

## ***SIAM Unwrapped***

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**September 2011**

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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.*

Dear SIAM members,

You already know of and enjoy the benefits of a SIAM membership. Now you can introduce others to the perks of being a member and win rewards in the process.

Invite a colleague to join SIAM. The first 100 individuals to refer a colleague who becomes a member will get a free SIAM t-shirt, and both you and your colleague will be entered into a drawing to win prizes.

For more details on the contest, go to <http://www.siam.org/membership/mgam.php>.

Regards,

Karthika Muthukumaraswamy

Editor

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**::: SIAM HQ UPDATE :::**  
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#### **Be sure to vote in the SIAM General Elections!**

Online voting has begun for this year's Officer, Board, and Council elections. Those elected will govern SIAM's activities and make important decisions for the organization on your behalf. So please take a few minutes to read the [candidates' statements](#) and vote for those you would like to represent you. You can review the candidates' biographical information and statements regarding future directions for SIAM online at:

[http://www.siam.org/election/candidate\\_info.php](http://www.siam.org/election/candidate_info.php)

Additional information regarding the SIAM 2011 election is available on the SIAM website at:

[http://www.siam.org/election/election\\_info.php](http://www.siam.org/election/election_info.php)

Please direct any questions you may have to the SIAM Election Manager at [election@siam.org](mailto:election@siam.org).

#### **Nominate a SIAM Fellow!**

[Nominations](#) for the 2012 Class of SIAM Fellows are being accepted through November 7, 2011. Support our community by helping SIAM identify members who have made the most significant contributions to our field. Members can nominate up to two colleagues for distinguished work in the disciplines of applied mathematics and computational science. Up to 34 SIAM members will be selected for this honor in 2012. Nominations will be evaluated based on excellence in research, industrial work, educational activities, or activities related to the goals of SIAM. Fellows will be announced in March 2012.

For more information, please visit:

<http://www.siam.org/prizes/fellows/>

To make a nomination, go to:

<http://nominatefellows.siam.org/>

#### **Announcing the Mathematical Congress of the Americas**

A new congress in 2013 sponsored by mathematics societies in North and South America will highlight the excellence of mathematical achievements in the region. The [Mathematical Congress of the Americas 2013](#) is scheduled to take place August 5—9, 2013 in Guanajuato, Mexico. A [poster](#) announcing the meeting is available at the [congress website](#). We encourage interested institutions to post it in a prominent space in their departments, and make the information known to researchers and students. The poster and more information about the meeting can also be found on the SIAM Conference Calendar at the link below:

<http://www.siam.org/meetings/calendar.php?id=1065>

Please continue to check the site for updates.

### **First meeting for new SIAG on Uncertainty Quantification**

The first [SIAM Conference on Uncertainty Quantification \(UQ12\)](#) will take place April 2—4, 2012 at the Marriott City Center Hotel, Raleigh, North Carolina, USA. Be sure to submit minisymposia and contributed proposals before the November 8 deadline. Go to the submissions page for further details:

<http://www.siam.org/meetings/uq12/submissions.php>

This conference is being held in cooperation with the [American Statistical Association \(ASA\)](#), the [Statistical and Applied Mathematical Sciences Institute \(SAMSI\)](#), and the [United States Association for Computational Mechanics \(USACM\)](#).

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::: **STUDENT NEWS & NOTES** :::  
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### **SIAM Student Travel Awards available**

The SIAM Board of Trustees has allocated \$100,000 from SIAM operating funds to help support student travel to SIAM conferences. This money is intended to supplement the generous donations already provided by SIAM book authors, members, and grants from federal agencies (in particular, the National Science Foundation). The additional funds will more than double the number of awards given annually in past years to over 200. This will benefit students attending SIAM meetings and further motivate them to apply. In each of the past two years, the number of student attendees at SIAM conferences has topped 1,000.

Detailed information on travel awards can be found at the website of the specific conference you are interested in attending under the “Travel Support” section. Travel awards are normally limited to participants (speakers or poster presenters). For general information, go to:

<http://www.siam.org/meetings/tsupport.php>

### **Funding for SIAM Student Chapters**

SIAM offers funding up to \$500 per Student Chapter for projects taking place on their campuses during the 2011-2012 academic year. [Approved chapters](#) can download and fill out the ["Request for Funding" form](#), and submit by fax or e-mail to Membership Coordinator Nancy Snell at [snell@siam.org](mailto:snell@siam.org). Please include a description of the proposed project for which you seek funding including the projected budget, breakdown of activities involved, and any other sources of funding available. The deadline for requests is September 30, 2011.

Download funding request forms at the link below:

<http://www.siam.org/students/chapters/forms.php>

### **Get your research published in SIURO**

Are you a student who worked on an independent research project this summer or participated in a Research Experiences for Undergraduates (REU) program? If so, you may want to consider publishing your results in [SIAM Undergraduate Research Online \(SIURO\)](#). SIURO is a web-based, open access publication devoted to undergraduate research in applied and computational mathematics. Representing a wide range of topics that span discrete mathematics and dynamical systems to modeling and computation, SIURO publishes the most outstanding research presented by undergraduates in the field. To find out more, or to view previous issues, go to:

<http://www.siam.org/students/siuro/index.php>

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::: PRIZES AND AWARDS :::  
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### **Suggest a John von Neumann Lecturer**

[The John von Neumann Lecture](#) is one of SIAM's most prestigious prizes as well as an important lecture at the SIAM Annual Meeting. It is awarded for outstanding and distinguished contributions to the field of applied mathematical sciences and for the effective communication of these ideas to the community. Do you know someone who should be the 2012 John von Neumann Lecturer?

[http://www.siam.org/prizes/nominations/nom\\_neumann.php](http://www.siam.org/prizes/nominations/nom_neumann.php)

Suggestions for the 2012 lecture can be submitted up to October 15, 2011.

### **Seeking nominations for SIAG prizes**

The SIAGs on Supercomputing, Imaging Science, NWCS, Discrete Math, Linear Algebra, and FME will have prize winners speaking at their conferences in 2012. Your SIAG needs your nominations now to determine a strong field of qualified candidates from which next year's prize-winning conference speaker will be selected.

September 15 is the nomination deadline for the SIAG/SC Career, SIAG/SC Junior Scientist and SIAG/Imaging Science prizes.

Open calls for nominations to SIAM prizes can always be found on the Prize Nominations page:  
<http://www.siam.org/prizes/nominations.php>

Also check “Open Calls for Prize Nominations” in every issue of *Unwrapped*. For any questions on SIAM prizes, contact Joanna Littleton at [littleton@siam.org](mailto:littleton@siam.org).

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::: PUBLISHING NEWS AND NOTES :::  
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### **New SIAM Books**

#### ***Dynamics with Inequalities: Impacts and Hard Constraints***

*David E. Stewart – University of Iowa*

This is the only book that comprehensively addresses dynamics with inequalities. The author develops the theory and application of dynamical systems that incorporate some kind of hard inequality constraint, such as mechanical systems with impact; electrical circuits with diodes (as diodes permit current flow in only one direction); and social and economic systems that involve natural or imposed limits (such as traffic flow, which can never be negative, or inventory, which must be stored within a given facility).

Additional information: <http://www.ec-securehost.com/SIAM/OT123.html>

2011 / xiv + 389 / Softcover / ISBN 978-1-611970-70-8  
List Price \$99.00 / SIAM Member Price \$69.30 / **Order Code OT123**

#### ***Semismooth Newton Methods for Variational Inequalities and Constrained Optimization Problems in Function Spaces***

*Michael Ulbrich – Technische Universität München*

Semismooth Newton methods are a modern class of remarkably powerful and versatile algorithms for solving constrained optimization problems with partial differential equations (PDEs), variational inequalities, and related problems. This book provides a comprehensive presentation of these methods in function spaces, striking a balance between thoroughly developed theory and numerical applications.

Additional information: <http://www.ec-securehost.com/SIAM/MO11.html>

2011 / xiv + 308 / Softcover / ISBN 978-1-611970-68-5  
List Price \$99.00 / Member Price \$69.30 / **Order Code MO11**

#### ***Graph Algorithms in the Language of Linear Algebra***

*Jeremy Kepner – MIT Lincoln Laboratories*

*John Gilbert – University of California at Santa Barbara*

The current exponential growth in graph data has forced a shift to parallel computing for executing graph algorithms. Implementing parallel graph algorithms and achieving good parallel performance have proven difficult. This book addresses these challenges by exploiting the well-known duality between a canonical representation of graphs as abstract collections of vertices and edges and a sparse adjacency matrix representation. This linear algebraic approach is widely accessible to scientists and engineers who may not be formally trained in computer science. The benefits of this approach are reduced algorithmic complexity, ease of implementation, and improved performance.

Additional information: <http://www.ec-securehost.com/SIAM/SE22.html>

2011 / xxviii + 357 / Hardcover / ISBN 978-0-898719-90-1

List Price \$110.00 / SIAM Member Price \$77.00 / **Order Code SE22**

### ***Implicit Filtering***

*C. T. Kelley – North Carolina State University*

*Current Editor-In-Chief of SIAM Review*

This book is unique in that it is the only one available in the area of derivative-free or sampling methods and is accompanied by publicly available software. It is also designed as a software manual and as a reference for implicit filtering — one can approach the book as a consumer of the software, as a student, or as a researcher in sampling and derivative-free methods. The book includes a chapter on convergence theory that is accessible to students and provides an overview of recent results on optimization of noisy functions, including results that depend on non-smooth analysis and results on the handling of constraints.

Additional information: <http://www.ec-securehost.com/SIAM/SE23.html>

2011 / xiv + 172 pages / Softcover / ISBN 978-1-611971-89-7

List Price \$65.00 / SIAM Member Price \$45.50 / **Order Code SE23**

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**::: UPDATES ON CONFERENCES & PRIZES :::**  
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### **Upcoming meetings in Kyoto, Japan**

The day before the [ACM-SIAM Symposium on Discrete Algorithms \(SODA12\)](#) (January 17-19, 2012) kicks off in Kyoto, [Algorithm Engineering and Experiments \(ALENEX12\)](#) and [Analytic Algorithmics and Combinatorics \(ANALCO12\)](#), will both be held in the same location (January 16, 2012 at the Westin Miyako, Kyoto, Japan). Check out the links above for more details including submission information. The submission deadline is October 3, 2011.

## Conferences accepting registrations and submissions

[SIAM Conference on Geometric and Physical Modeling \(GD/SPM11\)](#), October 24-27, 2011, Orlando, Florida, USA

Only two weeks left to pre-register for the SIAM Conference on Geometric and Physical Modeling (GD/SPM11). [Register Now!](#) Pre-registration deadline is Monday, September 26, 2011.

<https://www.siam.org/meetings/gdspm11/regform.php>

[SIAM Conference on Parallel Processing for Scientific Computing \(PP12\)](#), February 15-17, 2012, Savannah, Georgia, USA

The poster submission deadline for PP12 has been extended to January 4, 2012. Visit the submissions page for details:

<http://www.siam.org/meetings/pp12/submissions.php>

[SIAM Conference on Imaging Science \(IS12\)](#), May 20-22, 2012, Philadelphia, Pennsylvania, USA

The deadline for minisymposium proposals is October 24, 2011. Abstracts for contributed and minisymposium speakers are due by November 21, 2011.

Go to the submissions page for more information:

<http://www.siam.org/meetings/is12/submissions.php>

## Open Calls for Prize Nominations

Nominations for SIAG prizes due September 15, 2011:

SIAG/SC Career Prize // SIAG/SC Junior Scientist Prize // SIAG/IS Prize

Nominations for major SIAM & SIAG prizes due October 15, 2011:

Richard C. DiPrima Prize // George Polya Prize // W. T. and Idalia Reid Prize // Lagrange Prize in Continuous Optimization // The John von Neumann Lecture  
Martin Kruskal Lecture (SIAG/NWCS) // Denes Konig Prize (SIAG/DM) // SIAG/LA Prize // SIAG/FME  
Junior Scientist Prize

Find the complete list of calls for nominations at:

<http://www.siam.org/prizes/nominations.php>

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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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