted invitations to speak at the conference. Their talks are respectively titled, "Isaac Newton" and "Everybody makes errors`: A 19th-Century Mathematical Attempt to Prove the Existence of God".

On Saturday, local artist Judith Townsend of Advance Mills, Virginia, will exhibit her paintings on the theme, "Painting at the Intersection of Mysticism and Science".

Another special event is the undergraduate conference.

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 you arrive.

Lodging:

The English Inn: 2000 Morton Drive, Cville, 22903; (434) 971-9900. Approx. 1.6 miles north of UVa campus. Includes high speed internet, indoor pool, and free breakfast. Rooms with two double beds ($70) or a single king bed ($70) available. Block of rooms held until March 10.

The Hampton Inn: 2035 India Road, Cville, 22901; (434) 978-7888. Approx. 2.4 miles north of UVa campus. Includes high speed internet, free breakfast, and shuttle service. Rooms with two double beds ($86) or a single king bed ($79). Block of rooms held until March 18.

Quality Inn: 1600 Emmet Street, Cville, 22901; (434) 977-7847. Approx. 1.7 miles north of UVa campus. Includes high speed internet, coffee maker in room, and free breakfast. Rooms with a single king bed ($94.95) available. Block of rooms held until March 1.

Holiday Inn: 1901 Emmet Street, Cville, 22901; (434) 977-7700. Approx. 1.8 miles north of UVa campus. Includes high speed internet, indoor pool, and airport shuttle. Rooms with a single king bed ($74) available. Block of rooms held until March 11.

Red Roof Inn: 1309 W. Main, Cville, 22903; (434) 295-4333 or (800) RED-ROOF. Approx. 0.3 miles north of UVa campus. Rooms available Saturday night only. Call for rates. Block of rooms held until March 1.
James Tanton
Mathematics, St. Mark's School

Title: A Dozen Proofs that 1 = 2: A Misguided Review of all of Mathematics

Abstract: Guidobaldo del Monte (1545 - 1647), a patron and friend of the great Galileo Galilei, believed he had witnessed the creation of something out of nothing when he established mathematically that zero equals one. He thereby thought that he had proven the existence of God! Although I daren't be so bold with my claims, I am willing to prove instead that one equals two. Any moreover, just to convince you that I am right, I will do so twelve times over by drawing on a wide range of mathematical techniques - algebra and arithmetic, probability theory, calculus, mechanics, propositional logic, and more. Will you be able to find fault with any of my "proofs?"

Bio: At first glance it is difficult to determine what James Tanton has done/is doing with his academic career. After obtaining his Ph.D. from Princeton in 1994 Tanton followed the usual track of Visiting/Assistant/Associate Professor at three different institutions (New College of the University of South Florida, St. Mary's College of Maryland, and Merrimack College) but was soon lured away by the joys of interacting with, teaching, being taught by, and publishing research articles with, younger students, K-12, at the Boston-based Math Circle. During those three years Tanton also worked as a consultant for various teacher-training programs and college and secondary text-book editors, all under the pretext that he actually knew something about the state of secondary-level mathematics education. He didn't. But Tanton eventually decided to try practicing what he preached by heading into the secondary scene directly himself. He worked at Milton Academy for a short stint and now finds himself to be a regular high-school teacher at St. Mark's School in Southborough, Massachusetts. He has never worked harder in any aspect of his mathematical career than he is working now - and he is still in a state of shock over what he is really learning, for the first time, about life as a high-school math teacher. Just to keep sanity completely out of reach, Tanton is also founding a new Institute of Mathematics at St. Mark's School, to do interesting things that can be best read about on the web

www.stmarksschool.org

Harrison Straley
Quantitative Analysis Associate, Wheaton College

Title: Isaac Newton

Abstract: Isaac Newton appears in period costume to discuss his life and his conflicts. This 45 minute dramatic lecture accompanied by Power Point slides is the result of on-site research by the authors, Harrison and Charlene Straley. This lecture is motivated by their desire to stimulate interest in mathematics and science through drama and mathematics/science history.

Bio: Harrison W. "Chuck" Straley is Quantitative Analysis Associate at Wheaton College where he teaches statistics, mathematics and mathematics education courses and assists in the direction of the on campus quantitative tutoring center. He is in his 44th year of teaching, having taught most grade levels from kindergarten to graduate school, and having taught in both the United States and Australia. Dr. Straley received his undergraduate education at the University of Richmond, his masters at Emory University and his doctorate at The University of Virginia. He did post-doctoral work as a Woodrow Wilson Fellow at Princeton University and in 1989 President George Bush honored him at The White House for his teaching excellence. In addition to his duties at Wheaton College he also serves in the summers as Associate Director of the United States Mathematics Olympiad Summer Program. His research interests include discovery teaching, mathematics curriculum, and mathematics history. Dr. Straley is a former professional tennis player and holds two national titles one in Australia and one in the United States. He and his wife Dr. Charlene B. Straley have seven children, three of whom are in the family business, education. They also have nine grand children and one great grand child due in the spring. Their hobbies include tennis, mystery novels, gardening, RV camping and travel.
Adrian Rice  
Assistant Professor, Mathematics, Randolph-Macon College  

**Title:** "Everybody makes errors": A 19th-Century Mathematical Attempt to Prove the Existence of God  

**Abstract:**  
Most mathematicians are familiar with the name of the 19th-century British mathematician Augustus De Morgan (1806-1871). Best remembered today for "De Morgan's Laws," which arose from his work on formal logic, De Morgan was one of the few mathematicians of his time to realize the importance of logic to mathematics, and vice versa. But while his 'mathematization' of logic has been well documented by historians of mathematics, the use of a specific branch of mathematics in his logic, namely probability theory, has gone virtually unnoticed.

De Morgan was the first British mathematician to understand the groundbreaking, but largely incomprehensible, probabilistic work of the brilliant French applied mathematician Pierre-Simon Laplace. In an attempt to convey the importance and utility of probability to his fellow countrymen, De Morgan used Laplace's mathematical techniques and astronomical data to try to answer one of the most profound questions of all time: whether there is, or ever was, a divine creator. That this attempt was ultimately unsuccessful is perhaps not surprising. What is intriguing (and not a little ironic, given De Morgan's expertise as a logician) is the occurrence of an elementary but fundamental logical error in De Morgan's probabilistic reasoning. This talk examines the mathematical and historical details of De Morgan's mistake.

**Bio:** Adrian Rice received a B.Sc. with first class honors in mathematics from University College London in 1992 and an M.Sc. in the history and philosophy of science and mathematics from King's College London one year later. In 1997 he was awarded a Ph.D. in the history of mathematics by Middlesex University for a dissertation on Augustus De Morgan and the development of university-level mathematics in nineteenth-century London. He came to America in 1998 to serve as a Visiting Assistant Professor of Mathematics at the University of Virginia, co-editing a book with Karen Hunger Parshall entitled Mathematical Research Unbound: The Evolution of an International Mathematical Research Community, 1800-1945, which was published by the AMS in 2002. Since 1999, he has been an Assistant Professor of Mathematics at Randolph Macon College in Ashland, Virginia, where his research focuses on nineteenth- and early twentieth-century British mathematics. He has served as a council member of both the British and Canadian Societies for the History of Mathematics and has recently been appointed book reviews editor of Historia Mathematica. He is currently writing a history of the London Mathematical Society.

Judith K. Townsend  
Advance Mills, Virginia  

**Theme:** Painting at the Intersection of Mysticism and Science  

**Description of Artwork:**  
The themes expressed in my paintings are a reflection of my lifelong fascination with the elegance of pure mathematics and the mysteries explored through scientific inquiry. That the universe can have structure and order, and at the same time be evolving through chaos and entropy, inspires my imagination. Human history is marked by the attempt to understand and impose order on the mystery and chaos of the universe, to reveal a structure and regularity to this apparent chaos. This conflict between chaos and control, movement and stasis, creates dramatic tension. Nothing in the universe remains unchanged while we go about studying and analyzing it.

The grid, which is integral to many of my paintings, represents this sometimes frustrating search for truth. A grid can serve as an obstacle to perception or a window through which reality is revealed. There are layers of meaning to be found in every search for truth, some things are obscured from our understanding, some meanings change and deepen with knowledge. With this knowledge comes an awareness that there is much we still don't know. The answers don't inspire me as much as the exploration.

It has been stated that "painting makes the invisible visible." I would extend that to include the invisible, the possible and that of which we dream. Through painting I explore the mystery and magic of this journey without attempting to dispel any of it.

**Bio:** Judith Townsend's artistic life began with original contemporary quilted wall hangings. Feeling limited by the time involved in creating quilts by hand, she explored other media and found watercolor especially suited to the ideas she wanted to express. The paintings can be described as structured abstracts which are inspired by discoveries in science, the elegance of pure mathematics, and the rhythms of nature. She often employs a grid which can be perceived as an obstacle to clear vision or a window through which reality is revealed. In the grid...
Chair’s Report

This is my last article as the chair of the section. I have thoroughly enjoyed my year as chair-elect and my two years in the chair. We have a dedicated and active group of people who participate in the life of this section. It has been a pleasure to be a member of it for 33 years, and to serve it in my current capacity for the last two.

Thanks are in order for many people. First, I am grateful to the membership in general for giving me the opportunity to be chair. Second, thanks to all who have served on the executive committee during my time as its moderator. It is they, along with the members who attend and otherwise contribute to our two annual meetings, who give the section its vitality.

The section has done much good during the years of its existence. As part of the contribution of the years 2003 through 2005, I am pleased to count the statement on mathematical preparedness of college-bound high-school students. Everyone—from the executive committee, who joined me in establishing the creation of the statement as a major goal; through Denny Gulick and his thorough and patient committee, who painstakingly drafted and revised the statement; to you, the section’s members, who offered many helpful comments and suggestions and then approved the statement at last fall’s meeting of the membership—deserves praise for contributing to a document which I believe will enhance and make more enjoyable the learning and teaching of mathematics in the high schools, and consequently in our colleges and universities.

My remaining remarks are in the form of questions about the statement. First, how far and wide, and by what means, should it be distributed? At the present, we plan to send a copy of it to each secondary teacher of mathematics in Maryland, the District, and Virginia, along with a request that she or he consider making a copy for each student; to each secondary guidance counselor, principal, and mathematics supervisor; and to the office of admissions at each two- and four-year college and university within the section. Can this sending be adequately effected electronically, or should we consider mailing hard copies to some of those mentioned? We will also, barring strong opposition from the membership, send a copy to each of the major newspapers within the section - THE WASHINGTON POST, THE BALTIMORE SUN, THE WASHINGTON TIMES, THE RICHMOND TIMES-DISPATCH, and at least one paper in each of Norfolk and Roanoke. Is there any other person or institution that should receive a copy of the statement? Is there any other means which we should consider for distributing or publicizing the statement?

Again, thank you for the opportunity to serve as chair of the section. I hope to see you at the spring meeting, on April 1 and 2 at the University of Virginia, to tell you this in person.

Lee May, Chair

Governor’s Report

As we look forward to an exciting spring meeting in Charlottesville, let us not forget a couple of other spring traditions. Whatever else may happen that day, April 15 is the deadline for … national Project NExT nominations! Follow the links from the MAA web page, or go direct to http://www.maa.org/news/021405projnext05.html. Project NExT has been very important to institutions and individuals in our section, providing wonderful opportunities for new faculty members through the national and sectional Project NExT activities. Not surprisingly, those with NExT experience are assuming a strong leadership role in the section.

Of course, April is also Mathematics Awareness Month. For ideas and information, see http://www.mathaware.org

(Contd. On page 7)
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March 1, 2005

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### News of the Section

**Roanoke College**’s Professor Ronald Minton received Virginia’s Outstanding Faculty Award from Governor Mark Warner in February. Minton, a professor of mathematics, was one of 12 professors from across the state recognized with Virginia’s highest honor for faculty at colleges and universities. The award, hosted by the State Council of Higher Education for Virginia and Dominion, considered a highly competitive pool of 110 faculty members nominated by their peers at Virginia’s institutions of higher education.

The **Goucher College** Mathematics and Computer Science Department is pleased to announce that Gretchen Koch will be joining the faculty next academic year. Gretchen is receiving her Ph. D. this spring from RPI and has as her primary area of interest mathematical biology.

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### From MAA Online

Project NExT is looking for applications from new mathematics faculty who would like to become next year’s NExT Fellows. The application deadline is April 15, 2005.

The Center for the Study of Mathematics Curriculum is hosting its First International Mathematics Curriculum Conference, Nov. 11-13, 2005 at the University of Chicago. The conference will focus on the design and development of K-12 mathematics curricula in the Asian Pacific Rim countries. It will feature ministry officials and textbook authors from China, Japan, Korea and Singapore, as well as reactors from the United States. Registration for the Conference is limited. Detailed information about registration is available at [http://www.mathcurriculumcenter.org:16080/International Conference/](http://www.mathcurriculumcenter.org:16080/International Conference/).

Spelman College is proud to host the Infinite Possibilities Conference, to be held April 1–2, 2005. This unique gathering will assemble women mathematicians from underrepresented minority groups from all over the country for a stimulating 2-day mathematics conference.
Announcements

The Educational Advancement Foundation (EAF), Austin, Texas, announces the possibility of funding, in amounts of up to $2,000 each, 5 to 10 grants per year to support serious, well-planned Moore method mentoring projects. The grant proposal should pair the applicant with a Moore method mentor with the expected outcome being preparation for the applicant to use a version of the Moore Inquiry-Based teaching method in the classroom.

Potential applicants should submit a letter of interest to the Moore Mentoring Program, Educational Advancement Foundation, 2303 Rio Grande Street, Austin, TX 78705 for mentoring program guidelines and application instructions.

Kimberly Tysdal invites graduate programs and REUs in the section to bring/send a brochure about their program to the spring meeting, to be distributed to the undergrads. For further information contact Kimberly Tysdal at tysdal@hood.edu

STUDENT CONFERENCE

At this year’s spring meeting, the Section is hosting a conference for undergraduates. We invite current undergraduates to attend this conference, and to present some mathematics in the form of a talk or a poster (or both). Student talks will be scheduled alongside the talks in the regular section meeting, enabling attendees of the regular section meeting to attend student talks if they so desire.

In addition to seeing talks and posters by other undergraduates, student conference attendees are invited to attend the Friday night banquet, where Jim Tanton will speak on “A Dozen Proofs that 1 = 2: A Misguided Review of all of Mathematics.” On Saturday, students will have a workshop with Jim Tanton; the topic of this workshop is “Weird Multiplication and Weird Ways to Multiply.” In addition, students will have the honor of meeting Sir Isaac Newton! Panel discussions on graduate school and careers in mathematics are also planned. The conference kicks off on Friday afternoon with a student social featuring mathematical games and puzzles.

We hope to see many undergraduates from many institutions at this conference. Encourage your students to join us! For more information, please see the undergraduate conference website at http://www.math.vt.edu/org/maa/spr05/home_ugrad.html.

This conference is partially supported by a grant from the MAA NSF-RUMC (NSF Grant DMS-0241090).

Future National MAA Meetings

Joint Mathematics Meetings, January
2006 San Antonio
2007 New Orleans
2008 San Diego
2009 Washington
2010 San Francisco
2011 New Orleans

MathFest, August
2005 Albuquerque
2006 Knoxville
2007 San Jose
2008 Madison
And it is not too early to start making plans for Mathfest, this summer in Albuquerque, August 4-6. Another terrific program is in the works, including Hedrick Lecturer Jeffrey C. Lagarias of the University of Michigan and Leitzel Lecturer William Yslas Velez of the University of Arizona.

Because our professions tend to be in education, industry, and government, MAA members may be weary of terms like “strategic planning.” But the Association has adopted an approach that promises to be useful without being onerous. Several areas of emphasis have been identified, and working groups will begin to consider three of these: Professional Development, Revenue, and the American Mathematics Competitions.

Special congratulations to Jon Scott of Montgomery College who received the MAA distinguished service award for our section at the Atlanta Joint Meetings. Jon, thanks for all of the great things you continue to do for the section!

I am sure that section member and MAA secretary Martha Siegal of Towson University will be happy if I remind everyone of the importance of service on MAA committees. Volunteers are always welcome. Members who might be interested in being appointed to a committee should contact Martha at MSiegel@towson.edu.

See you in Charlottesville!

David Carothers, Governor

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Officers of the Maryland-District of Columbia-Virginia Section

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**Chair-Elect - Eve Torrence**
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**Program Chair - Ezra (Bud) Brown**
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**Secretary - Will Traves**
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**At Large Executive Committee Member (Project NExT) – Jackie Hall**
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**Webmaster - Laura Spielman**
Department of Mathematics, Virginia Tech, Blacksburg, VA 24061-0123. Phone 540-231-8683, e-mail spielman@vt.edu