



## ***SIAM Unwrapped***

*News & announcements for the SIAM membership community*

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### **Special Issue Annual Meeting 2012**

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Dear SIAM Members,

As you may know, the [SIAM Annual Meeting](#) this year is being held jointly with the [SIAM Conference on Financial Mathematics and Engineering \(FM12\)](#) at the Hyatt Regency in Minneapolis, Minnesota, USA from July 9—13. This is a special issue of *Unwrapped* to give potential attendees details on the various sessions and activities to look forward to at the meeting, and reasons for why you should attend, if you haven't already made up your mind!

Pre-registration is open until June 8, as is hotel reservation. Please find registration information here:

<http://www.siam.org/meetings/an12/reginfo.php>

Hotel and other meeting-related information can be found through the right-hand navigation bar on the conference website. You can also find a highlight of events in the [AN12 poster](#).

We look forward to seeing you in Minneapolis!

Regards,  
Karthika Muthukumaraswamy  
Editor

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### **Participate in the SIAM Annual Business Meeting**

Don't forget to chime in with your thoughts at the SIAM Annual Business Meeting! The meeting will be held on Tuesday, July 10, at 6:15 p.m. at Nicollet ABC Level 1 at the Hyatt Regency Minneapolis. Voting members are urged to attend the business meeting, which is held each year, as required by SIAM's bylaws. SIAM officers will give an overview of programs and activities, including updates on publications, activity groups, student chapters, outreach activities, and the like. Members may participate in the discussion and raise questions or offer suggestions for future action. Light fare and beverages will be served. The SIAG/FME will also hold its business meeting on Tuesday, July 10, at 7:30 pm.

### **Stellar line-up of invited speakers**

An exemplary list of invited speakers will highlight the Annual Meeting. Simon Levin of Princeton University will talk about the challenges of sustainability in complex adaptive systems, Emily Shuckburgh of British Antarctic Survey will review applications of mathematics in understanding a dynamical system like the ocean, and Tony Chan of Hong Kong University of Science and Technology will discuss new research directions in image processing. Yousef Saad of University of Minnesota will shed light on linear algebra problems in the rapidly growing field of data mining, Rice University's Richard Tapia will outline the remarkable life of the isoperimetric problem, and Kristin Lauter of Microsoft Research will survey elliptic curve cryptography and its applications. Stanford's Gunnar Carlsson will give the American Mathematical Society (AMS) Invited Address in a talk emphasizing the importance of the shape of data. In the Institute for Mathematics and its Applications (IMA) Invited Address, MIT's Karen Willcox will discuss a multifidelity approach to modeling, which allows researchers to exploit all available numerical models that describe a system of interest.

The above is just a sampling of invited lectures at the meeting. For a full list of plenary sessions, please visit:

<http://www.siam.org/meetings/an12/invited.php>

## **Prize Lectures and Prizes & Awards Luncheon**

SIAM recognizes outstanding applied mathematicians and computational scientists through its extensive prize program each year. Many of this year's esteemed prize recipients will receive their awards at the Prizes and Awards Luncheon to be held at the Annual Meeting. The Luncheon, which is free with registration, will take place on Tuesday, July 10, from 12:30—2:30 p.m. in the Exhibit Hall on Level 1.

The associated prize lectures will cover a wide range of topics of interest— from liquid crystals to systemic risk and conservation laws. The following are the prize lectures on the agenda: the [AWM-SIAM Sonia Kovalevsky Lecture](#) by Barbara Keyfitz of The Ohio State University; [John von Neumann Lecture](#) by John Ball of the University of Oxford; and the [W. T. and Idalia Reid Prize in Mathematics Lecture](#) by Ruth Curtain of the University of Groningen in The Netherlands. The [I. E. Block Community Lecture](#) by Robert Bridson of The University of British Columbia, Canada, entitled, "Creating Reality: the Mathematics Behind Visual Effects" will take place on Wednesday evening and is free and open to the public. Also included is an address by SIAM Past President Doug Arnold of the University of Minnesota. Student winners of the SIAM Student Paper Prize and the SIAM Award in the Mathematical Contest in Modeling (MCM) from 2011 and 2012 will receive their awards at the Luncheon and present their winning papers in a special session.

You can find more information on the special lectures at the bottom of the page here:

<http://www.siam.org/meetings/an12/invited.php>

## **Panel on Big Data**

Today we encounter huge amounts of data in wide-ranging fields such as bioinformatics, geophysics, industrial processes, networks, neuroscience, high energy physics, scientific computation, computer vision, signal processing, and social sciences, to mention just a few. The challenges and opportunities presented by collecting and interpreting all of this information are leading to new analyses, theories, and simulation in various areas of mathematics. The "Panel on BIG Data in Applied Mathematics, Computational Science, and Statistics," will focus on the significant role played by these three areas in analyzing big data, and hence, for scientific and technological progress. The panel will be held Monday, July 9, from 6:15—7:15 p.m.

## **A tutorial on mathematically modeling interest rates**

The financial crisis of 2007 has had a great impact on fixed income markets. Market rates that used to track each other closely suddenly diverged, introducing significant "basis spreads," which cannot be neglected in models. A tutorial entitled 'Mathematical Modeling of Interest Rates: Challenges and New Directions' will review the new modeling issues that arise from such discrepancies resulting from the liquidity crisis. The tutorial will be held the day prior to the Annual Meeting (Sunday, July 8, 2012) from 1:00—4:30 p.m. Please see the link below for details:

[http://meetings.siam.org/sess/dsp\\_talk.cfm?p=52487](http://meetings.siam.org/sess/dsp_talk.cfm?p=52487)

Attendees can register for the tutorial when they register for the meeting. Information and rates are at: <http://www.siam.org/meetings/fm12/mini.php>

### **Enjoy posters with pie**

Anticipate a great collection of posters covering wide-ranging topics such as Bayesian networks, optimization techniques, dynamical systems methods, geographic statistical data, and biological applications of differential equations at the AN12 poster session, which will be held in the Exhibit Hall from 8:00—10:00 p.m. on Tuesday, July 10. Also on the menu: a fine array of desserts!

For a complete list of posters, visit:

[http://meetings.siam.org/sess/dsp\\_programsess.cfm?SESSIONCODE=15153](http://meetings.siam.org/sess/dsp_programsess.cfm?SESSIONCODE=15153)

### **What's new at Student Days in 2012?**

Look out for new student events at the Annual Meeting this year including a special orientation prior to Sunday's welcome reception, a student lounge located in the Exhibit Hall, an informal meeting for students to interact with invited speakers, and two [sessions on undergraduate research](#) in Applied and Computational Mathematics.

Also plan to attend the industry panel, career fair, and professional development evening, all of which are bound to present abundant opportunities to network with other students, academics and professionals. A special [Student Chapter minisymposium](#) organized by the SIAM Education Committee will provide a forum for interacting with SIAM Chapters worldwide. In addition, nab a free book at the giveaway to be held Thursday afternoon in the Exhibit Hall.

Find details on all Student Day events, including a schedule at the end of the page, here:

<http://www.siam.org/meetings/an12/studentday.php>

### **Career and networking events**

Among the many activities at the SIAM Annual Meeting designed to provide an opportunity for attendees to network with peers and professionals in the field is the SIAM Applied Mathematics and Computational Science Career Fair, Graduate Student Reception and Industry Reception. An informational and interactive event, the fair will offer a forum for employers to meet with prospective employees and discuss career opportunities and other professional development ideas. It is a great opportunity for jobseekers to meet government and industry representatives and discuss what they are looking for and find out what each employer has to offer. The Career Fair will be held on Monday, July 9, 2012 from 7:15 – 9:15 pm at the Greenway Promenade on Level 2 of the Hyatt Regency.

For more details, please visit:

<http://www.siam.org/meetings/an12/career.php>

Employers who would like to participate in the Career Fair can visit the above page for details. There is no fee for an organization's participation in the Career Fair! Those wishing to attend the technical program will need to register for the Annual Meeting.

### **Professional Development Evening**

The Professional Development Evening will be held Thursday, July 12, at 6:15 pm. The session will focus on professional development in the area of communication in the workplace. Several professionals from academia, government, and industry will share their work experiences and give advice on professional interactions, presenting talks, and interviewing for jobs in the mathematical sciences; a networking session will also be held.

### **COACH Workshops: professional development for women**

Two professional development workshops, *Strong Women in the Art of Strategic Persuasion*, will take place in advance of the Annual Meeting on Sunday, July 8, 2012. The workshops are free, and are designed to help women be more effective in leading and participating in discussions, meetings, and group negotiations. The morning half-day session (9:30 AM – 12:00 PM) will be targeted to senior women faculty and the afternoon session (1:30 PM – 4:00 PM) will be directed toward junior female faculty in their early years in academia. The workshops will combine self-presentation, leadership training, and faculty development in an interactive format. Priority registration is given to women but male participants are also invited.

For details, please visit:

<http://www.siam.org/meetings/an12/workshops.php#coach>

### **Nurturing productive collaborations in industry**

The industry panel, *Establishing and Nurturing Productive Collaborations*, will emphasize the significance of collaboration inside and outside companies as well as academic and non-academic partnerships for success in the mathematical sciences. Panelists will talk about the importance of developing and disseminating mathematical ideas through collaboration, and the role of such collaborations in finding success in the area of mathematics research. Adoption and deployment of such ideas is often dependent on the level of confidence non-experts have in those ideas. These concepts will be communicated with the help of examples from panelists' respective organizations including specific mathematical technologies that have led to their successes.

Find more details on the panel at the link below:

[http://meetings.siam.org/sess/dsp\\_programsess.cfm?SESSIONCODE=15311](http://meetings.siam.org/sess/dsp_programsess.cfm?SESSIONCODE=15311)

### **Visit the Exhibit Hall**

Exhibits from a wide variety of vendors, including publishers, mathematical science societies, government labs, and software and hardware suppliers are expected at the Annual Meeting. Be sure to

visit the Exhibit Hall, which will also host coffee breaks, making it a great venue to network and meet with other attendees. In addition to the SIAM booth, look for exhibits by Oxford University Press, CRC Press/Taylor & Francis, Cambridge University Press, Princeton University Press, AMS, and AAAS, to mention just a few.

If you would like to exhibit, please contact the SIAM marketing representative at [marketing@siam.org](mailto:marketing@siam.org). You can view the AN12 Exhibitor Kit at [http://www.siam.org/meetings/an12/an12\\_exhibitorkit.pdf](http://www.siam.org/meetings/an12/an12_exhibitorkit.pdf).

SIAM would also like to acknowledge IBM Research as a sponsor at the meeting. Sponsorship opportunities are still available! Please visit the following link for details: <http://www.siam.org/meetings/sponsor.php>.

### **Go mobile and social at AN12**

Free mobile phone apps for AN12 will be available prior to the meeting. The app will allow attendees to view the schedule, look up the list of speakers, attendees, and exhibitors, view maps and building layouts, sync events with their mobile calendar and create their own show by selecting specific sessions. Attendees can download the app by searching for SIAM, AN12 or FM12 in the App Store or Android Market. In addition, they can post and share content through social networks such as Facebook and Twitter. Be sure to tweet your thoughts, suggestions, photos, video, and well, complaints from the meeting. Please use hashtag #SIAMAN12 for the Annual Meeting and #SIAMFM12 for the Financial Mathematics Meeting.

### **What to do in Minneapolis?**

Finally, the Annual Meeting isn't the only reason to visit Minneapolis. The Hyatt Regency is perfectly situated in downtown Minneapolis, which offers a lot of activities for visitors. For the nature lover, Minneapolis is replete with lakes and parks, and is one of the most bike-friendly cities. For the scientifically-inclined (and we have reason to believe you might be!) there are a wide variety of [art and science museums](#) to explore. The Minneapolis Sculpture Garden, Minnehaha Falls, and Stone Arch Bridge are some of the city's must-sees.

For a full list of tourist attractions, go to:

[http://travel.yahoo.com/p-travelguide-2828408-minneapolis\\_things\\_to\\_do-i](http://travel.yahoo.com/p-travelguide-2828408-minneapolis_things_to_do-i)

For a list of dining options in downtown Minneapolis, visit:

<http://www.minneapolis.org/downtown-dining>

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If your email does not support the hyperlink features, please copy any of the above URLs and paste them into your Internet browser.

Questions/comments/suggestions? Send them to [karthika@siam.org](mailto:karthika@siam.org).

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SIAM Unwrapped is a free electronic newsletter distributed monthly to SIAM members. It provides links to industry news, membership information, meetings, publications, and other items of interest.

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