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# Meetings & Conferences of the AMS

**IMPORTANT INFORMATION REGARDING MEETINGS PROGRAMS:** AMS Sectional Meeting programs do not appear in the print version of the *Notices*. However, comprehensive and continually updated meeting and program information with links to the abstract for each talk can be found on the AMS website. See <http://www.ams.org/meetings/>. Final programs for Sectional Meetings will be archived on the AMS website accessible from the stated URL and in an electronic issue of the *Notices* as noted below for each meeting.

## Rochester, New York

*Rochester Institute of Technology*

**September 22–23, 2012**

*Saturday – Sunday*

### Meeting #1082

Eastern Section

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: June/July 2012

Program first available on AMS website: July 19, 2012

Program issue of electronic *Notices*: September 2012

Issue of *Abstracts*: Volume 33, Issue 3

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: July 10, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

### Invited Addresses

**Steve Gonek**, University of Rochester, *Title to be announced*.

**James Keener**, University of Utah, *The mathematics of life—decisions, decisions*.

**Dusa McDuff**, Barnard College, Columbia University, *Embedding questions in symplectic geometry*.

**Peter Winkler**, Dartmouth College, *New directions for random walk on a graph*.

### Special Sessions

*Analytic Number Theory* (Code: SS 5A), **Steve Gonek**, University of Rochester, and **Angel Kumchev**, Towson University.

*Applied and Computational Mathematics* (Code: SS 11A), **Ludwig Kohaupt**, Beuth University of Technology, and **Yan Wu**, Georgia Southern University.

*Continuum Theory* (Code: SS 3A), **Likin C. Simon Romero**, Rochester Institute of Technology.

*Difference Equations and Applications* (Code: SS 10A), **Michael Radin**, Rochester Institute of Technology.

*Financial Mathematics* (Code: SS 1A), **Tim Siu-Tang Leung**, Columbia University.

*Frontiers in Applied and Industrial Mathematics* (Code: SS 13A), **Kara L. Maki** and **David S. Ross**, Rochester Institute of Technology.

*Geometric, Categorical and Combinatorial Methods in Representation Theory* (Code: SS 12A), **David Hemmer** and **Yiqiang Li**, State University of New York at Buffalo.

*Geometric Evolution Equations* (Code: SS 21A), **Mihai Bailesteanu**, University of Rochester, and **Mao-Pei Tsui**, University of Toledo.

*Inverse Problems and Nonsmooth Optimization: Celebrating Zuhair Nashed's 75th Birthday* (Code: SS 7A), **Patricia Clark**, **Baasansuren Jadama**, and **Akhtar A. Khan**, Rochester Institute of Technology, and **Hulin Wu**, University of Rochester.

*Mathematical Image Processing* (Code: SS 20A), **Nathan Cahill**, Rochester Institute of Technology, and **Lixin Shen** and **Yuesheng Xu**, Syracuse University.

*Microlocal Analysis and Nonlinear Evolution Equations* (Code: SS 2A), **Raluca Felea**, Rochester Institute of Technology, and **Dan-Andrei Geba**, University of Rochester.

*Modern Relativity* (Code: SS 6A), **Manuela Campanelli** and **Yosef Zlochow**, Rochester Institute of Technology.

*New Advances in Graph Theory* (Code: SS 9A), **Jobby Jacob**, Rochester Institute of Technology, and **Paul Wenger**, University of Colorado Denver.

*Nonlinear Dynamics of Excitable Media* (Code: SS 18A), **Elizabeth Cherry**, Rochester Institute of Technology.

*Nonlinear Partial Differential Equations in the Physical and Biological Sciences* (Code: SS 14A), **Tony Harkin**, Rochester Institute of Technology, and **Doug Wright**, Drexel University.

*Operator Theory and Function Spaces* (Code: SS 4A), **Gabriel T. Prajitura** and **Ruhan Zhao**, State University of New York at Brockport.

*Permutations Patterns, Algorithms, and Enumerative Combinatorics* (Code: SS 19A), **Howard Skogman** and **Rebecca Smith**, State University of New York at Brockport.

*Probability and Statistical Physics* (Code: SS 16A), **Wenbo Li**, University of Delaware, and **Carl Mueller** and **Shannon Starr**, University of Rochester.

*Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs* (Code: SS 8A), **Bernard Brooks**, **Darren Narayan**, and **Tamas Wiandt**, Rochester Institute of Technology.

*Symplectic and Contact Topology* (Code: SS 15A), **Dusa McDuff**, Barnard College, and **Vera Vertesi**, Massachusetts Institute of Technology.

*Wavelet and Frame Theoretic Methods in Harmonic Analysis and Partial Differential Equations in Memory of Daryl Geller* (Code: SS 17A), **Alex Iosevich**, University of Rochester, and **Azita Mayeli**, City University of New York.

## Accommodations

Participants should make their own arrangements directly with the hotel of their choice as early as possible. Special discounted rates have been negotiated with the hotels listed below. Rates quoted do not include the combined New York state sales tax (8%) and occupancy tax (5%). Participants must state that they are with the **American Mathematical Society (AMS) Meeting at Rochester Institute of Technology** to receive the discounted rate. The AMS is not responsible for rate changes or for the quality of the accommodations. **Hotels have varying cancellation and early checkout penalties; be sure to ask for details when making your reservation.**

**Country Inn & Suites, Rochester-Henrietta**, 4635 West Henrietta Road, Rochester, NY 14467; 585-486-9000; 800-596-2375 (toll free); <http://www.countryinns.com/rochester-hotel-ny-14467/nyrochso/locations>. Rates are US\$99 for a standard room with two queen beds, double occupancy. This entire property is non-smoking. Amenities include complimentary continental breakfast; free coffee/cookies all day; free shuttle service to and from Greater Rochester International Airport Monday-Friday (with advanced registration); business center; in-room refrigerator, coffee maker, microwave oven; complimentary parking; free high-speed Internet in guest rooms; and fitness room. This property is located approximately four miles from the campus. **Cancellation and early check-out policies vary**; be sure to check when you make your reservation. The deadline for reservations at this rate is **August 21, 2012**.

**Best Western**, 940 Jefferson Rd., Rochester, NY 14623; 585-427-2700; [www.bestwestern.com/rochestermarketplaceinn](http://www.bestwestern.com/rochestermarketplaceinn). Rates are US\$84.99 for single/double occupancy. Amenities include complimentary hot breakfast with omelet station; limited free shuttle service within five miles of the hotel (9 a.m.-5 p.m.); in-room coffee maker, microwave, and refrigerator; free in-room wireless Internet; 24-hour complimentary cookies, coffee, and tea in lobby; complimentary parking; and fitness center. This property is located approximately three miles from the campus. **Cancellation and early check-out policies vary**; be sure to check when you make your reservation. The deadline for reservations at this rate is **September 6, 2012**.

**RIT Inn and Conference Center**, 5257 West Henrietta Road, Henrietta, NY 14467; 585-359-1800; [www.RITINN.com](http://www.RITINN.com). Rates are US\$94 per night for single or double occupancy for the dates of this meeting. Amenities include cable TV in guest rooms; in-room coffee maker; on-site business center; outdoor and indoor heated swimming pools, fitness center; two restaurants on property serving breakfast, lunch, and dinner; and free shuttle service to RIT and the airport. This property is located approximately one mile from the campus. **Cancellation and early check-out policies vary**; be sure to check when you make your reservation. The deadline for reservations at this rate is **August 31, 2012**.

**Courtyard by Marriott Brighton**, 33 Corporate Woods, Rochester, NY 14623; 585-292-1000; [www.Marriott.com/ROCH](http://www.Marriott.com/ROCH). Rates are US\$109 for single or double occupancy. Amenities include an in-room coffee maker; fitness center; indoor heated pool; business center; "The Market" 24-hour snack shop; on-property restaurant serving breakfast and dinner, featuring Starbucks coffee; and complimentary airport shuttle. This property is located approximately four miles from the campus. **Cancellation and early check-out policies vary**; be sure to check when you make your reservation. The deadline for reservations at this rate is **August 31, 2012**.

**Fairfield Inn by Marriott Airport**, 1200 Brooks Avenue, Rochester, NY 14624; 585-529-5000; [www.Marriott.com/ROCHA](http://www.Marriott.com/ROCHA). Rates are US\$114 per night for single/double occupancy. Amenities include an in-room coffee maker, complimentary deluxe continental breakfast, fitness center, indoor heated pool, complimentary wireless Internet, "The Market" 24-hour snack shop, and complimentary coffee service in the lobby. This property is located approximately four and one half miles from the campus. **Cancellation and early check-out policies vary**; be sure to check when you make your reservation. The deadline for reservations at this rate is **August 31, 2012**.

RIT has arranged for **Monroe Transportation Services** to provide a limited shuttle service to and from these properties on September 22 and 23. Please inquire at the front desk of your hotel to learn of pick-up locations and times.

## Dining on Campus

There are several options for dining available in the Student Alumni Union (Building 4), which is approximately a five-minute walk from the location of the meeting. Other

options also very nearby are the Global Village Cantina and Crossroads located in the Global Village and the Ctrl Alt Deli located in Golisano Hall (Building 70). Hours of operation for the fall for these vendors will be posted on the RIT website sometime in late July or early August, <http://finweb.rit.edu/diningservices/hourofoperation.html>.

### Local Information and Maps

A campus map may be found at <http://maps.rit.edu>. Information about Rochester Institute of Technology School of Mathematical Sciences may be found at <http://www.rit.edu/cos/math/welcome.php>. Please watch the website available at <http://www.ams.org/meetings/sectional/sectional.html> for additional information on this meeting. Please visit the RIT website at <http://www.rit.edu> for additional information on the campus.

### Other Activities

**Book Sales:** Stop by the on-site AMS bookstore and review the newest titles from the AMS, enjoy up to 25% off all AMS publications, or take home an AMS t-shirt! Complimentary coffee will be served courtesy of AMS Membership Services.

**AMS Editorial Activity:** An acquisitions editor from the AMS book program will be present to speak with prospective authors. If you have a book project that you would like to discuss with the AMS, please stop by the book exhibit.

### Parking

Hotels are all approximately between one and five miles driving distance from the RIT campus. Parking for the meeting is in Parking Lot U, located off Eleanor Gleason Circle and approximately 2 blocks from Thomas Gosnell Hall. This parking lot is open to anyone on weekends, and visitors will not require a parking permit.

### Registration and Meeting Information

Registration will be held in the Atrium of Gosnell Hall. The AMS book exhibit will also be held in Gosnell Hall in Room 8-1300. All Invited Addresses will be held in the Van Peursem Auditorium in Gosnell Hall, room number 8-1250. Special Sessions will be held in Gosnell Hall, Gleason Hall, and Orange Hall. Please refer to the campus map at <http://maps.rit.edu> for specific locations. The registration desk will be open on Saturday, September 22, 7:30 a.m.-4:00 p.m.; and Sunday, September 23, 8:00 a.m.-12:00 p.m. Fees are US\$53 for AMS members, US\$74 for nonmembers; and US\$5 for students, unemployed mathematicians, and emeritus members. Fees are payable on-site via cash, check, or credit card.

There will be a **reception** sponsored by the Rochester Institute of Technology, School of Mathematical Sciences. It will take place between 6:00 p.m. and 8:00 p.m. on Saturday, September 22, 2012, in the Alfred L. Davis room in the Student Alumni Union. The AMS thanks our hosts for their gracious hospitality.

### Travel

RIT is approximately five miles from Greater Rochester International Airport (ROC).

**By Air:** The Greater Rochester International Airport (ROC) is located at 1200 Brooks Ave., Rochester, NY, approximately four miles southwest of the city of Rochester. Rochester is serviced by Air Canada, AirTran, American Eagle/American Airlines, Delta, Jet Blue, United and US Airways. Their website is <http://www.rochesterintlairport.com/>. Ground transportation options from the airport include shuttle service, public buses, taxi, and rental cars.

Some hotels offer complimentary shuttle service to the airport; please check with your hotel when you make your reservation. Shuttle service for hire to and from the airport is available through Around Town Shuttle service (585-227-9334).

Taxicabs are available through Advance Airport Taxi Service (585-235-3333). The taxi booth is located in front of the main terminal, center entranceway, lower level; rates are US\$10.00 minimum to and from the airport, with US\$2.50 for each additional passenger and US\$3.00 per mile.

**By Train:** Amtrak provides service to the city of Rochester. The train station is located at 320 Central Avenue, Rochester, NY 14605 (800-872-7245). Information on schedules and fares can be found at <http://www.amtrak.com>.

**By Bus:** Bus service is offered by New York Trailways and Greyhound Bus Line. Both bus companies share a terminal at Midtown Plaza, which is located in downtown Rochester at 168 Cumberland St., Rochester, NY (585-232-5121). Information on schedules and fares can be found at [www.greyhound.com](http://www.greyhound.com) and [www.trailwaysny.com](http://www.trailwaysny.com).

#### By Car:

**From the Airport:** Turn right onto Brooks Avenue, then right onto Interstate 390 South. From 390, take the Scottsville Road exit and turn right. Drive for approximately three miles, then turn left onto Jefferson Road. Travel east for approximately one-half mile to the campus.

**From Interstate 90:** Take Exit 46 and proceed north on Interstate 390 to Exit 13 (Hylan Drive). Turn left on Hylan and continue north to Jefferson Road. Turn left on Jefferson and proceed west for approximately two miles to the campus.

**Car Rental:** There are five car rental agencies with offices at the Greater Rochester International Airport. For reservations with Avis please dial toll-free 800-831-2847 or visit their website at [www.avis.com](http://www.avis.com). For reservations with Hertz please dial toll-free 800-654-3131 or visit their website at [www.hertz.com](http://www.hertz.com). For reservations with Budget please dial toll-free 800-527-0700 or visit their website at [www.budgetrentacar.com](http://www.budgetrentacar.com). For reservations with National please call toll-free 877-222-9058 or visit their website at [www.nationalcar.com](http://www.nationalcar.com). For reservations with Enterprise please call toll-free 800-325-8007 or visit their website at [www.enterprise.com](http://www.enterprise.com).

## Local Transportation

### Taxi Service:

**Sentry Taxicab** (585-235-7777; 800-taxicab (toll-free)) provides service throughout Monroe County 24 hours a day. This company provides taxicab service in both cars and vans which hold five to seven passengers.

**Bus Service within Rochester:** The airport and the city of Rochester are serviced by the Rochester Transit Service (RTS). Bus schedules are available at the Visitors Information Booth at the airport, can be obtained by calling RTS directly at 585-288-1700, or can be viewed by visiting the RTS website at <http://www.rgrta.com/>. The bus shelter at the airport is located on lower level roadway, east end of airport. RIT is also a stop on Route 24 of the RTS bus service. The current bus fare rate is US\$1.

### Weather

The average high temperature for September is approximately 72 degrees and the average low is approximately 52 degrees. Rain is common for this time of year. Visitors should be prepared for inclement weather and check weather forecasts in advance of their arrival.

### Information for International Participants

Visa regulations are continually changing for travel to the United States. Visa applications may take from three to four months to process and require a personal interview, as well as specific personal information. International participants should view the important information about traveling to the U.S. found at <http://sites.nationalacademies.org/pga/biso/visas/> and [http://travel.state.gov/visa/visa\\_1750.html](http://travel.state.gov/visa/visa_1750.html). If you need a preliminary conference invitation in order to secure a visa, please send your request to [mac@ams.org](mailto:mac@ams.org). If you discover you do need a visa, the National Academies website (see above) provides these tips for successful visa applications:

\* Visa applicants are expected to provide evidence that they are intending to return to their country of residence. Therefore, applicants should provide proof of "binding" or sufficient ties to their home country or permanent residence abroad. This may include documentation of the following:

- family ties in home country or country of legal permanent residence
- property ownership
- bank accounts
- employment contract or statement from employer stating that the position will continue when the employee returns.

\* Visa applications are more likely to be successful if done in a visitor's home country than in a third country.

\* Applicants should present their entire trip itinerary, including travel to any countries other than the United States, at the time of their visa application.

\* Include a letter of invitation from the meeting organizer or the U.S. host specifying the subject, location and dates of the activity, and how travel and local expenses will be covered.

\* If travel plans will depend on early approval of the visa application, specify this at the time of the application.

\* Provide proof of professional scientific and/or educational status (students should provide a university transcript).

This list is not to be considered complete. Please visit the websites above for the most up-to-date information.

# New Orleans, Louisiana

## Tulane University

October 13–14, 2012

Saturday – Sunday

### Meeting #1083

Southeastern Section

Associate secretary: Robert J. Daverman

Announcement issue of *Notices*: June/July 2012

Program first available on AMS website: September 6, 2012

Program issue of electronic *Notices*: October 2012

Issue of *Abstracts*: Volume 33, Issue 3

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: July 3, 2012

For abstracts: August 28, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

### Invited Addresses

**Anita Layton**, Duke University, *Mathematical modeling of renal hemodynamics: Feedback dynamics and coupled oscillators.*

**Lenhard Ng**, Duke University, *From holomorphic curves to knot invariants via the cotangent bundle.*

**Henry K. Schenck**, University of Illinois at Urbana-Champaign, *From approximation theory to algebraic geometry: The ubiquity of splines.*

**Milen Yakimov**, Louisiana State University, *The Andraskiewitsch-Dumas Conjecture.*

### Special Sessions

*Algebraic Combinatorics: Rook Theory and Applications* (Code: SS 4A), **Mahir Bilen Can** and **Michael Joyce**, Tulane University, and **Jeff Remmel**, University of California at San Diego.

*Algebraic Structures over Commutative Rings* (Code: SS 9A), **Lee Klingler**, Florida Atlantic University, **Aihua Li**, Montclair State University, and **Ralph Tucci**, Loyola University New Orleans.

*Algebraic and Topological Combinatorics* (Code: SS 10A), **Alexander Engstrom** and **Matthew Stamps**, Aalto University.

*Analysis of Pattern Formation in Partial Differential Equations* (Code: SS 8A), **Xuefeng Wang**, Tulane University.

*Application of Functional Analytic Techniques to Nonlinear Boundary Value Problems* (Code: SS 11A), **John R. Graef** and **Lingju Kong**, University of Tennessee at Chattanooga, and **Bo Yang**, Kennesaw State University.

*Approximation Theory, Geometric Modelling, and Algebraic Geometry* (Code: SS 7A), **Henry Schenck**, University of Illinois at Urbana-Champaign.

*Biological Fluid Dynamics: Modeling, Computations, and Applications* (Code: SS 5A), **Anita T. Layton**, Duke University, and **Sarah D. Olson**, Worcester Polytechnic Institute.

*Combinatorial Commutative Algebra* (Code: SS 1A), **Chris Francisco**, Oklahoma State University, **Tai Huy Ha**, Tulane University, and **Adam Van Tuyl**, Lakehead University.

*Combinatorial Methods in Knot Theory* (Code: SS 13A), **Heather Russell**, University of Southern California, and **Oliver Dasbach**, Louisiana State University.

*Diffusion Processes in Biology* (Code: SS 2A), **Gustavo Didier**, Tulane University, and **Greg Forest**, University of North Carolina, Charlotte.

*Geometric and Algebraic Aspects of Representation Theory* (Code: SS 12A), **Pramod N. Achar**, Louisiana State University, and **Dijana Jakelić**, University of North Carolina at Wilmington.

*Interactions of Geometry and Topology in Low Dimensions* (Code: SS 3A), **John Etnyre**, Georgia Tech, **Rafal Komendarczyk**, Tulane University, and **Lenhard Ng**, Duke University.

*Quantum Groups and Noncommutative Algebraic Geometry* (Code: SS 6A), **Kailash C. Misra**, North Carolina State University, and **Milen Yakimov**, Louisiana State University.

*Stochastic Analysis: Current Directions and Applications* (Code: SS 14A), **Hui-Hsiung Kuo**, **Ambar Sengupta**, and **P. Su**, Louisiana State University.

### Session for Contributed Talks

There also will be a session for 10-minute contributed talks. Please see the abstracts submission form at <http://www.ams.org/cgi-bin/abstracts/abstract.pl>. The deadline for all submissions is **August 28, 2012**.

### Accommodations

Participants should make their own arrangements directly with the properties listed below. Special rates for the meeting have been negotiated and are available at the properties shown below for the period of October 12–14, 2012. When making reservations **participants should state that they are with the AMS/Tulane meeting**. Unfortunately, there are two citywide conventions in New Orleans at the same time as our meeting, so room blocks in the following hotels will sell out. **Please book early**. Hotels have varying cancellation or early checkout penalties; be sure to ask for details when making your reservation. **The room rates listed do not include applicable taxes; the current tax rate on hotel rooms is 13% + US\$1 per night**.

All of these properties are within one to two blocks of the St. Charles Streetcar line, which goes through

the beautiful Garden District and directly by the Tulane campus. The street cars run approximately every 20 minutes, 24 hours per day. The fare is US\$1.25 each way (exact change), or you may purchase a Jazzy pass from the conductor, good for unlimited rides from the time of purchase until about 4:00 a.m. the next day for US\$3 (exact change required).

**Hampton Inn-Garden District Hotel**, 3626 St. Charles Ave., New Orleans, LA 70115; phone: 504-899-9990; fax: 504-894-6414; [www.neworleanshamptoninns.com/garden-district](http://www.neworleanshamptoninns.com/garden-district). US\$139 for a king standard room; there is no charge for a second person. Rooms are equipped with a coffee maker and microfridge. Rates include complimentary hot breakfast buffet or on-the-run breakfast bag, free wireless Internet access, complimentary tea and cheese reception each evening, access to Touro Hospital Fitness Center, outdoor lap pool, and complimentary parking. Distance to the meeting site is 2.35 miles. **Hotels have varying cancellation or early checkout penalties**; be sure to ask for details when making your reservation. **The deadline for reservations is September 12, 2012**.

**La Quinta Inn & Suites**, 301 Camp St., New Orleans, LA 70130; phone: 504-598-9978; fax: 504-598-9978; [www.lq.com](http://www.lq.com). US\$79 for king or double; coffeemaker in room. Rates include complimentary hot continental breakfast, free wireless access; fitness center and outdoor pool on premises. The distance to the meeting site is 4.75 miles. **Hotels have varying cancellation or early checkout penalties**; be sure to ask for details when making your reservation. **The deadline for reservations is September 21, 2012**.

**Maison St. Charles**, 1319 St. Charles Ave., New Orleans, LA 70130; phone: 504-522-0187; fax: 504-529-4379; [www.maisonstcharles.com](http://www.maisonstcharles.com). US\$145 for a double queen room (one or two persons). Rates include free wireless Internet access throughout the hotel, complimentary continental breakfast, fitness club access, and outdoor swimming pool with spa. On-site gated parking is US\$17+tax/day. The distance to the meeting site is four miles. **Hotels have varying cancellation or early checkout penalties**; be sure to ask for details when making your reservation. **The deadline for reservations is August 28, 2012**.

**Bed & Breakfasts in the Garden District on or near the St. Charles Streetcar line**: While no contracts have been made with the following properties, and neither the AMS nor Tulane University can vouch for the suitability of them, participants may wish to check availability. Be sure to ask if rooms have private baths. Please note that the range of rates quoted may be seasonally adjusted and not available at the time of our meeting. Also be aware that **these properties usually have a 30-day cancellation policy** (one night's deposit will be forfeited), so please be sure to check. Some rates include taxes.

**Avenue Inn Bed & Breakfast**, 4125 St. Charles Ave; 504-269-2640; US\$99-299.

**Creole Gardens Guest House**, 1415 Prytania St.; 866-569-8700; US\$89-350.

**Green House Inn**, 1212 Magazine St. (downtown but two blocks from streetcar line), 504-525-1333; US\$89-189.

**Mandevilla Bed And Breakfast**, 7716 St. Charles Ave., 800-288-0484 (toll-free) or 504-862-6396; US\$99-179; about eight blocks from campus.

**Magnolia Mansion**, 2127 Prytania St., 504-412-9500; US\$159-229.

**Maison Perrier**, 4117 Perrier St., 888-610-1807 or 504-897-1807; US\$170-225 inclusive of all fees/taxes (three night minimum).

**Park View Guest House**, 7004 St. Charles Ave., 888-533-0746 (toll-free) or 504-861-7564; US\$169-189; across from campus.

**St. Charles Guest House**, 1748 Prytania Ave., 504-523-6556; US\$45-105.

**Sully Mansion Bed and Breakfast**, 2631 Prytania St., 800-364-2414 (toll-free) or 504-891-0457; US\$119-230.

**Terrell House**, 1441 Magazine St., 866-261-9687 (toll-free) or 504-237-2076; US\$150 and up.

Many other inns/bed and breakfast listings for the New Orleans area may be found at [www.bedandbreakfast.com/new-orleans-louisiana.html](http://www.bedandbreakfast.com/new-orleans-louisiana.html). Be sure to check if your selection is on the St. Charles Streetcar line for the easiest and least expensive accessibility to the Tulane campus. For checking locations and the distance to campus using an Internet navigation tool (Google maps, Mapquest), please use 6823 St. Charles Ave., New Orleans, LA 70118, as Tulane's address.

### Dining on/near Campus

The Food Court in the Lavin-Bernick Center will be open on Saturday and Sunday. There is also dining on the Loyola University campus next door to Tulane in the Danna Student Center (Orleans Room and Flambeaux's Grill) and La Divinia Gelateria in the bottom floor of Carrollton Residence Hall.

### Local Information and Maps

The Tulane Department of Mathematics and Statistics website is found at <http://tulane.edu/sse/math/>. A campus map is found at <http://tulane.edu/about/visiting/uptown-campus-map.cfm>.

### Other Activities

**AMS Book Sale:** Stop by the on-site AMS bookstore and review the newest titles from the AMS, enjoy up to 25% off all AMS publications, or take home an AMS t-shirt! Complimentary coffee will be served courtesy of AMS Membership Services.

**AMS Editorial Activity:** An acquisitions editor from the AMS book program will be present to speak with prospective authors. If you have a book project that you would like to discuss with the AMS, please stop by the book exhibit.

### Parking

Parking on Saturday and Sunday is free in all campus lots and in metered spaces. You must avoid loading zones and other marked, restricted places.

### Registration and Meeting Information

The meeting will take place on the uptown campus of Tulane University. Invited Addresses, meeting registration, and the AMS book exhibit will be held in the Lavin-Bernick Center. Special Sessions and Contributed Talks will be held in Jones, Boggs, and Newcomb Halls.

The registration desk will be open Saturday, 7:30 a.m.–4:00 p.m.; and Sunday, 8:00 a.m.–noon. Fees are US\$53 for AMS members, US\$74 for nonmembers; and US\$5 for students, unemployed mathematicians, and emeritus members. Fees are payable on-site by cash, check, or credit card.

### Travel Information

The nearest airport is Louis Armstrong New Orleans International Airport (**MSY**), 900 Airline Dr., Kenner, LA 70062; <http://www.flymsy.com>. The airport is about 12 miles from the campus, a 25-minute drive.

A cab ride costs US\$35-40 from the airport to the Central Business District (CBD) or to campus for one or two persons and \$14 (per passenger) for three or more passengers. Pickup is on the lower level, outside the baggage claim area. There may be an additional charge for extra baggage.

**Airport Shuttle:** Shuttle service is available from the airport to the hotels in the CBD or Garden District for US\$20 (per person, one-way) or US\$38 (per person, round-trip) with a limit of three bags per person. Call 1-866-596-2699 or (504) 522-3500 for more details or to make a reservation. Advance reservations are required 48 hours prior to travel for all ADA accessible transfers. Please call in advance of your travel date for the specially equipped shuttle to be reserved. Ticket booths are located on the lower level in the baggage claim area. [www.airport-shuttleneworleans.com](http://www.airport-shuttleneworleans.com).

**Driving Directions to Campus from I-10:** As you enter the downtown area, follow the signs to Hwy 90 Business/West Bank. Exit at St. Charles Ave./Carondelet St. (do not cross the bridge). At the second traffic light turn right onto St. Charles Ave. and follow for four miles. Drive about four blocks past Gibson Hall and its half-circle driveway and turn right at the stoplight at the intersection of St. Charles and Broadway. Drive up Broadway about 3/4 mile (about eight blocks) and turn right onto Willow St. Drive two blocks and turn right onto Newcomb Drive. You may park anywhere along the roadside or in the lots; metered spots are free on weekends. The Lavin-Bernick Center is about a block away from the parking areas.

### Car Rental

**Hertz** is the official car rental company for the meeting. To make a reservation accessing our special meeting rates online at [www.hertz.com](http://www.hertz.com), click on the box "I have a discount", and type in our convention number (CV): **04N30002**. You can also call Hertz directly at 800-654-2240 (U.S. and Canada) or 405-749-4434 (other countries). At the time of reservation, the meeting rates will be automatically compared to other Hertz rates and you will be quoted the best comparable rate available.

## Weather

October in New Orleans is beautiful. The weather is cool and dry with bright blue skies overhead. Average high is 72°, average low is 63°, and the rainfall is low.

## Information for International Participants

Visa regulations are continually changing for travel to the United States. Visa applications may take from three to four months to process and require a personal interview, as well as specific personal information. International participants should view the important information about traveling to the U.S. found at <http://sites.nationalacademies.org/pga/biso/visas/> and [http://travel.state.gov/visa/visa\\_1750.html](http://travel.state.gov/visa/visa_1750.html). If you need a preliminary conference invitation in order to secure a visa, please send your request to [dls@ams.org](mailto:dls@ams.org).

If you discover you do need a visa, the National Academies website (see above) provides these tips for successful visa applications:

\* Visa applicants are expected to provide evidence that they are intending to return to their country of residence. Therefore, applicants should provide proof of “binding” or sufficient ties to their home country or permanent residence abroad. This may include documentation of the following:

- family ties in home country or country of legal permanent residence
- property ownership
- bank accounts
- employment contract or statement from employer stating that the position will continue when the employee returns.

\* Visa applications are more likely to be successful if done in a visitor's home country than in a third country.

\* Applicants should present their entire trip itinerary, including travel to any countries other than the United States, at the time of their visa application.

\* Include a letter of invitation from the meeting organizer or the U.S. host specifying the subject, location and dates of the activity, and how travel and local expenses will be covered.

\* If travel plans will depend on early approval of the visa application, specify this at the time of the application.

\* Provide proof of professional scientific and/or educational status (students should provide a university transcript).

This list is not to be considered complete. Please list the websites above for the most up-to-date information.

# Akron, Ohio

## University of Akron

October 20–21, 2012

Saturday – Sunday

## Meeting #1084

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: August 2012

Program first available on AMS website: September 27, 2012

Program issue of electronic *Notices*: October 2012

Issue of *Abstracts*: Volume 33, Issue 4

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: July 10, 2012

For abstracts: September 4, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

## Invited Addresses

**Tanya Christiansen**, University of Missouri, *Title to be announced.*

**Tim Cochran**, Rice University, *Title to be announced.*

**Ronald Solomon**, Ohio State University, *Title to be announced.*

**Ben Weinkove**, University of California San Diego, *Title to be announced.*

## Special Sessions

*Additive and Combinatorial Number Theory* (Code: SS 14A), **Tsz Ho Chan**, University of Memphis, **Kevin O’Byrant**, City University of New York, and **Gang Yu**, Kent State University.

*Applied Topology* (Code: SS 9A), **Peter Bubenik**, Cleveland State University, and **Matthew Kahle**, Ohio State University.

*Cayley Graph Computations and Challenges for Permutation Puzzle Groups* (Code: SS 20A), **Morley Davidson**, Kent State University, and **Tomas Rokicki**, Radical Eye Software.

*Commutative Algebra* (Code: SS 8A), **Livia Hummel**, University of Indianapolis, and **Sean Sather-Wagstaff**, North Dakota State University.

*Complex Analysis and Its Broader Impacts* (Code: SS 5A), **Mehmet Celik**, University of North Texas at Dallas, **Alexander Izzo**, Bowling Green State University, and **Sonmez Sahutoglu**, University of Toledo.

*Complex Geometry and Partial Differential Equations* (Code: SS 4A), **Gabor Szekelyhidi**, University of Notre Dame, **Valentino Tosatti**, Columbia University, and **Ben Weinkove**, University of California San Diego.

*Extremal Graph Theory* (Code: SS 2A), **Arthur Busch**, University of Dayton, and **Michael Ferrara**, University of Colorado Denver.

*Geometry of Algebraic Varieties* (Code: SS 12A), **Ana-Marie Castravet**, **Emanuele Macrì**, and **Hsian-Hua Tseng**, The Ohio State University.

*Graphs and Polytopes in Algebraic Combinatorics* (Code: SS 10A), **Stefan Forcey**, University of Akron, and **Forest Fisher**, NOVA-Manassas.

*Groups, Representations, and Characters* (Code: SS 1A), **Mark Lewis**, Kent State University, **Adriana Nenciu**, Otterbein University, and **Ronald Solomon**, Ohio State University.

*Harmonic Analysis and Convexity* (Code: SS 7A), **Benjamin Jaye**, **Dmitry Ryabogin**, and **Artem Zvavitch**, Kent State University.

*Interactions between Geometry and Topology* (Code: SS 22A), **Dan Farley**, Miami University, **Jean-Francois Lafont**, Ohio State University, and **Ivonne J. Ortiz**, Miami University.

*Issues in the Preparation of Secondary Teachers of Mathematics* (Code: SS 21A), **Laurie A. Dunlap** and **Antonio R. Quesada**, University of Akron.

*Knot Theory and 4-Manifolds* (Code: SS 15A), **Tim Cochran** and **Christopher Davis**, Rice University, and **Kent Orr**, Indiana University.

*Noncommutative Ring Theory* (Code: SS 6A), **S. K. Jain**, Ohio University, and **Greg Marks** and **Ashish Srivastava**, St. Louis University.

*Nonlinear Partial Differential Equations and Harmonic Analysis* (Code: SS 19A), **Diego Maldonado**, Kansas State University, **Truyen Nguyen**, University of Akron, and **Nguyen Cong Phuc**, Louisiana State University.

*Nonlinear Waves and Patterns* (Code: SS 11A), **Anna Ghazaryan** and **Vahagn Manukian**, Miami University.

*Separate versus Joint Continuity* (Code: SS 23A), **Zbigniew Piotrowski** and **Eric J. Wingler**, Youngstown State University.

*Spectral, Scattering, and Inverse Scattering Theory* (Code: SS 3A), **Tanya Christiansen**, University of Missouri, and **Peter Hislop** and **Peter Perry**, University of Kentucky.

*Statistical Genetics and Applications* (Code: SS 17A), **Omar De La Cruz**, Case Western Reserve University.

*Stochastic Processes and Applications* (Code: SS 16A), **Oana Mocioalca**, Kent State University.

*A Survey of Lattice-Valued Mathematics and Its Applications* (Code: SS 18A), **Austin Melton**, Kent State University, and **Stephen E. Rodabaugh**, Youngstown State University.

*Toric Algebraic Geometry and Beyond* (Code: SS 13A), **Kiumars Kaveh**, University of Pittsburgh, **Benjamin Nill**, Case Western Reserve University, and **Ivan Soprunov**, Cleveland State University.

# Tucson, Arizona

*University of Arizona, Tucson*

**October 27–28, 2012**

*Saturday – Sunday*

## Meeting #1085

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: August 2012

Program first available on AMS website: October 4, 2012

Program issue of electronic *Notices*: October 2012

Issue of *Abstracts*: Volume 33, Issue 4

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: July 17, 2012

For abstracts: September 11, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/section1.html](http://www.ams.org/amsmtg/section1.html).*

## Invited Addresses

**Michael Hutchings**, University of California Berkeley, *Quantitative invariants in four-dimensional symplectic geometry.*

**Kenneth McLaughlin**, University of Arizona, Tucson, *Random matrices, integrable systems, asymptotic analysis, combinatorics.*

**Ken Ono**, Emory University, *Adding and counting* (Erdős Memorial Lecture).

**Jacob Sterbenz**, University of California San Diego, *Regularity of hyperbolic gauge field equations.*

**Goufang Wei**, University of California Santa Barbara, *Comparison results for Ricci curvature.*

## Special Sessions

*Analytical and Numerical Approaches in Nonlinear Systems: Collapses, Turbulence, Nonlinear Waves in Mathematics, Physics, and Biology* (Code: SS 9A), **Alexander Korotkevich** and **Pavel Lushnikov**, University of New Mexico.

*Asymptotic Analysis of Random Matrices, Integrable Systems, and Applications* (Code: SS 13A), **Ken McLaughlin** and **Nick Ercolani**, University of Arizona.

*Biomathematics* (Code: SS 17A), **Jim M. Cushing** and **Joseph Watkins**, University of Arizona.

*The B.S. Degree in Mathematics in Industry* (Code: SS 19A), **William Velez**, University of Arizona.

*Differential Equations and Biological Systems* (Code: SS 16A), **Patrick Shipman**, Colorado State University, and **Zoi Rapti**, University of Illinois at Urbana-Champaign.

*Dispersion in Heterogeneous and/or Random Environments* (Code: SS 2A), **Rabi Bhattacharya**, Oregon State University, Corvallis, and **Edward Waymire**, University of Arizona.

*Geometric Analysis and Riemannian Geometry* (Code: SS 4A), **David Glickenstein**, University of Arizona, **Guofang Wei**, University of California Santa Barbara, and **Andrea Young**, Ripon College.

*Geometrical Methods in Mechanical and Dynamical Systems* (Code: SS 3A), **Akif Ibragimov**, Texas Tech University, **Vakhtang Putkaradze**, Colorado State University, and **Magdalena Toda**, Texas Tech University.

*Harmonic Maass Forms and  $q$ -Series* (Code: SS 1A), **Ken Ono**, Emory University, **Amanda Folsom**, Yale University, and **Zachary Kent**, Emory University.

*Hyperbolic Geometry* (Code: SS 18A), **Julien Paupert**, Arizona State University, and **Domingo Toledo**, University of Utah.

*Inverse Problems and Wave Propagation* (Code: SS 7A), **Leonid Kunyansky**, University of Arizona.

*Mathematical Fluid Dynamics and Its Application in Geosciences* (Code: SS 20A), **Bin Cheng**, Arizona State University, and **Nathan Glatt-Holtz**, Indiana University.

*Mathematical Physics: Spectral and Dynamical Properties of Quantum Systems* (Code: SS 6A), **Bruno Nachtergaele**, University of California Davis, **Robert Sims**, University of Arizona, and **Günter Stolz**, University of Alabama, Birmingham.

*Mathematics of Optical Pulse Propagation: Modeling, Analysis, and Simulations* (Code: SS 8A), **Jason Fleischer**, Princeton University, and **Moysey Brio**, **Karl Glasner**, and **Shankar Venkataramani**, University of Arizona.

*Motives, Algebraic Cycles, and  $K$ -Theory* (Code: SS 11A), **Deepam Patel**, Indiana University, Bloomington, and **Ravindra Girivaru**, University of Missouri, St. Louis.

*Representations of Groups and Algebras* (Code: SS 5A), **Klaus Lux** and **Pham Huu Tiep**, University of Arizona.

*Special Functions, Combinatorics, and Analysis* (Code: SS 15A), **Diego Dominici**, SUNY New Paltz, **Tim Huber**, University of Texas - Pan American, and **Robert Maier**, University of Arizona.

*Spectral Theory and Global Analysis* (Code: SS 12A), **Lennie Friedlander**, University of Arizona, and **Klaus Kirsten**, Baylor University.

*Topics in Commutative Algebra* (Code: SS 10A), **Kristen Beck** and **Silvia Saccon**, The University of Arizona.

*The Ubiquitous Laplacian: Theory, Applications, and Computations* (Code: SS 14A), **Bin Dong** and **Lotfi Hermi**, University of Arizona.

## San Diego, California

*San Diego Convention Center and San Diego Marriott Hotel and Marina*

January 9–12, 2013

Wednesday – Saturday

### Meeting #1086

*Joint Mathematics Meetings, including the 119th Annual Meeting of the AMS, 96th Annual Meeting of the Mathematical Association of America, annual meetings of the*

*Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: October 2012

Program first available on AMS website: November 1, 2012

Program issue of electronic *Notices*: January 2012

Issue of *Abstracts*: Volume 34, Issue 1

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: August 7, 2012

For abstracts: September 25, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/national.html](http://www.ams.org/amsmtg/national.html).*

### Joint Invited Addresses

**Robin Pemantle**, David Rittenhouse Laboratories, *Zeros of polynomials and their importance in combinatorics and probability* (AMS-MAA Invited Address).

**Emily Shuckburgh**, Cambridge University, *Title to be announced* (AMS-MAA Invited Address).

### AMS Invited Addresses

**Gerard Ben Arous**, Courant Institute- NYU, *Title to be announced*.

**Jean Bourgain**, Institute for Advanced Study, *Title to be announced*.

**Laura DeMarco**, University of Illinois at Chicago, *Title to be announced*.

**Jordan Ellenberg**, University of Wisconsin, *Title to be announced*.

**Alice Guionnet**, École Normale Supérieure de Lyon, *Title to be announced* (AMS Colloquium Lectures).

**Robert Guralnick**, University of Southern California, *Title to be announced*.

**Cedric Villani**, Institut Henri Poincaré, *Title to be announced* (AMS Josiah Willard Gibbs Lecture).

### Call for MAA Contributed Papers

The MAA Committee on Contributed Paper Sessions solicits contributed papers pertinent to the sessions listed below. Contributed Paper Session presentations are limited to fifteen minutes, except in the general session, where they are limited to ten minutes. Please note that the dates and times scheduled for these sessions remain tentative.

### Contributed Paper Sessions with Themes

**Actuarial Education**, organized by **Robert Buck**, Slippery Rock University, and **Thomas Wakefield**, Youngstown State University; Friday afternoon. Interest in actuarial science has increased tremendously over the past few years, with many institutions trying to start programs or upgrade existing programs. This session invites papers/

talks that focus on starting an actuarial science program, sharing ideas on various ways to structure actuarial science programs, describing how institutions can adjust to the constantly changing requirements of the actuarial organizations, and outlining specific and/or unique details of your actuarial science program.

Also appropriate would be information on helping students find jobs/internships and the expectations of actuarial employers as well as discussion of VEE credit, the SOA/CAS exam structure, meeting Associate or Fellowship requirements, and approaching the new CERA designation. In addition, information on available resources for actuarial education is always welcome as well as ideas for motivating student interest in actuarial science, such as actuarial science club activities or other outreach.

Many institutions are interested in offering actuarial science as an option for their students, and these types of papers/talks would help them get started. The session will focus primarily on what the SOA refers to as Introductory Undergraduate Actuarial Science Programs or Advanced Undergraduate Actuarial Science Programs, as opposed to Graduate or Research Programs. Sponsored by PRIMUS: Problems, Resources, and Issues in Undergraduate Mathematics Studies. Papers from the session may be considered for a special issue of PRIMUS on actuarial education.

**Adding Modern Ideas to an Introductory Statistics Course**, organized by **Brian T. Gill**, Seattle Pacific University; **Scott Alberts**, Truman State University; and **Andrew Zieffler**, University of Minnesota; Friday afternoon. Modern introductory statistics courses have evolved to place much greater emphasis on conceptual understanding, active learning in the classroom, use of real data, and use of technology. We invite submissions that provide details about learning activities, new technologies, resources, or new teaching methods that have proven successful in teaching introductory statistics courses. We particularly encourage submissions related to the use of (1) big datasets in introductory statistics, (2) randomization or bootstrap methods, (3) modeling, or (4) open source software. We encourage submissions related to a variety of types of intro courses, including face-to-face, online, or hybrid as well as courses for specialized audiences such as business, engineering, or biology. Submissions related to introductory courses for math and statistics majors are also welcome. Sponsored by the SIGMAA on Statistics Education. Presenters will be considered for the Dex Whittinghill Award for Best Contributed Paper.

**Assessing the Effectiveness of Online Homework**, organized by **Jason Aubrey**, University of Missouri; **John Travis**, Mississippi College; and **Joanne Peebles**, El Paso Community College; Saturday morning. Online homework systems such as open source systems WeBWork and WAMAP, commercial systems such as WebAssign, MapleTA and others have matured over the past decade to the point where the use of such systems has become mainstream within the service curriculum in mathematics. Anecdotal evidence indicates that there are significant benefits.

This session provides an opportunity to report on efforts to assess the effectiveness of online homework.

Instructors will have an opportunity to share innovative uses of online homework systems and to report on how successful these new approaches have been. Papers will focus on the use of metrics for assessing changes in student learning and behavior, including factors such as persistence, self-efficacy, and retention. Sponsored by the MAA Committee on Technologies in Mathematics Education (CTME), MAA Committee on Two-Year Colleges (CTYC), and the SIGMAA on Mathematics Instruction Using the Web.

**Bridging the Gap: Designing an Introduction to Proofs Course**, organized by **Sarah L. Mabrouk**, Framingham State University; Thursday afternoon. This session invites papers regarding the creation of “bridge” and introductory proofs courses and the effects of such courses on students’ abilities to read, analyze, and write proofs in subsequent courses such as number theory, abstract algebra, and real/complex analysis courses in addition to numerical and applied mathematics courses. Information about textbooks, assignments/projects, and activities that help students to read and analyze statements as well as to understand when it is appropriate to use, for example, the contrapositive or proof by contradiction are of particular interest. Papers providing information about approaches that have not been successful are welcome as are those about how ineffective initial attempts were modified to help students to understand statement analysis, to recognize/write equivalent statements, to select appropriate rather than inappropriate methods of proof, to realize when proofs are complete or incomplete, and to use meaningful language and terminology in good proof writing while minimizing student frustration and the student’s view that the instructor is being picky about sentence structure and diction. Papers providing evidence of course effectiveness in helping students to read, analyze, and write proofs are particularly encouraged.

**Communicating Mathematics**, organized by **Brian Katz**, Augustana College, and **Elizabeth Thoren**, University of California Santa Barbara; Saturday afternoon. Increasingly, college graduates are expected to have a suite of communication skills in addition to the technical skills specific to their majors. Simultaneously pedagogy at many high schools, colleges, and universities is shifting towards student-centered methods that require students to write and speak more in their math classes. As a result, students are being asked to develop and use significantly more communication skills in these classes. In this session, we will explore the ways that mathematics instructors support students as they speak and write for our classes, as well as the ways we prepare them to communicate after they leave the classroom.

Ideally the session will include scholarly presentations on (1) successful methods or assignments designed to improve written or oral communication skills and (2) the consequences of using writing and speaking in class for the students’ skills, attitudes, and beliefs.

**Computational Modeling in the Undergraduate Curriculum**, organized by **Kurt Matthew Bryan**, **Joseph Eichholz**, and **Jeffery Leader**, Rose-Hulman Institute of Technology; Wednesday morning. The extraordinary growth

of computing power is transforming how engineering, science, and mathematics are done. Math majors stepping into industry or applied graduate programs need to be proficient with the tools and modes of thought needed to exploit this power. This training often starts too late; however, inexpensive computing power is inspiring new undergraduate courses and programs in computational science, often within mathematics programs, and can and should change the way undergraduate mathematics courses like linear algebra, differential equations, and probability are taught.

We seek presenters to share examples illustrating the incorporation of high-performance computing into the undergraduate mathematics curriculum. Especially welcome are class activities and projects that illuminate how computing power is used to attack realistic problems previously inaccessible at the undergraduate level or lessons that use computing power to give a fresh take on traditional topics.

**Developmental Mathematics Education**, organized by **J. Winston Crawley**, and **Kimberly J. Presser**, Shippensburg University; Saturday morning. In recent years, the number of underprepared or math-anxious students coming to our colleges and universities has been growing. In order to help these students to be successful, we need to undertake new strategies for support services, courses offered, and perhaps even in our programs themselves. This session invites papers on all aspects of developmental mathematics education. In particular, what classroom practices are effective with such students and how does research in student learning inform these practices? For students interested in math-intensive majors such as the sciences, how can we best prepare these students for several subsequent mathematics courses? How can we best coordinate support services with the courses offered in our mathematics departments? We are interested in hearing presentations from across the spectrum of community colleges through four-year universities at this session.

**Effective Strategies and Programs for Mentoring Women and Minorities in Mathematics**, organized by **Jenna Price Carpenter**, Louisiana Tech University; **Jessica M. Deshler**, West Virginia University; and **Elizabeth A. Burroughs**, Montana State University; Thursday afternoon. Women (~45%) and minorities (ranging from ~6% for African American and Hispanic students to 0.4% for Native American students) have long been underrepresented in mathematics, from the B.S. to the Ph.D. level, as well as in the faculty ranks. There are, however, examples of initiatives which do successfully mentor women and minorities to success at all levels. This session focuses on strategies and programs (from one-on-one mentoring to funded programs) that effectively mentor these students or faculty in mathematics. Papers should refer to relevant research and include assessment where possible, share lessons learned, as well as focus on aspects that could be adopted by others. Sharing of example materials, brochures, websites, etc., are also encouraged.

**Fostering Mathematical Habits of Mind**, organized by **Kien H. Lim**, University of Texas at El Paso; **Ayse A. Sahin**, DePaul University; and **Holly Hirst**, Appalachian State

University; Friday afternoon. The term “Mathematical Habits of Mind” (MHoM) refers to the need to help students think about mathematics the way mathematicians do. There has been considerable interest among mathematics educators and mathematicians in helping students develop MHoM. This session allows mathematicians and mathematics educators to share their scholarship, their teaching, and their perspectives related to fostering MHoM. We seek papers that focus on at least one of these areas: theoretical frameworks for analyzing MHoM, empirical studies on MHoM, pedagogical challenges and strategies for fostering specific MHoM, creating a classroom culture that is conducive to MHoM, or philosophical perspectives associated with MHoM. Sponsored by the MAA Committee on the Mathematical Education of Teachers (COMET).

**The History of Geometry, Its Applications, and Their Uses in the Classroom**, organized by **Amy Shell-Gellasch**, Hood College, and **Glen Van Brummelen**, Quest University; Saturday afternoon. The roots of geometry go back before recorded time, and almost all cultures have used it for some significant purpose (astrology, navigation, architecture, ritual, etc.). Although the art of geometry is currently waning in the high school curriculum, its relevance to practical applications continues to grow in the sciences and beyond. This session solicits papers that address topics relevant to the history of geometry and its applications. This might include (but is not limited to) physics, chemistry, biology, astronomy, navigation and its devices, architecture, cartography, networks, and trigonometry. Papers may be scholarly or pedagogical in nature. Sponsored by the SIGMAA on the History of Mathematics

**How Assessment Results Changed Our Program**, organized by **Miriam Harris-Botzum**, Lehigh Carbon Community College, and **Bonnie Gold**, Monmouth University; Wednesday morning. One of the purposes of assessment in higher education is to improve student learning and to improve our programs. Is there evidence that program assessment has made a positive difference in student learning in mathematics?

This session will provide faculty teaching mathematics, statistics, or quantitative literacy/reasoning courses the opportunity to disseminate how they have “closed the loop” in program assessment, making changes that have resulted in improvements in their programs, in their teaching, and ultimately in student learning. Presenters may talk about changes that have already been implemented and their impact or changes that are under way and their plans to assess the impact. Sponsored by the MAA Committee on Assessment.

**Innovative and Effective Ways to Teach Linear Algebra**, organized by **David M. Strong**, Pepperdine University; Friday morning. Linear algebra is one of the most interesting and useful areas of mathematics, due to its beautiful theory and the enormous importance it plays in understanding and solving many real-world problems. Many valuable and creative ways to teach its rich theory and applications are continually being developed and refined. This session will serve as a forum in which to share and discuss these ideas and approaches. Innovative and effective ways to teach linear algebra include, but are not

limited to, (1) hands-on, in-class demos; (2) effective use of technology, such as Matlab, Maple, Mathematica, Java Applets or Flash; (3) interesting and enlightening connections between ideas that arise in linear algebra and ideas in other mathematical branches; (4) interesting and compelling examples and problems involving particular ideas being taught; (5) comparing and contrasting visual (geometric) and more abstract (algebraic) explanations of specific ideas; and (6) other novel and useful approaches or pedagogical tools.

***Innovative Ideas for Courses in the First Two Years***, organized by **Andrew Granville Bennett**, Kansas State University; Wednesday afternoon. With the increasing focus on retention and completion and calls for sharply increasing the number of students who pursue STEM majors, many programs are looking at revisions to their introductory mathematics program. This session looks to share ideas for content, instruction, and assessment for courses taken in the first two years.

Talks should not be purely aspirational but should include a discussion of how at least some segment of the proposal was implemented and the impact on students, either for better or for worse. We particularly encourage submissions about (1) innovative instructional techniques that increase student success, (2) new approaches to pre-calculus courses that better prepare students for calculus, (3) changes in pedagogy and/or curriculum that encourage more students to pursue additional coursework in mathematics, (4) methods to identify and remediate holes in students' knowledge, (5) better assessment techniques to identify conceptual understanding; and (6) other innovative ideas for teaching college mathematics. Sponsored by the MAA Committee on Calculus Reform and the First Two Years (CRAFTY).

***Integrating the Mathematics of Planet Earth 2013 in the College Mathematics Curriculum***, organized by **Ben Galluzzo**, Shippensburg University; Wednesday afternoon. Planet Earth is dynamic and complex; mathematics is a tool we can use to understand it. The NSF-funded North American Mathematical Sciences Institutes are sponsoring the theme of The Mathematics of Planet Earth in 2013 (MPE 2013) with the goal of showcasing the role that mathematics plays in recognizing, investigating, and solving planetary problems. In support of MPE 2013, this session seeks proposals that discuss methods for integrating Environmental Mathematics issues into the typical college curriculum. Accepted papers will be published on the SIGMAA EM website to increase awareness and encourage conversation about theme-related topics throughout the year. Sponsored by the SIGMAA on Environmental Mathematics and MPE 2013.

***Learning Centers: Problems and Creative Solutions***, organized by **James M. Sobota**, **Karoline Auby**, and **Maighread McHugh**, University of Wisconsin-La Crosse; Thursday morning. This session will deal with Learning Centers, primarily dealing with tutoring lower-level mathematics courses. We are looking to share creative solutions to Learning Center issues, such as the recruitment and training of quality tutors; how Learning Centers can help tutors develop their mathematical skills and understand-

ing to better prepare them for careers in the teaching profession; how to deal with budget problems in these times of tight budgets; how to incorporate appropriate technology into the Learning Center; how to involve more faculty in the Learning Centers; and how to cooperate with various "special service" tutoring centers, possibly including those in other disciplines.

Learning Centers are becoming more and more important in the lower-level curriculum, especially with the increasing number of remedial students. This comes at a time when there are more and more demands on already tight budgets. Presentation proposals should focus on how your college or university has or is planning on dealing with some of these issues and how others can be helped by what you have learned.

***Mathematics and the Arts: Practice, Pedagogy, and Discovery***, organized by **Douglas Norton**, Villanova University; Thursday morning. This session provides the opportunity to share and learn from experiences at the intersection of mathematics and any of the visual, performing, musical, architectural, literary, fiber, sculptural, or other arts. Those who explore aesthetic consequences of mathematics, incorporate mathematical motivations or structures in their practice of the arts, teach modules or entire courses on math and one or more arts, or carry out investigations at the interface of the arts and mathematics are invited to share their experiences. Sponsored by SIGMAA on Mathematics and the Arts.

***Mathematics Experiences in Business, Industry, and Government***, organized by **Carla D. Martin**, James Madison University; **Phil Gustafson**, Mesa State College; and **Michael Monticino**, University of North Texas; Saturday morning. The MAA Business, Industry and Government Special Interest Group (BIG SIGMAA) provides resources and a forum for mathematicians working in business, industry, and government (BIG) to help advance the mathematics profession by making connections, building partnerships, and sharing ideas. BIG SIGMAA consists of mathematicians in BIG as well as faculty and students in academia who are working on BIG problems.

Mathematicians, including those in academia, with BIG experience are invited to present papers or discuss projects involving the application of mathematics to BIG problems. The goal of this contributed paper session sponsored by BIG SIGMAA is to provide a venue for mathematicians with experience in business, industry, and government to share projects and mathematical ideas in this regard. Anyone interested in learning more about BIG practitioners, projects, and issues will find this session of interest. Sponsored by the SIGMAA on Business, Industry, and Government.

***Mathematics and Sports***, organized by **R. Drew Pasteur**, College of Wooster; Thursday afternoon. Applications of mathematics are plentiful in sports, relating to probability, statistics, linear algebra, calculus, and numerical analysis, among other areas. This contributed paper session will feature various uses of mathematics to study phenomena arising from multiple sports. The expanding availability of play-by-play data for professional and some collegiate sports is leading to innovative kinds

of analysis. This session will include both expository talks and presentations of original research; undergraduate students and their mentors are particularly encouraged to submit abstracts for consideration. With a broad audience in mind, all talks are requested to be accessible to undergraduate mathematics majors.

**Mentoring Graduate Students: Pathways to Success**, organized by **Jenna Price Carpenter**, Louisiana Tech University, and **Molly Fenn**, North Carolina State University; Friday afternoon. The goal of this contributed paper session is to share best practices, tips, resources, strategies, and answer questions about successfully mentoring graduate students. We will be looking for presenters who can share perspectives representing a variety of institution and degree sizes and types, as well as talks that focus on research-related issues and those that address larger professional development aspects of mentoring graduate students to become successful professionals. We hope to provide faculty with examples of multiple pathways that enable them to be great mentors. Sponsored by the MAA Professional Development Committee.

**Philosophy, Mathematics, and Progress**, organized by **Thomas Drucker**, University of Wisconsin Whitewater, and **Dan Sloughter**, Furman University; Friday afternoon. Mathematics as a discipline seems to make progress over time, while philosophy is often taken to task for not having made such progress over the millennia. When philosophy confronts issues related to mathematics, one natural topic is how mathematics succeeds in making progress while philosophy does not. One question to be addressed in this session is whether philosophy can help to explain the apparent progress displayed by mathematics. Another is whether the mismatch in progress between the disciplines is more apparent than real. As currents of mathematical change gather speed, perhaps a philosophical perspective is needed to make sure that contemporary practitioners do not lose their footing. Papers addressing issues of progress in mathematics and philosophical ways of understanding that progress will help to continue the conversation between mathematicians and philosophers. Sponsored by the SIGMAA on the Philosophy of Mathematics.

**Preparing Elementary School Mathematics Specialists**, organized by **Steve Morics**, University of Redlands, and **Klay T. Kruczek**, Southern Connecticut State University; Saturday afternoon. Over the last decade, there have been numerous calls for the use of mathematics specialists in elementary and middle schools. These specialists use their expertise to oversee the delivery of mathematics instruction in their schools by taking direct responsibility for classroom time and by mentoring their colleagues in their own mathematics instruction. Recently some institutions have begun degree or certificate programs to educate these mathematics specialists.

Papers will report on the preparation, placement, and support of mathematics specialists in the elementary grades. Papers may describe programs to prepare pre-service or in-service teachers to become mathematics specialists, or may describe efforts with school districts to create positions and support for these specialists. Reports on the successful installation and implementa-

tion of mathematics specialists are also welcome. Papers should include evidence of success or the potential for application to other institutions or districts. Sponsored by the MAA Committee on the Mathematical Education of Teachers (COMET).

**Projects, Demonstrations, and Activities That Engage Liberal Arts Mathematics Students**, organized by **Sarah L. Mabrouk**, Framingham State University; Thursday morning. Many colleges and universities offer liberal arts mathematics courses (lower-level courses other than statistics, college algebra, precalculus, and calculus) designed for students whose majors are in disciplines other than mathematics, science, social science, or business. Students taking such courses have a variety of backgrounds, strengths, and levels of interest/comfort with mathematics.

This session invites papers regarding projects, demonstrations, and activities that can be used to enhance the learning experience for students taking liberal arts mathematics courses. Papers should include information about the topic(s) related to the project/demonstration/activity, preliminary information that must be presented, and the goal(s)/outcome(s) for the project/demonstration/activity. Presenters discussing demonstrations and activities are encouraged to give the demonstration or perform the activity if time and equipment allow, and to discuss the appropriateness of the demonstration/activity for the learning environment and the class size. Presenters discussing projects are encouraged to address how the project was conducted, presented, evaluated, as well as grading issues, if any, and the rubric used to appraise the students' work. Each presenter is encouraged to discuss how the project/demonstration/activity fits into the course, the use of technology, if any, the students' reactions, and the effect of the project/demonstration/activity on the students' attitudes towards and understanding of mathematics.

**Research on the Teaching and Learning of Undergraduate Mathematics**, organized by **Kyeong Hah Roh**, Arizona State University; **Stacy Brown**, Pitzer College; and **Mike Oehrtman**, University of Northern Colorado; Thursday morning.

This session presents papers that address issues concerning the teaching and learning of undergraduate mathematics, including theoretical and empirical investigations that employ quantitative and qualitative methodologies.

Proposals for reports of Research on Undergraduate Mathematics Education are invited. The research should build on the existing research literature and use established methodologies to investigate important issues in undergraduate mathematics teaching and learning. The goals of the session are to share high-quality research on undergraduate mathematics education with the broader mathematics community. The session will feature research in a number of mathematical areas, including linear algebra, advanced calculus, abstract algebra, and mathematical proof. Sponsored by the SIGMAA on Research in Undergraduate Mathematics Education.

**The Scholarship of Teaching and Learning in Collegiate Mathematics**, organized by **Jacqueline Dewar**, Loyola Marymount University; **Thomas Banchoff**, Brown

University; **Curtis Bennett**, Loyola Marymount University; **Pam Crawford**, Jacksonville University; and **Edwin Herman**, University of Wisconsin–Stevens Point; Friday morning. The scholarship of teaching and learning is a growing field of inquiry in which faculty bring disciplinary knowledge to bear on questions of teaching and learning that arise from classroom practice and use student-generated evidence to support their conclusions. Work in this area includes examination of the efficacy of pedagogical techniques, assignments, or technology, as well as probes of student understanding.

The goals of this session are to: (1) feature scholarly work focused on the teaching of postsecondary mathematics, (2) provide a venue for teaching mathematicians to make public their scholarly investigations into teaching/learning, and (3) highlight evidence-based arguments for the value of teaching innovations or in support of new insights into student learning.

Appropriate for this session are preliminary or final reports of postsecondary classroom-based investigations of teaching methods, student learning difficulties, curricular assessment, or insights into student (mis)understandings. Abstract submissions should have a clearly stated question that was or is under investigation and should give some indication of the type of evidence that has been gathered and will be presented. For example, papers might reference the following types of evidence: student work, participation or retention data, pre/post tests, interviews, surveys, think-alouds, etc.

***Student Success in Quantitative Reasoning***, organized by **Ray Collings**, Georgia Perimeter College; Thursday afternoon. Quantitative reasoning at the freshman/sophomore level is freshly emerging in new courses. Reports of developmental, management, teaching/learning outcomes, and success in serving other disciplines with these courses are encouraged. Sponsored by the MAA Committee on Two-Year Colleges (CTYC), and the SIGMAA on Quantitative Literacy.

***Touch It, Feel It, Learn It: Tactile Learning Activities in the Undergraduate Mathematics Classroom***, organized by **Jessica M. Libertini**, University of Rhode Island, and **Julie Barnes**, Western Carolina University; Friday morning. This session invites presentations describing activities that use tactile teaching methods in any mathematics classes. Some examples of tactile methods could include props that students can touch to understand concepts better, projects where students create physical models that represent a concept, or in-class activities where students work together to create a hands-on demonstration of their understanding of a particular concept. This session seeks presentations that focus on engaging students through interaction with props, use of manipulative materials, or even inviting students to physically become a part of a function or concept; this does not include technology demonstrations such as computer visualizations. We seek innovative and creative ways for physically involving students in mathematics. Presentations detailing how to integrate a particular activity into class, student reactions, educational benefits, difficulties to avoid, and possible modifications of the activity are desired.

***Transition from High School to College: Alternative Pathways***, organized by **Gail Burrill**, Michigan State University; Saturday afternoon. Should all students be prepared to take a traditional sequence of calculus courses? If not, what alternatives provide a mathematically rich, useful, and relevant experience for students? The session will highlight different mathematical pathways by sharing concrete examples of courses that provide options for mathematical experiences closely tied to a variety of student interests and career aspirations.

The issue of what high school mathematics prepares which students for which courses at colleges/universities has been of concern in the past. Recent evidence indicates the transition from high school to postsecondary mathematics is becoming even more problematic. In addition, the Common Core State Standards describe the mathematical expectations for all high school graduates and identify additional topics as necessary for the preparation of students intending to take advanced mathematics. Consequently, high school graduates will enter college with different backgrounds. The MAA/NCTM Committee on Mutual Concerns and the MAA Committee on Articulation and Placement are seeking papers that address, from either the high school or introductory college/university perspective, this transition challenge, ranging from rethinking the calculus sequence to the role of statistics courses to mathematically challenging quantitative literacy requirements. In all cases, the goals, prerequisites, and intended trajectory should be made explicit. Sponsored by the MAA/NCTM Committee on Mutual Concerns and the MAA Committee on Articulation and Placement.

***Trends in Undergraduate Mathematical Biology Education***, organized by **Timothy D. Comar**, Benedictine University; Saturday morning. This session highlights successful implementations of biomathematics courses and content in the undergraduate curriculum, entire biomathematics curricula, efforts to recruit students into biomathematics courses, undergraduate research projects, preparation for graduate work in biomathematics and computational biology or for medical careers, and assessment of how these courses and activities impact the students.

Several recent reports emphasize that aspects of biological research are becoming more quantitative and that life science students, including pre-med students, should be introduced to a greater array of mathematical, statistical, and computational techniques and to the integration of mathematics and biological content at the undergraduate level. Mathematics majors also benefit from coursework at the intersection of mathematics and biology because there are interesting, approachable research problems, and mathematics students need to be trained to collaborate with scientists in other disciplines, particularly biology.

Topics may include scholarly work addressing the issues related to the design of effective biomathematics courses and curricula, how to gear content toward pre-med students, integration of biology into mathematics courses, collaborations between mathematicians and biologists that have led to new courses, course modules, or undergraduate research projects, effective use of

technology in biomathematics courses, and assessment issues. Sponsored by the SIGMAA on Mathematical and Computational Biology.

**Using Inquiry-Based Learning in Mathematics for Liberal Arts Courses**, organized by **Julian F. Fleron, Volker Ecke, Philip K. Hotchkiss**, and **Christine von Renesse**, Westfield State University; Friday morning. One of the biggest challenges in Mathematics for Liberal Arts (MLA) courses is engaging the students with the mathematics, since these courses are generally terminal courses that, usually are not connected to their major. Inquiry-Based Learning (IBL), a student-centered approach to teaching where the students are encouraged to learn mathematics without reliance on direct instruction from an authority, has shown to be a successful way to engage this audience.

In this session we are interested in seeing innovative ways of integrating IBL techniques into MLA courses. We are interested in presentations that model a successful activity that was used in an inquiry-based MLA course. In particular, presentations should illustrate the following: how the students were engaged in the mathematics; the specific questions/problems on which the students were working; how the class period was structured, and how the students responded to this type of instruction. Sponsored by PRIMUS: Problems, Resources, and Issues in Undergraduate Mathematics Studies. Papers from the session may be considered for a special issue of PRIMUS on Inquiry-Based Learning in Mathematics for Liberal Arts Courses.

**Using Mobile Communication Devices for Mathematics Education**, organized by **Lawrence Moore**, Duke University, and **Lila Roberts**, Clayton State University; Friday afternoon. The nature of communication has changed substantially in the last twenty years. In particular, the proliferation of mobile communication devices (cell phones, smart phones, tablets, laptops, etc.) has had a profound effect on the way people communicate. Many instructors view this proliferation as a challenge, for example, text messaging in class. This evolution of communication can also present new learning opportunities for our students. This session will give instructors who are using these communication systems in an innovative manner an opportunity to share their experiences using these new systems to enhance student learning and to report on their effectiveness.

Mobile communication devices can include cell phones, smart phone, tablets, networked calculators, or any other personal device having the ability to communicate wirelessly. The focus of the reports should be on how the use of these communication devices/tools improves student learning of mathematics inside or outside the classroom.

Depending on the number of papers submitted, all or some of the contributors will be asked to demonstrate their projects at an informal reception organized by the WEB SIGMAA. Sponsored by the Committee on Technologies in Mathematics Education (CTME) and the SIGMAA on Mathematics Instruction Using the Web.

**Writing the History of the MAA**, organized by **Victor J. Katz**, University of the District of Columbia; **Amy Shell-Gellasch**, Hood College; and **Janet Beery**, Redlands

University; Wednesday morning. The session Writing the History of the MAA at the 2012 JMM provided opportunities for members to discuss their progress in writing histories of their sections or other aspects of the MAA. But as the MAA centennial approaches, it is important to complete these histories for publication. Thus, we invite section historians or individuals who have been researching this history to present more fully developed findings. We welcome section officers who presented in 2012 as well as members of sections not represented then. Furthermore, we invite those who have been working on other topics related to the MAA's history to present, especially those who can deal with the history of any MAA-sponsored projects or the accomplishments of a particular committee. This session is sponsored by the History Subcommittee of the Centennial Committee and is a follow up to the contributed paper session of the same name at the 2012 JMM. Sponsored by the History Subcommittee of the MAA Centennial Planning Committee.

### General Contributed Paper Sessions

**General Contributed Paper Sessions**, organized by **Stephen Davis**, Davidson College; **Gizem Karaali**, Pomona College; and **Douglas Norton**, Villanova University; Wednesday, Thursday, Friday, and Saturday mornings and afternoons. This session accepts contributions in all areas of mathematics, curriculum, and pedagogy. When you submit your abstract you will be asked to classify it into one of the following areas: *Assessment and Outreach, Calculus, History and Philosophy of Mathematics, Interdisciplinary Topics, Mathematics Education, Mathematics and Technology, Modeling and Applications of Mathematics, Probability and Statistics, Research in Algebra and Topology, Research in Analysis, Research in Applied Mathematics, Research in Geometry and Linear Algebra, Research in Graph Theory and Combinatorics, Research in Number Theory, Teaching Introductory Mathematics, Teaching Mathematics beyond the Calculus Sequence, Assorted Other Topics* (does not fit into one of the stated topical general sessions).

### Submission Procedures for MAA Contributed Paper Abstracts

Abstracts must be submitted electronically at <http://jointmathematicsm meetings.org/meetings/abstracts/abstract.pl?type=jmm>. Simply fill in the number of authors, click "New Abstract", and then follow the step-by-step instructions. **The final deadline for abstracts is Tuesday, September 25, 2012; it is highly advised that you submit your abstract well before the final deadline.**

You may give at most two talks in the "topical" sessions. If your paper cannot be accommodated in the session in which it is submitted, it will automatically be considered for the general session. You may give at most one talk in the general session, and the general session is open only to those who are not already speaking in one of the topical contributed paper sessions. Each session room is equipped with a computer projector, an overhead projector, and a screen.

**N.B.** Laptops are not provided; speakers should bring their own, or contact your organizer.

The organizer(s) of your session will automatically receive a copy of the abstract, so it is not necessary for you to send it directly to the organizer. All accepted abstracts are published in a book that is available to registered participants at the meeting. Questions concerning the submission of abstracts should be addressed to [abs-coord@ams.org](mailto:abs-coord@ams.org).

## Oxford, Mississippi

*University of Mississippi*

**March 1–3, 2013**

*Friday – Sunday*

### Meeting #1087

Southeastern Section

Associate secretary: Robert J. Daverman

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: August 1, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Patricia Hersh**, North Carolina State University, *Title to be announced.*

**Daniel Krashen**, University of Georgia, *Title to be announced.*

**Washington Mio**, Florida State University, *Title to be announced.*

**Slawomir Solecki**, University of Illinois at Urbana-Champaign, *Title to be announced.*

### Special Sessions

*Algebraic Combinatorics* (Code: SS 1A), **Patricia Hersh**, North Carolina State University, and **Dennis Stanton**, University of Minnesota.

## Chestnut Hill, Massachusetts

*Boston College*

**April 6–7, 2013**

*Saturday – Sunday*

### Meeting #1088

Eastern Section

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: September 6, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Roman Berukavnikov**, Massachusetts Institute of Technology, *Title to be announced.*

**Marston Conder**, University of Auckland, *Title to be announced.*

**Alice Guionnet**, École Normale Supérieure de Lyon, *Title to be announced.*

**Yanir Rubinstein**, Stanford University, *Title to be announced.*

### Special Sessions

*Algebraic and Geometric Structures of 3-Manifolds* (Code: SS 3A), **Ian Biringer**, Yale University, and **Tao Li** and **Robert Meyerhoff**, Boston College.

*Complex Geometry and Microlocal Analysis* (Code: SS 2A), **Victor W. Guillemin** and **Richard B. Melrose**, Massachusetts Institute of Technology, and **Yanir A. Rubinstein**, Stanford University.

*Homological Invariants in Low-Dimensional Topology*. (Code: SS 1A), **John Baldwin** and **Joshua Greene**, Boston College.

# Boulder, Colorado

*University of Colorado Boulder*

**April 13–14, 2013**

*Saturday – Sunday*

## Meeting #1089

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: September 12, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: February 19, 2013

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

## Invited Addresses

**Gunnar Carlsson**, Stanford University, *Title to be announced.*

**Joseph A. De Loera**, University of California, Davis, *Title to be announced.*

**Brendan Hassett**, Rice University, *Title to be announced.*

**Raphael Rouquier**, University of California Los Angeles, *Title to be announced.*

## Special Sessions

*Associative Rings and Their Modules* (Code: SS 1A), **Greg Oman** and **Zak Mesyan**, University of Colorado, Colorado Springs.

*Dynamics and Arithmetic Geometry* (Code: SS 2A), **Su-ion Ih**, University of Colorado at Boulder, and **Thomas J. Tucker**, University of Rochester.

*Extremal Graph Theory* (Code: SS 3A), **Michael Ferrara**, University of Colorado Denver, **Stephen Hartke**, University of Nebraska-Lincoln, and **Michael Jacobson**, University of Colorado Denver.

*Themes in Applied Mathematics: From Data Analysis through Fluid Flows and Biology to Topology* (Code: SS 4A), **Hanna Makaruk**, Los Alamos National Laboratory, and **Robert Owczynek**, University of New Mexico and Enfitek, Inc.

# Ames, Iowa

*Iowa State University*

**April 27–28, 2013**

*Saturday – Sunday*

## Meeting #1090

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: April 2013

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: September 27, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

## Invited Addresses

**Kevin Costello**, Northwestern University, *Title to be announced.*

**Marianne Csornyei**, University of Chicago, *Title to be announced.*

**Vladimir Markovic**, California Institute of Technology, *Title to be announced.*

**Eitan Tadmor**, University of Maryland, *Title to be announced.*

## Special Sessions

*Algebraic and Geometric Combinatorics* (Code: SS 4A), **Sung Y. Song**, Iowa State University, and **Paul Terwilliger**, University of Wisconsin-Madison.

*Cluster Algebras and Related Combinatorics* (Code: SS 5A), **Gregg Musiker**, University of Minnesota, **Kyungyong Lee**, Wayne State University, and **Li Li**, Oakland University.

*Generalizations of Nonnegative Matrices and Their Sign Patterns* (Code: SS 3A), **Minerva Catral**, Xavier University, **Shaun Fallat**, University of Regina, and **Pauline van den Driessche**, University of Victoria.

*Operator Algebras and Topological Dynamics* (Code: SS 1A), **Benton L. Duncan**, North Dakota State University, and **Justin R. Peters**, Iowa State University.

*Zero Forcing, Maximum Nullity/Minimum Rank, and Colin de Verdiere Graph Parameters* (Code: SS 2A), **Leslie Hogben**, Iowa State University and American Institute of Mathematics, and **Bryan Shader**, University of Wyoming.

# Alba Iulia, Romania

June 27–30, 2013

Thursday – Sunday

## Meeting #1091

First Joint International Meeting of the AMS and the Romanian Mathematical Society, in partnership with the “Simion Stoilow” Institute of Mathematics of the Romanian Academy.

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: To be announced

Program first available on AMS website: Not applicable

Program issue of electronic *Notices*: Not applicable

Issue of *Abstracts*: Not applicable

## Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated.*

*For the latest information, see [www.ams.org/amsmtgs/internmtgs.html](http://www.ams.org/amsmtgs/internmtgs.html).*

## Invited Addresses

**Viorel Barbu**, Universitatea Cuza, *Title to be announced.*  
**Sergiu Klainerman**, Princeton University, *Title to be announced.*

**George Lusztig**, Massachusetts Institute of Technology, *Title to be announced.*

**Stefan Papadima**, Institute of Mathematics of the Romanian Academy of Sciences, *Title to be announced.*

**Dan Timotin**, Institute of Mathematics of the Romanian Academy of Sciences, *Title to be announced.*

**Srinivasa Varadhan**, New York University, *Title to be announced.*

# Louisville, Kentucky

University of Louisville

October 5–6, 2013

Saturday – Sunday

## Meeting #1092

Southeastern Section

Associate secretary: Robert J. Daverman

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: March 5, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated.*  
*For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

## Invited Addresses

**Michael Hill**, University of Virginia, *Title to be announced.*

**Suzanne Lenhart**, University of Tennessee, *Title to be announced.*

**Ralph McKenzie**, Vanderbilt University, *Title to be announced.*

**Victor Moll**, Tulane University, *Title to be announced.*

# Philadelphia, Pennsylvania

Temple University

October 12–13, 2013

Saturday – Sunday

## Meeting #1093

Eastern Section

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: March 12, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated.*  
*For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

## Invited Addresses

**Barry Mazur**, Harvard University, *Title to be announced* (Erdős Memorial Lecture).

# St. Louis, Missouri

Washington University

October 18–20, 2013

Friday – Sunday

## Meeting #1094

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: March 20, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated.*

*For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Ronny Hadani**, University of Texas at Austin, *Title to be announced.*

**Effie Kalfagianni**, Michigan State University, *Title to be announced.*

**Jon Kleinberg**, Cornell University, *Title to be announced.*

**Vladimir Sverak**, University of Minnesota, *Title to be announced.*

### Special Sessions

*Algebraic and Combinatorial Invariants of Knots* (Code: SS 1A), **Heather Dye**, McKendree University, **Allison Henrich**, Seattle University, and **Louis Kauffman**, University of Illinois.

## Riverside, California

*University of California Riverside*

**November 2–3, 2013**

*Saturday – Sunday*

### Meeting #1095

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: April 2, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: September 10, 2013

*The scientific information listed below may be dated.*

*For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Michael Christ**, University of California Berkeley, *Title to be announced.*

**Mark Gross**, University of California San Diego, *Title to be announced.*

**Matilde Marcolli**, California Institute of Technology, *Title to be announced.*

**Paul Vojta**, California Institute of Technology, *Title to be announced.*

## Baltimore, Maryland

*Baltimore Convention Center, Baltimore Hilton, and Marriott Inner Harbor*

**January 15–18, 2014**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 120th Annual Meeting of the AMS, 97th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Matthew Miller

Announcement issue of *Notices*: October 2013

Program first available on AMS website: November 1, 2013

Program issue of electronic *Notices*: January 2013

Issue of *Abstracts*: Volume 35, Issue 1

### Deadlines

For organizers: April 1, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Albuquerque, New Mexico

*University of New Mexico*

**April 5–6, 2014**

*Saturday – Sunday*

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: April 2014

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: September 5, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: February 11, 2014

# Lubbock, Texas

*Texas Tech University*

**April 11–13, 2014**

*Friday – Sunday*

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: September 18, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

# Tel Aviv, Israel

*Bar-Ilan University, Ramat-Gan and Tel-Aviv University, Ramat-Aviv*

**June 16–19, 2014**

*Monday – Thursday*

*The 2nd Joint International Meeting between the AMS and the Israel Mathematical Union.*

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/internmtgs.html](http://www.ams.org/amsmtgs/internmtgs.html).*

## AMS Special Sessions

*Nonlinear Analysis and Optimization*, **Boris Mordukhovich**, Wayne State University, and **Simeon Reich** and **Alexandre Zaslavski**, The Technion - Israel Institute of Technology.

# Eau Claire, Wisconsin

*University of Wisconsin-Eau Claire*

**September 20–21, 2014**

*Saturday – Sunday*

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: February 20, 2014

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: August 5, 2014

# San Francisco, California

*San Francisco State University*

**October 25–26, 2014**

*Saturday – Sunday*

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: October 2014

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: March 25, 2014

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: September 3, 2014

# San Antonio, Texas

*Henry B. Gonzalez Convention Center and Grand Hyatt San Antonio*

**January 10–13, 2015**

*Saturday – Tuesday*

*Joint Mathematics Meetings, including the 121st Annual Meeting of the AMS, 98th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: October 2014  
Program first available on AMS website: To be announced  
Program issue of electronic *Notices*: January 2015  
Issue of *Abstracts*: Volume 36, Issue 1

#### Deadlines

For organizers: April 1, 2014  
For consideration of contributed papers in Special Sessions: To be announced  
For abstracts: To be announced

## Porto, Portugal

*University of Porto*

**June 11–14, 2015**

*Thursday – Sunday*

Associate secretary: Georgia Benkart  
Announcement issue of *Notices*: To be announced  
Program first available on AMS website: To be announced  
Program issue of electronic *Notices*: To be announced  
Issue of *Abstracts*: Not applicable

#### Deadlines

For organizers: To be announced  
For consideration of contributed papers in Special Sessions: To be announced  
For abstracts: To be announced

## Seattle, Washington

*Washington State Convention Center and the Sheraton Seattle Hotel*

**January 6–9, 2016**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 122nd Annual Meeting of the AMS, 99th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Michel L. Lapidus  
Announcement issue of *Notices*: October 2015  
Program first available on AMS website: To be announced  
Program issue of electronic *Notices*: January 2016  
Issue of *Abstracts*: Volume 37, Issue 1

#### Deadlines

For organizers: April 1, 2015  
For consideration of contributed papers in Special Sessions: To be announced  
For abstracts: To be announced

## Atlanta, Georgia

*Hyatt Regency Atlanta and Marriott Atlanta Marquis*

**January 4–7, 2017**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 123rd Annual Meeting of the AMS, 100th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Georgia Benkart  
Announcement issue of *Notices*: October 2016  
Program first available on AMS website: To be announced  
Program issue of electronic *Notices*: January 2017  
Issue of *Abstracts*: Volume 38, Issue 1

#### Deadlines

For organizers: April 1, 2016  
For consideration of contributed papers in Special Sessions: To be announced  
For abstracts: To be announced

## San Diego, California

*San Diego Convention Center and San Diego Marriott Hotel and Marina*

**January 10–13, 2018**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 124th Annual Meeting of the AMS, 101st Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Matthew Miller  
Announcement issue of *Notices*: October 2017  
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