

SIAM Unwrapped

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SIAM Unwrapped is a free electronic newsletter distributed quarterly for members that provides links to industry news, information on membership, meetings, publications, and other activities of interest.

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::: SIAM HQ UPDATE :::

***SIAM visits with librarians at SLA (Special Libraries Association) Annual Meeting** - SIAM reached out to librarians at the SLA Annual Meeting in Denver, June 3 through 6. Members of the SIAM team in attendance were David Marshall, Publisher; Michelle Montgomery, Director of Marketing; and Dan Cleary, Marketing Communications Associate. Pictures from SIAM's booth at the exhibit hall and from a SIAM-sponsored breakfast for librarians in the Physics, Astronomy and Mathematics (PAM) Division can be viewed at <http://picasaweb.google.com/dkm2116/SLASSP?authkey=iK1twUzxPZw>

***Awards presented at SIAM Conference on Applications of Dynamical Systems** - Congratulations to the following recipients:

- SIAM Activity Group on Dynamical Systems J.D. Crawford Prize to Andrew Stuart - http://www.eurekalert.org/pub_releases/2007-06/sfia-sag_1060707.php
- SIAM Activity Group on Dynamical Systems Jürgen Moser Lecture Prize to Harry L. Swinney - http://www.eurekalert.org/pub_releases/2007-06/sfia-sag060707.php
- Ralph E. Kleinman Prize to Salvatore Torquato - http://www.eurekalert.org/pub_releases/2007-06/sfia-sat060707.php
- AWM-SIAM Sonia Kovalevsky Lecture to Lai-sang Young - http://www.awm-math.org/PR/PR_young_kovalevsky2007.final.pdf

***Awards were also presented at SIAM Conference on Control and Its Applications** - Congratulations to the following recipients:

- W.T. and Idalia Reid Prize to Héctor J. Sussmann - http://www.eurekalert.org/pub_releases/2007-05/sfia-dhj052907.php
- SIAM Activity Group on Control and Systems Theory Prize to Murat Arcak - http://www.eurekalert.org/pub_releases/2007-07/sfia-mar070607.php

***2nd Annual Moody's Mega Math "M3" Challenge awards \$65,000 in scholarship prizes** - Close to 700 high school students in the NYC Metro area participated in the 2007 M3 Challenge. This year's problem, titled "Beat the Street!" required participants to build and test a model for selecting investments. Check out webcasts, photos, and press releases in the M3 Challenge Media Center: http://m3challenge.siam.org/media_center.php

::: MEMBERS IN THE NEWS :::

***Graeme Milton to be awarded the 2007 Prager Medal** - Graeme Milton, will be awarded the 2007 Prager medal by the Society of Engineering Science for his work on solid mechanics. The William Prager Medal is awarded for outstanding research contributions in either theoretical or experimental solid mechanics or both. The medal will be handed out at the 44th Annual Technical Meeting of the Society of Engineering Science (SES2007) to be held October 21-24, 2007 in College Station, Texas. Graeme Milton was the winner of SIAM's 2003 Kleinman Prize.

***Recipients named for SIAM Student Chapter Certificates of Recognition** - To recognize students for outstanding service and contributions to SIAM student chapters, the SIAM Education Committee created the SIAM Student Chapter Certificate of Recognition. The certificates were awarded for the first time this year to students who made exceptional contributions to their SIAM student chapters. Read more here: <http://www.siam.org/students/news.php?id=1116>

***Rice University ranked number one among Texas research universities by independent study** - In a study by Chester, PA based Academic Analytics released on June 13, 2007, Rice University ranked first among Texas research institutions. In second place was The University of Texas at Austin, followed by Texas A&M University; The University of Houston-University Park; UT San Antonio; UT Dallas; Texas Tech University; UT Arlington; The University of North Texas; and Baylor University. All of the universities listed here are current SIAM academic members. Read more here: <http://milwaukee.bizjournals.com/houston/stories/2007/06/11/daily31.html>

::: OBITUARY :::

***Esteemed colleague and mathematician John Todd died Thursday, June 21 at his home in Pasadena, California at the age of 96.**

Todd was a pioneer in numerical analysis where his contributions greatly impacted analysis, linear algebra and computation. Through his work, he helped shape the foundation of today's computer science field. An emeritus professor at Caltech, he taught and developed the first undergraduate numerical algebra and numerical analysis classes, fields that continue to play an important role in scientific computing.

Todd served in the British Admiralty during World War II where he developed methods of degaussing, or demagnetizing ships to prevent their demolition by enemy torpedoes. Near the end of the war, he also prevented Moroccan troops from destroying the Mathematical Research Institute at Oberwolfach in Germany, where a group of mathematicians were doing work for the Germans and had been protected by the University of Freiburg. Todd later recalled that saving the institute, its work, and the mathematicians, was "probably the best thing I ever did for mathematics."

It is our distinct honor to mention Todd's commitment to SIAM. Todd joined the society in 1955, became a retired member in 1985, and in total was a member of SIAM for 52 years.

For more information on Todd's work and life please read an interview with him from The History of Numerical Analysis and Scientific Computing, a project of SIAM, at <http://history.siam.org/todd.htm>, or his featured obituary from the Los Angeles Times at <http://www.latimes.com/news/science/la-me-todd27jun27.1.4205816.story?track=rss>

::: APPLIED MATH IN THE NEWS :::

***Canadian government funds mathematicians modeling spread of diseases** - A Burnaby-based team of mathematicians is hoping that \$1.1 million in new funding from Ottawa will help it develop mathematical models that will do everything from helping to contain a flu pandemic to combating terrorists. MITACS research network at Simon Fraser University is directed by SIAM member Arvind Gupta. Researchers have already built several computer models for diseases such as flu, AIDS and severe acute respiratory syndrome (SARS). Read more here: <http://www.canada.com/vancouversun/story.html?id=2885e27a-f4db-4ab7-96fb-e41d11f3736e&k=35191>

***Report available on DOE-sponsored workshop on Mathematical Research Challenges in Optimization of Complex Systems** - In December 2006, the Department of Energy's Office of Science sponsored a workshop to investigate the need for research in several areas related to complex systems of interest to DOE. Those systems included (among others) applications like power grid control and optimization and risk assessment for cyber security. The invited participants attempted to define research challenges and opportunities in mathematics and computational science related to these complex systems.

One interesting feature of these systems is that they are not primarily physics-centered, and often involved components modeled as discrete systems.

The workshop identified six areas for further research:

1. Modeling of heterogeneous, coupled systems with nonlinear interactions;
2. Optimization of large nonlinear systems;
3. Methods for analyzing sensitivity and assessing uncertainty in highly nonlinear systems;
4. Statistical approaches for validating and improving mathematical models;
5. Techniques for integrating models with data to support decision-making and adaptive control;
6. Analysis of how risk should be incorporated into complex systems models.

The workshop was chaired by Margaret Wright and Bruce Hendrickson.

Details may be found at

<http://www.courant.nyu.edu/ComplexSystems/literature/ComplexSystemsReport.pdf>

***Freescale Rolls Out World's First 'Intelligent Basketball'** - Engineering students from Indiana University, a SIAM academic member, originally brought this project to Freescale to obtain electrical components. It then evolved into a joint venture with engineers, engineering students and a sports equipment manufacturer all coming together to create the world's first "intelligent basketball." The author references the SIAM published article, "Modeling Basketball Free Throws," Andrew SID Lang and Joerg M Gablonsky, SIREV V47 pp. 775-798. Read more here:

<http://www.designnews.com/article/CA6456691.html>

***NSF announces new undergraduate research opportunities** - Research Experiences for Undergraduates (REU) is a foundation-wide program that supports active research participation by undergraduate students. NSF funds research in most fields of science and engineering and REU proposals are welcome in these research areas, including the priority areas and cross-cutting areas that NSF has identified for its programs. Read more here: <http://www.siam.org/about/news-siam.php?id=1124>

::: PUBLICATIONS NEWS & NOTES :::

***Scitopia.org beta site is up and running** - The federated vertical search portal scitopia.org was created through the imagination and collaboration of 15 leading science and technology societies. Scitopia.org searches the entire electronic libraries of the leading voices in major science and technology disciplines and provides relevant results, without the noise of other Internet search engines. More than three million documents, including peer-reviewed journal content and technical conference papers, spanning 150 years of science and technology can be searched through the site. Read more here:

<http://www.scitopia.org/scitopia/>

***The SIAM Journal on Imaging Sciences (SIIMS) to be published in 2008-** SIIMS covers all areas of imaging sciences, broadly interpreted. The first issue of this electronic-only journal will be published in 2008. Electronic access to 2008 issues will be free at <http://epubs.siam.org/> For more information please register for a "TOC Alert" through the link at <http://siamdl.aip.org/journals/doc/SIAMDL-home/alerts/>

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