

# The Math–Science Connector

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## Sheraton Birmingham Hotel

2101 Richard Arrington Jr. Blvd.

Birmingham, AL 35203

## 111<sup>th</sup> Annual Convention “E-Merging Math & Science”

Birmingham, AL

Nov. 8 - 10, 2012

Click the link below for reservations:

[Sheraton SSMA Convention Rate](#)

or call (205) 324 – 5000

Make your reservations by  
Oct. 15th for the discounted rates  
in the room block

(\$129 single/double \$139 triple/quad).

➤ Look for an email with Convention registration information in mid-July or check the website:

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

## Convention Travel Information

Birmingham-Shuttlesworth Airport (BHM) – BHM is Alabama’s largest airport. Offering 130 daily flights to 51 airports in 48 cities throughout the United States, Birmingham-Shuttlesworth International Airport (BHM) presently ranks in the country's top 75 airports in terms of passengers served annually.

The Hotel offers free Airport shuttle service on the hour and half-hour. Shuttle pick up is on the second level of the airport.



## Convention Preview

The theme for the 2011 annual SSMA Convention is *E-Merging Math and Science*. The Convention starts with 8:00 A.M. sessions Thursday morning and concludes Saturday afternoon.

In addition to regular sessions, the 2012 convention will offer special sessions related to current/emerging, integration of math/science, and E representing the technology (email, etail, etrade, etc.) issues and initiatives.

The Thursday evening Reception & Awards Ceremony will be held in the Rotunda of the Birmingham Civil Rights Institute. Transportation and heavy Hors d'oeuvres provided; Cash bar available.

Keynote Speakers:

Dr. Constance Kamii will give a presentation on *Teaching Math with Awareness of Children's Logico-Mathematical Knowledge* at the Thursday morning opening session

Dr. Lawrence DeLucas (Larry) will present on *Space Flight and Research on the International Space Station* at Friday's lunch

**Convention Social Activities:** The following two social activities will require advance registration and payment to ensure accurate counts for planning purposes.

**Friday Evening – 5:30 to 9:30 PM - *McWane Science Center***

Cost will cover all expenses, including transportation, ticket for McWane Science Center, dinner, cash bar. **(Cost is \$43.00 per person including transportation)**

**Saturday Afternoon - *Tour of Birmingham***

Cost will cover guided tour to the Birmingham Civil Rights District which includes stops at the Civil Rights Museum, the 16th Street Baptist Church, Jazz Museum and Railroad Park. Bus will pick up at Sheraton in the afternoon. **(Final cost pending - estimate at \$45.00 per person; will be available with convention registration)**

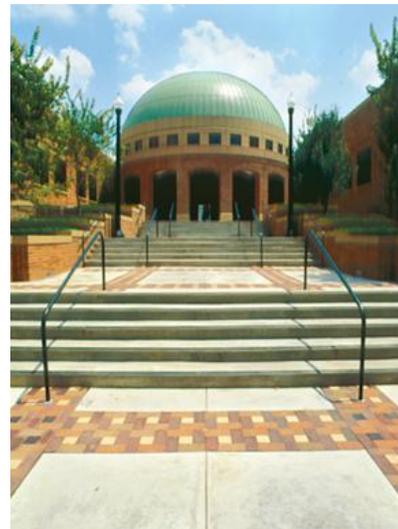
**Planning your trip to Birmingham** – Bring the family or spend an extra couple of days visiting the many interesting and educational attractions in the area.



Venue	Address	Phone Number	Website	Prices
16 <sup>th</sup> Street Baptist Church	1530 6 <sup>th</sup> Avenue North	205.251.9402	<a href="http://www.16thstreetbaptist.org/">http://www.16thstreetbaptist.org/</a>	FREE
Alabama Math, Science, & Technology Initiative	508 8 <sup>th</sup> Street South	205.996.6998	<a href="http://www.amsti.org/">http://www.amsti.org/</a>	FREE
Alabama School of Fine Arts	*easy walking distance from hotel	205.252.9241	<a href="http://www.asfa.k12.al.us/">http://www.asfa.k12.al.us/</a>	FREE
Alabama Sports Hall of Fame And Museum	*adjacent to hotel	205.323.6665	<a href="http://ashof.org/">http://ashof.org/</a>	Admission
Alys Robinson Stephens Performing	1200 10 <sup>th</sup> Ave South	1-877-278-8457	<a href="http://alysstephens.uab.edu/">http://alysstephens.uab.edu/</a>	Admission varies with event

Arts Center				
Birmingham Civil Rights Institute	520 16th Street North * walkable	205.328.9696	<a href="http://www.bcri.org/index.html">http://www.bcri.org/index.html</a>	Admission
Birmingham Jefferson Convention Complex	*adjacent to hotel	205.458.8400	<a href="http://www.bjcc.org/">http://www.bjcc.org/</a>	Events vary; check website to see current schedule
Birmingham Zoo	2630 Cahaba Rd, Mountain Brook, AL	205.879.0409	<a href="http://www.birminghamzoo.com/">http://www.birminghamzoo.com/</a>	Admission
Botanical Gardens	2612 Lane Park Rd, Mountain Brook, AL	205.414.3900	<a href="http://www.bbgardens.org/index2.php">http://www.bbgardens.org/index2.php</a>	FREE
McWane Science Center	200 19 <sup>th</sup> Street North	205.714.8300	<a href="http://www.mcwane.org/">http://www.mcwane.org/</a>	Admission
Vulcan	1701 Valley View Drive	205.933.1409	<a href="http://www.visitvulcan.com/">http://www.visitvulcan.com/</a>	Admission

We look forward to seeing everyone in bustling Birmingham!



City of Birmingham <http://www.informationbirmingham.com/>

Greater Birmingham Convention & Visitors Bureau <http://birminghamal.org/>

The Best Things to Do in Birmingham

<http://www.10best.com/destinations/alabama/birmingham/>

## \$\$ SSMA Endowment Campaign \$\$

*The School Science and Mathematics Association Endowment Fund channels the generosity of contributors through the creation and funding of grants, awards, honors, and other projects that support the improvement of science and mathematics teaching and learning.*

The SSMA Board is initiating an SSMA Endowment Campaign. We are \$13,000 from reaching a goal that will allow the use of generated interest to meet the mission of the Endowment indicated above. The Campaign includes several steps, with perhaps the most interesting being the first SSMA Endowment Silent Auction at the Convention.

The Silent Auction will take place Friday near the Convention Registration area. Bids will be taken throughout the morning. Winning bids will be collected via cash or check only.

Board members have secured donations of articles for the auction such as: items from Birmingham businesses, weekends at the Menger Hotel (not valid during the 2013 convention), bottles of wine, Cow Hill Express frozen cappuccino syrup, Lego Mindstorm Robotics Kit, books from esteemed SSMA authors, Huckleberry Jam, ....



SSMA is now on Facebook! See:

<http://www.facebook.com/home.php#!/pages/School-Science-and-Mathematics-Association/110197605734717>

## SSMA President's Column: Don Balka

### Algebra for All and Our Journal

As President of SSMA, I was once again invited to speak as part of the Presidential Series for NCTM at its April 2012 convention in Philadelphia. The topic I chose was Algebra for All: 1901 – 2012. The presentation was a historical review of over 100 years of algebra articles in our School Science and Mathematics Journal. The 400+ articles cover a broad range of topics such as algebra content, curricula, pedagogy, history, reform efforts, and the impact of algebra during World War I and World War II. In doing such an extensive review, I was struck by the richness of the journal in mathematics, science, and their integration over our long existence.

Considering the early years as an organization, it is not surprising that most of our authors were predominantly classroom teachers from the Midwest who wrote expository articles. However, many of our authors have been world-renowned scientists or mathematicians. For example, Dr. Harold Urey was a physical chemist that grew up ten miles from my house. He won the Nobel Prize for Chemistry in 1934. In 1958, Dr. Urey wrote an article for SSMJ entitled ***Some Observations on Education Problems in the United States in Particular Reference to Mathematics and Science***. Two sentences in his introduction stand out: *I wish to say that the immediate answer to the question of what is wrong is, "Nothing." Some fumbling in Washington which should not be underestimated has occurred, but most probably we are ahead of our competitors at the present time in scientific work and technical development.* Dr. Urey offered some suggestions for improving our education system, some of which are still viable in 2012:

- We should keep the schools open for ten months per year, 5.5 days a week, and the school day should be six hours and homework should be regularly required.
- Children should be segregated on the basis of capacity and properly trained teachers should be given to all groups.
- Increased financial support is required for our schools.
- We need more and better teachers.

In mathematics, particularly algebra and its history along with number theory, several well-known names appear. R.O. Carmichael was a number theorist, who had a particular set of numbers named after him when he discovered them in 1910. His work led to findings in cryptography and the RSA encryption algorithm. Our journal contains several articles on the history of algebra, some of which were authored by noted mathematical historians Louis Karpinski, Florian Cajori, and David Eugene Smith, often credited as being the founder of the field of mathematics education. These articles provide a great deal of useful information for mathematics and science educators.

- Early algebra "proofs" were geometric in nature.
- Negative numbers or complex numbers as roots of polynomials were ignored.
- The Pythagorean Theorem was used long before Pythagoras.

*Functional Thinking as an Objective of Mathematical Education* was the title of an article by J. S. Georges in 1929. I note this particular “algebra” article because of its focus on science and the scientific method, and a more current relationship to the NCTM document, *Focus in High School Mathematics: Reasoning and Sense Making*. Georges states, “The genuine values of mathematical education lie in establishing correct habits of functional thinking in terms of these concepts, processes, and principles of representation and interpretation of the quantitative aspects of the world.”

As a member of SSMA, you have free access to the historical treasures of our organization. Through the publisher of our journal, Wiley-Blackwell, you can retrieve information dating back to our founding in 1901. I would encourage you to do so. Although my focus has been on algebra, I was also very much interested in reform efforts for mathematics and science through the years. Not surprisingly, many of those efforts are exactly the same as we hear and read today.

## Welcome Incoming Board Members

The SSMA Board welcomes our new members who take their place on the board at the fall Convention



**Margaret Mohr-Schroeder**  
*Assistant Professor*  
*Department of STEM Education*  
*University of Kentucky*  
*Lexington, KY*



**Stacy Reeder**  
*Associate Professor*  
*University of Oklahoma*  
*Norman, OK*

### **Report of the 2012 Spring SSMA Board of Directors Meeting: Don Balka**

The Board of Directors met May 20 – 22 at the Sheraton Hotel in Birmingham, Alabama, the location of our 2012 Annual Convention on November 8 - 10.

SSMA Director and Convention Chair Melanie Shores and her committee have put together an exciting program for our members. There will be a presidential reception for doctoral students and the Board on Friday evening, November 9. Details will be provided at a later date.

Our membership is now 515. The organization remains financially stable, mainly due to the extensive use of School Science and Mathematics through our relationship with Wiley-Blackwell, the publisher of our journal.

The Board is making a concerted effort to increase the SSMA Endowment Fund. Publicity and personal contacts will be forthcoming. A silent auction will be held in Birmingham, with proceeds going to the Fund. Interest from the Fund will be used for various SSMA grants and awards, something we have not been able to do in recent years.

SSMA has responded favorably to the President's Council of Advisors on Science and Technology (PCAST) in regard to the recommendations made to the President.

Don S. Balka  
SSMA President



## School Science and Mathematics Journal Information

### Journal Leadership

Over the past year, the new leadership of the School Science and Mathematics Journal has worked to reduce the backlog of high-quality articles that have been accepted to the journal. The Editorial Team, Dr. Carla C. Johnson and Dr. Shelly Harkness from the University of Cincinnati have reduced the backlog now from 18 months to 12 months of manuscripts with additional expanded pages in the 2012 issues.

The Editors would like to thank the many great reviewers who devote their time to reviewing articles and providing constructive feedback to authors to help improve their papers and get them ready for publication.

There will be three special sessions at the upcoming conference that will be hosted by the Editorial Team. One session will be exclusively for SSMA members who are interested in publishing in the journal. The second session will focus on how to become a reviewer for the SSM journal. The third session is an open-format opportunity to meet members of the Editorial Team and ask questions about the journal.

Additional reminders from the Editors that authors need to be aware of include the maximum of 25 pages for manuscripts and the requirement that all submissions must be in APA 6<sup>th</sup> edition format. Any manuscripts submitted that exceed the page limitation or are not in APA 6<sup>th</sup> edition format will be returned without review. Additionally, the lead author must be a member of SSMA.

### Manuscript Submission

The new website for the journal is hosted directly on the Wiley-Blackwell website at: <http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291949-8594>

Visit this site to read information for authors, search recent articles, and/or submit an article for review.

Authors who wish to submit manuscripts to the Journal should use the ScholarOne website <http://mc.manuscriptcentral.com/ssm> or click “the submit an article” link on the journal website. For manuscript guidelines, see the inside back cover of the Journal, or the journal website.

## Call for SSMA 2013 Awards

### Deadline for submission of nominations: March 15, 2013

The SSMA Awards Committee invites the membership to submit nominees to be considered for the following awards:

- **GEORGE G. MALLINSON DISTINGUISHED SERVICE AWARD**  
The award is given to those who have been a member of SSMA for at least ten (10) years and who have shown substantial participation and leadership in SSMA activities such as paper presentations at meetings, committee work, membership work, reviewing for journal, and so forth. Nomination is limited to SSMA members who are nominated by a current member of SSMA.
- **AWARD FOR EXCELLENCE IN INTEGRATING SCIENCE AND MATHEMATICS**  
The award is given to a person or group who/which has fostered, promoted, and extended the integration of mathematics/science. The nominee should be a person or group who is active in science/mathematics education and in the development of curricula for the preparation of teachers, educational research, or other activities of significant educational value; thereby showing an impact on science/mathematics education. The competition is open to non-SSMA members but all applicants must be nominated by an SSMA member.
- **SSMA CONNECTIONS AWARD**  
The nominee should be a person working in K-12 who has been a leader of an exemplary teaching and learning project that is school-based and focused on connections between science and mathematics.
- **OUTSTANDING EARLY CAREER SCHOLAR AWARD**  
The nominee should be a person, within five years of receiving a doctoral degree, with an exemplary and productive program of research related to science and/or mathematics education. The nominee must be an SSMA member in good standing for at least 1 year prior to the submission of an application.
- **SSMA OUTSTANDING DISSERTATION AWARD**  
The Award is given for dissertations related to science education, mathematics education, or integrated science and mathematics education. Competition is open to non-members, but all applicants must be nominated by an SSMA member. The nominee's dissertation must have been completed within the last three years.

Criteria details for each award can be found online at <http://www.ssma.org/award-descriptions-and-requirements>. Any member of SSMA is free to nominate a person(s) satisfying the criteria noted above.

Materials (for each award) are to be sent electronically to **Zhonghe Wu** ([zwu@nu.edu](mailto:zwu@nu.edu)) prior to **March 15, 2013**.

### ***Nominations for SSMA Board of Directors***

Members may suggest candidates to serve on the SSMA Board of Directors, by contacting Georgia Cobbs, Chair of the Nomination and Election Committee before October 1, 2012. Self-nominations are accepted as well.

This year we will elect two Board members and a President Elect.

If you are interested, or would like to nominate someone, contact.

**Georgia Cobbs**  
**Department of Curriculum & Instruction**  
**The University of Montana**  
**105 Education**  
**Missoula, MT 59812**  
[georgia.cobbs@mso.umt.edu](mailto:georgia.cobbs@mso.umt.edu)

Additional nominations for Officers and Directors-at-Large may be made if a petition is presented to the Executive Director(s) bearing the signatures of at least twenty-five (25) Active Members (except for Sustaining Members) in good standing. All additional nominations must be received by the Executive Director(s) on or before the first (1st) day of January following the Annual Board Meeting.

***The Association always seeks volunteers for its six standing committees of Awards & Endowment, Conventions, Finance, Nomination & Election, Policy, and Publications.***

***If you are interested in any of the committee positions, just contact the SSMA Office at [office@ssma.org](mailto:office@ssma.org).***

***Save the Date:***

**SSMA 2013 Annual Convention  
San Antonio, TX  
November 14 - 16, 2013**

**Where:** Menger Hotel

<http://mengerhotel.com/>

**CALL FOR PROPOSALS** - Look for the proposal announcement at the fall convention. ***The proposal due date will be January 31, 2013.*** This will ensure that speakers are notified of their acceptance prior to the ending of the academic year.

**Convention Theme:** Learning Mathematics & Science through Media Literacy



[SSMA 2014 Convention – Savannah, GA](#)  
[SSMA 2015 Convention – Oklahoma City](#)  
[Details coming soon.](#)

## About Our Organization...

### SCHOOL SCIENCE AND MATHEMATICS ASSOCIATION

College of Education  
Oklahoma State University

245 Williard  
Stillwater, OK 74078

Phone:  
(405) 744-8018

Fax:  
(405) 744-6290

E-Mail:  
office@ssma.org  
We're on the Web!

*See us at:*

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

Membership in the School Science and Mathematics Association is open to any person who supports the objectives of the Association, who has paid membership dues, and completed an application.

Benefits of SSMA Membership include:

- Membership in an association encompassing both science and mathematics teaching and learning.
- Choice of electronic or print subscription to the 8 issues of the official journal *School Science and Mathematics*.
- Free electronic access to archive articles of the previous 110 years of Journal
- 2 issues of the SSMA newsletter *The Math-Science Connector*.
- Opportunities to submit presentation proposals for the Annual Convention.
- Voting privileges for Association business and election of officers.
- Opportunities to serve on an SSMA Committee or Leadership Team.

Additional information about SSMA is available at our website (<http://www.ssma.org>) or by contacting **Julie Thomas and Juliana Utley** ([office@ssma.org](mailto:office@ssma.org)).



To contribute news items for inclusion in the SSMA newsletter (*The Math-Science Connector*), please contact **Gil Naizer** ([gilbert.naizer@tamuc.edu](mailto:gilbert.naizer@tamuc.edu)).

Contact information for all SSMA Board Members and Committee Members can be found online at <http://www.ssma.org/>