SIAM Unwrapped - November 2013

News & announcements for the SIAM membership community

Dear SIAM members,

As the end of the year approaches, we would like to remind you to <u>renew your membership</u> and stay with SIAM. Don't forget to spread the word about the benefits of SIAM to your friends and colleagues. Through our <u>Member Get a Member</u> campaign, you and the newly-referred member who joins SIAM could both win great prizes. Successful recruiters will also receive an $\in$-SIAM shirt. Those who join SIAM for 2014 now will get the rest of 2013 for free.

Thanks to all who sent in their nominations for the next class of SIAM Fellows. Nominations are now closed. Stay tuned for announcement of the new class on March 28, 2014.

Regards,

Karthika Muthukumaraswamy

Editor

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

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::: SIAM HQ UPDATE :::

Welcoming our new officers

Following SIAM's fall elections, we are pleased to announce our new officers:

President Elect: L. Pamela Cook – University of Delaware
Secretary: Simon Taverner *– Colorado State University
Vice President at Large: Daniel Szyld— Temple University

Board of Trustees
C. T. (Tim) Kelley*— North Carolina State University
Robert V. Kohn*— New York University -Courant
Randall J. LeVeque – University of Washington

Council Members
Liliana Borcea— University of Michigan
Angelika Bunse-Gerstner*— Universitaet Bremen
Oscar P. Bruno— California Institute of Technology
Felix Otto – Max Planck Institute for Mathematics in the Sciences

* indicates incumbent officers

SIAM wishes to thank the outstanding slate of candidates for their willingness to serve the SIAM community, as well as all voting members for their participation.

::: PUBLIC AWARENESS :::

A thousand dollars for your problem!

Will the U.S. government's stimulus act jumpstart the country's economy? Can ethanol as fuel lead to greater energy independence? How can the Census count be improved for fairer elections? What are

the most important criteria to be considered when implementing recycling methods for U.S. cities and establishing nationwide recycling standards?

These are some of the pressing questions that participants of Moody's Mega Math (M^3) Challenge, a high school applied math contest organized by SIAM, have answered in recent years. Working in teams of three to five, participants are required to solve an open-ended, applied math-modeling problem focused on a realistic issue in 14 hours. The nine-year old competition, which this year expanded to 45 U.S. states plus Washington D.C., is always looking for the next hot-button issue to challenge these bright young minds. Can you think of one? Please e-mail Michelle Montgomery at Montgomery@siam.org with your problem ideas. Honoraria of up to $1,000 are paid for problem statements.

Problems with a potential for significant mathematical modeling, sufficiently available Internet data, accessibility to 11th and 12th graders, and suitable for solution within 14 hours are sought. To view more information and detailed criteria, visit: http://m3challenge.siam.org/problem/submitProblems.php

Moody's Mega Math Challenge opens

As you get working on that problem, high school juniors and seniors across the U.S. are already preparing to solve it. Registration for the contest opened earlier this month and interested students are forming teams in anticipation of Challenge weekend in March. With the addition of the U.S. heartland this year more students than ever are eligible to compete for a share of $125,000 in scholarship prizes. Sponsored by The Moody's Foundation and organized by SIAM, the Challenge is Internet-based and free of registration and participation fees. The goal of the M^3 Challenge is to motivate our young generation toward careers in applied math, economics and finance by giving participants a chance to consider and analyze a relevant issue using mathematical modeling and analysis.

Find out more about the Challenge by visiting the contest website: http://m3challenge.siam.org/

Call for Proposals: Gene Golub SIAM Summer School 2015

SIAM is calling for letters of intent proposing topics and organizers for the 2015 Gene Golub SIAM Summer School (G2S3). Letters of intent in all areas of applied and computational mathematics will be considered. It is expected that the program will run two weeks and accept approximately 45 graduate students in 2015. SIAM will contribute up to $85,000 towards the running of the summer school.

Information about the G2S3 program, including the composition of the G2S3 committee can be found at www.siam.org/about/com_golub.php.

The deadline for letters of intent is January 31, 2014. For more details, visit: www.siam.org/students/g2s3/summer_call.php

Find information on the 2014 G2S3 to be held August 2014 in Linz, Austria, and view the archives for previous schools.

::: PUBLISHING NEWS AND NOTES :::

New 'Consent to Publish' form for authors

SIAM has updated and simplified its 'Consent to Publish' form. We anticipate that the new author agreement will be easier to understand and more clearly spells out author rights. You can review the new agreement here:
http://www.siam.org/journals/pdf/consent.pdf

New SIAM Books

Linear and Nonlinear Functional Analysis with Applications

Philippe G. Ciarlet

This single-volume textbook covers the fundamentals of linear and nonlinear functional analysis, illustrating most of the basic theorems with numerous applications to linear and nonlinear partial differential equations and to selected topics from numerical analysis and optimization theory.
The book has pedagogical appeal because it features self-contained and complete proofs of most of the theorems, some of which are not always easy to locate in the literature or are difficult to reconstitute. It also offers 401 problems and 52 figures, plus historical notes and many original references that provide an idea of the genesis of the important results, covering most of the core topics from functional analysis.

Additional information: http://www.ec-securehost.com/SIAM/OT130.html
2013 / xiv + 832 pages / Softcover / 978-1-611972-58-0
List Price $98.00 / SIAM Member Price $68.60 / Order Code OT130

Global optimization: Theory, Algorithms, and Applications

Marco Locatelli and Fabio Schoen

This volume contains a thorough overview of the rapidly growing field of global optimization, with chapters on key topics such as complexity, heuristic methods, derivation of lower bounds for minimization problems, and branch-and-bound methods and convergence. The final chapter offers both benchmark test problems and applications of global optimization, such as finding the conformation of a molecule or planning an optimal trajectory for interplanetary space travel. An appendix provides fundamental information on convex and concave functions.

Additional information: http://www.ec-securehost.com/SIAM/MO15.html

2013 / viii + 439 pages / Softcover / 978-1-611972-66-5 /
List Price $95.00 / MOS-SIAM Member Price 66.50 / MO15

Mathematics and Climate

Hans Kaper and Hans Engler

Mathematics and Climate is a timely textbook aimed at students and researchers in mathematics and statistics who are interested in current issues of climate science, as well as climate scientists who wish to become familiar with qualitative and quantitative methods of mathematics and statistics. The authors emphasize conceptual models that capture important aspects of the Earth's climate system and present the mathematical and statistical techniques that can be applied to their analysis. Topics from climate science include the Earth's energy balance, temperature distribution, ocean circulation patterns such as El Niño–Southern Oscillation, ice caps and glaciation periods, the carbon cycle, and the biological pump. Among the mathematical and statistical techniques presented in the text are dynamical systems and bifurcation theory, Fourier analysis, conservation laws, regression analysis, and extreme value theory.

Additional information: http://www.ec-securehost.com/SIAM/OT131.html
October 2013 / xx + 297 pages / Softcover / ISBN 978-1-611972-60-3
List Price $59.00 / SIAM Member Price $41.30 / **Order Code OT131**

::: UPDATES ON CONFERENCES & PRIZES :::

Funds available for student travel to SIAM conferences

Are you a graduate student planning to participate in a SIAM conference in 2014? Travel funds will be allocated on a competitive basis to provide partial support for student travel to SIAM meetings. For 2014, SIAM Student Travel Awards include $650 for domestic and $800 for international travel. The awards (unless otherwise noted in the award letter) come with free registration. SIAM expects to make several hundred awards in 2014, so be sure to apply if you qualify. Eligibility criteria are available on the student travel awards page:
http://www.siam.org/prizes/sponsored/travel.php

General information and instructions on how to apply are available on the travel awards application site:
http://awards.siam.org/

In some cases, additional grants to support student travel may be available. 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.

Algorithm Engineering and Experiments (ALENEX14), January 5, 2014
ACM-SIAM Symposium on Discrete Algorithms (SODA14) , January 5-7, 2014
Analytic Algorithmics and Combinatorics (ANALCO14), January 6, 2014
Portland, Oregon, USA
Pre-registration deadline: Monday, December 2, 2013
https://www.siam.org/meetings/da14/regform.php
Student travel award application deadline: November 15, 22013

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 Optimization (OP14), May 19-22, 2014, San Diego, California, USA
Deadline for submission of abstracts for minisymposia and contributed speakers: November 18, 2013
http://www.siam.org/meetings/op14/submissions.php

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

For the following prizes, nominations are due November 15, 2013

Julian Cole Lectureship

Theodore von Kármán Prize

Richard C. DiPrima Prize

George Pólya Prize

W.T. and Idalia Reid Prize

Other prizes approaching nomination deadlines:

Martin Kruskal Lecture deadline: November 30, 2013

SIAM Student Paper Prize deadline: February 15, 2014

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

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

AMCS conferences and events

[GFMI 3rd Edition Model Risk Conference](), January 27-29, 2014, San Francisco, California

[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

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