

## **SIAM Unwrapped - December 2013**

*News & announcements for the SIAM membership community*



Dear SIAM members,

It's that time of year again—when we thank you for your support of and affiliation with SIAM and remind you to [renew your membership](#) to continue to enjoy your member benefits. Free student members, please remember that you will need to renew your membership to continue to receive membership perks.

In 2014, there will be even more reasons to be part of the SIAM community. Just one among them is the brand new [SIAM Blogs](#), launched to enhance scientific discussion in the broader applied math and computational science community.

Read more about the blogs below.

Regards,

Karthika Muthukumaraswamy

Editor

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*This issue of SIAM Unwrapped brought to you with the support of:*

A promotional banner for CRC Press books. On the left, it says "Premier MATHEMATICS Books" in white and red text on a blue background. Below this, it says "Visit Booth 217 at the JMM 2014 Meeting for more special offers." and "www.CRCPRESS.com". In the center is the CRC logo and the text "Promo Code FZM02 CRC Press Taylor &amp; Francis Group". On the right, there are three book covers: "Real Analysis and Foundations THIRD EDITION", "Do I Count? Stories from Mathematics", and "Secret History The Story of Cryptology".

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#### **::: SIAM HQ UPDATE :::**

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#### **SIAM Blogs is now live!**

One of SIAM's many goals is to provide a space for discussion of cutting edge applied math and computational science research as well as carry on a conversation about various issues and topics of relevance to the mathematical sciences community, such as funding sources, science policy decisions, professional development resources, math and science education, and so forth. SIAM does all of this through its meetings, publications, workshops and events. But what if the same conversations could occur open-ended in a dedicated online space? It is that thought that led to [SIAM Blogs](#). The blogs will complement SIAM's [existing efforts](#) to reinforce the significance of applied math and related disciplines. By creating an exciting hub for news and development in the field, we wish to keep SIAM members, mathematical scientists, researchers and educators informed, as well as instruct and influence key decision makers, policy administrators, and the general public.

All of this will only be possible with your contributions—in the form of blog posts, comments and feedback, and content sharing to expand the scope of content. So head on over now!

[blogs.siam.org](http://blogs.siam.org)

Your thoughts and contributions are welcome at [blogs@siam.org](mailto:blogs@siam.org). Blog submissions will be reviewed prior to posting.

#### **Member get a member contest ending**

Only a few weeks remain for a chance to win a free year of SIAM membership, a conference registration of your choice, a free SIAM book, or an iPad. Encourage your colleagues or friends to [join SIAM](#) and get rewarded through our [Member Get a Member](#) campaign.

Here's how it works: When an individual (excluding students) joins by December 31 and enters your name as the 'referring member,' you and the new member will be entered for a chance to win one of the four above prizes. Refer someone to SIAM now! We look forward to seeing your network become part of the larger SIAM community.

If you have questions, please contact SIAM customer service at [membership@siam.org](mailto:membership@siam.org).

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**::: STUDENT NEWS & NOTES:::**  
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**SIAM student chapters grow**

SIAM's student chapters, numbering over a hundred worldwide, do [exciting things](#) in the name of mathematics—from organizing mathematical contests and math-themed movie nights to science and math festivals, and bake-offs involving cakes and “pis”. With such engaging activities, it's no surprise that they continue to inspire other universities and institutions to create their very own chapters. The list of SIAM chapters grew again this year, with 17 new chapters springing up in 2013 for a total of 121 in 18 countries worldwide.

View the complete list here:

<http://connect.siam.org/check-out-siams-newest-student-chapters/>

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

***Approximation and Modeling with B-Splines***

*Klaus Höllig and Jörg Hörner*

B-splines are fundamental to approximation and data fitting, geometric modeling, automated manufacturing, computer graphics, and numerical simulation. With an emphasis on key results and methods that are most widely used in practice, this textbook provides a unified introduction to the basic components of B-spline theory: approximation methods (mathematics), modeling techniques (engineering), and geometric algorithms (computer science).

A supplemental website will provide a collection of problems, some with solutions, slides for use in lectures, and programs with demos.

Additional information: <http://www.ec-securehost.com/SIAM/OT132.html>

2013 / xiv + 214 pages / Softcover / 978-1-611972-94-8

List Price \$85.00 / SIAM Member Price \$59.50 / Order Code OT132

***Numerically Solving Polynomial Systems with Bertini***

*Daniel J. Bates, Jonathan D. Hauenstein, Andrew J. Sommese, Charles W. Wampler*

This book is a guide to concepts and practice in numerical algebraic geometry — the solution of systems of polynomial equations by numerical methods. Through numerous examples, the authors show how to apply the well-received and widely used open-source Bertini software package to compute solutions, including a detailed manual on syntax and usage options. The authors also maintain a complementary web page where readers can find supplementary materials and Bertini input files.

Additional information: <http://www.ec-securehost.com/SIAM/SE25.html>

2013 / xx + 352 pages / Softcover / ISBN 978-1-611972-69-6

List Price \$95.00 / SIAM Member Price \$66.50 / Order Code SE25

***Integral Equation Methods in Inverse Scattering Theory***

*David Colton and Rainer Kress*

This classic book provides a rigorous treatment of the Riesz–Fredholm theory of compact operators in dual systems, followed by a derivation of the jump relations and mapping properties of scalar and vector potentials in spaces of continuous and Hölder continuous functions. These results are then used to study scattering problems for the Helmholtz and Maxwell equations.

Additional information: <http://www.ec-securehost.com/SIAM/CL72.html>

2013 / xvi + 271 pages / Softcover / 978-1-611973-15-0

List Price \$92.00 / SIAM Member Price \$64.40 / Order Code CL72

***Numerical Computing with Modern Fortran***

*Richard J. Hanson and Tim Hopkins*

The Fortran language standard has undergone significant upgrades in recent years (1990, 1995, 2003, and 2008). *Numerical Computing with Modern Fortran* illustrates many of these improvements through practical solutions to a number of scientific and engineering problems.

Additional information: <http://www.ec-securehost.com/SIAM/OT134.html>

2013 / viii + 247 pages / Softcover / 978-1-611973-11-2

List Price \$89.00 / SIAM Member Price \$62.30 / Order Code OT134

***Applied and Computational Measurable Dynamics***

*Erik M. Bollt and Naratip Santitissadeekorn*

This book connects many concepts in dynamical systems with mathematical tools from areas such as graph theory and ergodic theory. The authors introduce practical tools for applications related to measurable dynamical systems, coherent structures, and transport problems.

Additional information: <http://www.ec-securehost.com/SIAM/MM18.html>

2013 / xii + 361 pages / Softcover / 978-1-611972-63-4

List Price \$89.00 / SIAM Member Price \$62.30 / Order Code MM18

***Uncertainty Quantification: Theory, Implementation, and Applications***

*Ralph C. Smith*

The book begins with a detailed discussion of applications where uncertainty quantification is critical for both scientific understanding and policy. It then covers concepts from probability and statistics, parameter selection techniques, frequentist and Bayesian model calibration, propagation of uncertainties, quantification of model discrepancy, surrogate model construction, and local and global sensitivity analysis. The author maintains a complementary web page where readers can find data used in the exercises and other supplementary material.

Additional information: <http://www.ec-securehost.com/SIAM/CS12.html>

2013 / xviii + 384 pages / Hardcover / 978-1-611973-21-1

List Price \$74.00 / SIAM Member Price \$51.80 / Order Code CS12

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**::: UPDATES ON CONFERENCES & PRIZES :::**  
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**Call for nominations - Peter Henrici Prize**

SIAM and ETH Zurich jointly award the Peter Henrici Prize every four years at the International Congress on Industrial and Applied Mathematics (ICIAM). The 2015 Peter Henrici Prize will be awarded at ICIAM 2015, to be held August 10-14, 2015, in Beijing, P. R. China. The recipient is invited to present a lecture at the Congress and will receive a cash award of US \$5000.

The Henrici Prize is awarded for original contributions to applied analysis and numerical analysis and/or for exposition appropriate for applied mathematics and scientific computing. The award is intended to recognize broad and extended contributions to these subjects, more than a single outstanding work.

For instructions on how to make a nomination, please see the call for nominations at:

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

Nominations must be submitted by May 1, 2014. Inquiries should be addressed to J. M. Littleton at [Littleton@siam.org](mailto:Littleton@siam.org).

## **Go Green at SIAM Conferences!**

SIAM conferences give you the option of going green. When you register for most SIAM meetings you may opt out of receiving a printed conference program. An online program is available on the conference website, and in 2014, some of our conferences will offer a mobile app. Information about mobile app availability will be posted on the meeting website. We also post a PDF of the printed program and abstracts on the web. Check out the “Programs and Abstracts” page on the conference website before registering, and go green!

## **Funds available for student travel to SIAM meetings**

If you’re a graduate student attending a SIAM conference in 2014, you may be eligible for travel funds. The awards (unless otherwise noted in the award letter) come with free registration. Travel awards will be allocated on a competitive basis. SIAM anticipates that several hundred travel awards will be available in 2014, so don’t forget to apply! You can find eligibility criteria on the student travel awards page:

<http://www.siam.org/prizes/sponsored/travel.php>

For 2014, SIAM Student Travel Awards include \$650 for domestic and \$800 for international travel. Instructions on how to apply are on the awards application site: <http://awards.siam.org/>

If you do not find the conference you wish to attend listed on the student travel awards page, visit the [SIAM conference calendar](#) to navigate to the conference of your choice. Click on “Travel Support” from the navigation menu on the right and follow the directions listed.

## **Conferences accepting registrations and submissions**

Many of the conferences listed below are accepting applications for student travel awards and early-career travel awards. Please apply for these grants by going to the individual conference pages linked below, and click on “Travel Support” on the right sidebar.

[SIAM Conference on Parallel Processing for Scientific Computing \(PP14\)](#), February 18-21, 2014, Portland, Oregon, USA

Pre-registration deadline: Wednesday, January 22, 2014

<https://www.siam.org/meetings/pp14/regform.php>

[SIAM International Conference on Data Mining \(SDM14\)](#), April 24-26, 2014, Philadelphia, Pennsylvania, USA

Travel award application deadline: January 22, 2014

<http://www.siam.org/meetings/sdm14/tsupport.php>

[SIAM Conference on Imaging Science \(IS14\)](#), May 12-14, 2014, Hong Kong

Pre-registration deadline: February 17, 2014

<http://www.math.hkbu.edu.hk/SIAM-IS14/Registration.html>

**[SIAM Conference on Discrete Mathematics \(DM14\)](#)**, June 16-19, 2014, Minneapolis, Minnesota, USA

Deadline for submission of minisymposia proposals: January 8, 2014

Deadline for submission of abstracts for minisymposia and contributed speakers: February 11, 2014

<http://www.siam.org/meetings/dm14/submissions.php>

Travel award application deadline: February 7, 2014

**[2014 SIAM Annual Meeting \(AN14\)](#)**, July 7-11, 2014, Chicago, Illinois, USA

Deadline for submission of minisymposia proposals: January 6, 2014

Deadline for submission of abstracts for minisymposia and contributed speakers: January 27, 2014

<http://www.siam.org/meetings/an14/submissions.php>

Student travel award application deadline: January 20, 2014

**[SIAM Workshop on Combinatorial Scientific Computing \(CSC14\)](#)**, July 21-23, 2014, Lyon, France

Deadline for abstract submission: February 15, 2014

<http://perso.ens-lyon.fr/bora.ucar/CSC14/csc14.html>

Student and early-career travel award application deadline: March 21, 2014

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

**[SIAM Conference on the Life Sciences \(LS14\)](#)**, August 4-7, 2014, Charlotte, North Carolina, USA

Deadline for submission of minisymposia proposals: January 6, 2014

Deadline for submission of abstracts for minisymposia and contributed speakers: February 3, 2014

<http://www.siam.org/meetings/ls14/submissions.php>

Student and early-career travel award application deadline: January 20, 2014

**[SIAM Conference on Nonlinear Waves and Coherent Structures \(NW14\)](#)**, August 11-14, 2014, Cambridge, United Kingdom

Deadline for submission of minisymposia proposals: January 13, 2014

Deadline for submission of abstracts for minisymposia and contributed speakers: February 10, 2014

<http://www.siam.org/meetings/nw14/submissions.php>

Student and early-career travel award application deadline: January 27, 2014

### **[Open calls for prize nominations and submissions](#)**

SIAM Student Paper Prize deadline: February 15, 2014

Peter Henrici Prize deadline: May 1, 2014

SIAG/FME Junior Scientist Prize deadline: March 15, 2014

For the complete list of the call for nominations, please visit:

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

### **[AMCS conferences and events](#)**

**[Eighth Annual Meeting of the Bulgarian Section of SIAM](#)**, December 18-19, 2013, Sofia, Bulgaria

[Annual Meeting of the UK & Republic of Ireland SIAM Section](#) January 9, 2014, London, United Kingdom

[February Annual Conference of Australia and New Zealand Industrial and Applied Mathematics \(ANZIAM 2014\)](#), February 2-6, 2014, Rotorua, New Zealand

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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).

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.

Please note: If you would prefer not to receive this e-newsletter, reply to this email with the word "unsubscribe" in the subject line and you will be removed from the *SIAM Unwrapped* mailing list.