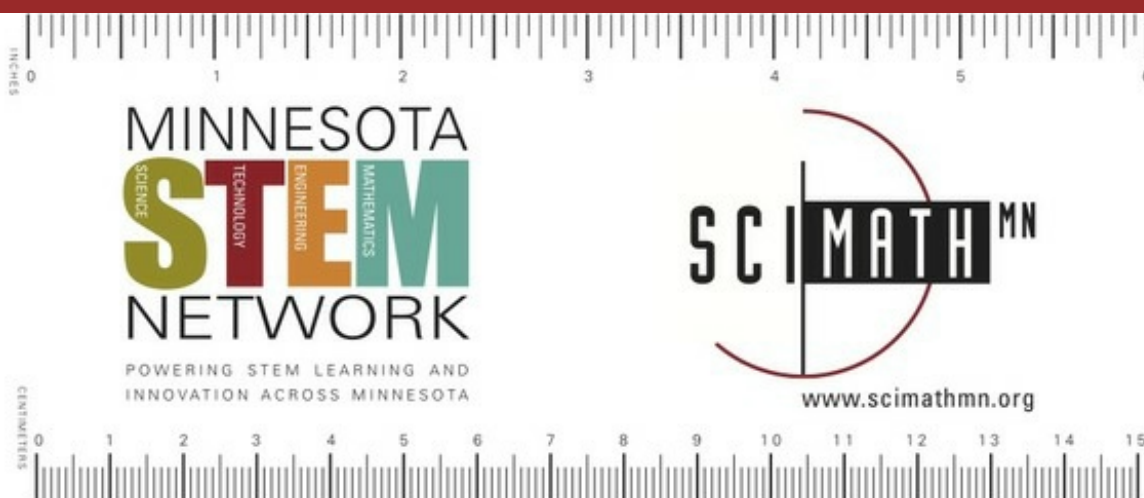


July 2011



**Bush Fellowship  
Awarded to Anne  
Hornickel for  
Development of the  
Minnesota STEM  
Network**



[The Bush Foundation in Saint Paul](#) has recently announced its 2011 fellowships to 18 community leaders in Minnesota, North Dakota, and South Dakota. Among them is Anne Hornickel, recognized for her work in 2010 toward establishing the network as well as future plans to expand the network across Minnesota.

Anne's fellowship over the next two years will allow her time to work on two principal

## **An Update from SciMathMN and the Minnesota STEM Network**

**This newsletter produced with the support of:**



---

### **IN THIS ISSUE**

- Letter from the Executive Director
- MN STEM Teacher Center and Frameworks Now Online
- Policymaker Briefing on STEM Recap
- K12 STEM BIZCONNECT Partnership Guide
- Anne Hornickel Awarded Bush Fellowship
- Boston Scientific Funds Strategic Planning Phase
- Minnesota STEM Network Annual Meeting Highlights
- STEM Day at the 2011 Minnesota State Fair

[Forward this message to a friend](#)

---

tasks:

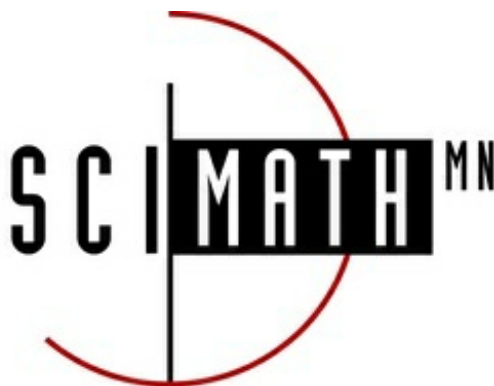
- Foster the development of smaller scale networks or hubs in regions of Minnesota, similar to the well-developed Rochester Area Math and Science Partnership
- Develop a framework for articulating the state of STEM education in Minnesota.

The fellowship will also provide travel funds to promote network development across the state and to network with other state STEM networks. Promoting regional hub development will take place in collaboration with the Minnesota High Tech Association as it hosts STEM summits across the state in 2011-12.

### **Boston Scientific Funds Strategic Planning Phase**



To advance the strategic development of the Minnesota STEM Network, SciMathMN approached Boston Scientific for support for strategic planning. In April, Boston Scientific awarded a \$179,100 grant to SciMathMN which will allow SciMathMN to engage the LarsonAllen consultants in strategic planning for the network. Marilee Grant,



### **Letter from the Executive Director**

On behalf of the Board of Directors I welcome you to a “year-in-review” of SciMathMN, a non-profit coalition advocating for quality K-12 education in science, technology, engineering and mathematics (STEM). Through our partnerships with business and education leaders and policymakers this year we have been able to move forward on a number of K-16 STEM initiatives and practices including: MN STEM Teacher Center and Frameworks, MN STEM Network, K-12 BIZ Connect, and our annual Policymaker Briefing. We have provided more detail in articles in this newsletter.



The Board of Directors congratulate board member Anne Hornickel on receiving a Bush Fellowship. Anne has been a tireless champion of the Minnesota STEM Network. Details on the award can be found in the newsletter.

We would like to thank our sponsors for their support of this year’s STEM initiatives:

- 3M
- Boston Scientific
- Ecolab
- HB Fuller
- Medtronic
- Medtronic Foundation
- Minnesota Department of Education
- Science Museum of Minnesota
- Friends of SciMathMN

We appreciate their financial support.

### ***Hail and Farewell!***

Six long-time members of the SciMathMN Board of Directors reached their maximum terms this spring. With gratitude for their years of dedicated service we bid farewell to:

- Cyndy Crist, MN State Colleges and Universities
- Barbara Kauffman, 3M
- Brad Meeks, Farmington Schools

director of community relations for Boston Scientific, announced the grant at the April 21st annual meeting.

All involved in the network agree that education, business, and community engagement in STEM will be critical to Minnesota's economic development. For Minnesota to remain competitive across a broad range of industries, STEM must be a strength. The Minnesota STEM Network is committed to making STEM a competitive advantage for Minnesota.

The Minnesota STEM Network is now at a point where it needs a strategic plan which will both expand and focus the work of the organization while building buy-in and engagement from a broad range of constituents. More specifically, the strategic plan is intended to bring clarity to:

- A pathway to impact: Where and how can the Minnesota STEM Network add the greatest value to Minnesota's STEM needs, especially at the interface of education, business, and economic development in STEM?
- A pathway to synergy: How can the data and "program inventory" of the Minnesota STEM Network be used to provide synergy and value, beyond information?

- Brad Meers, Farmington Schools
- Len Mrachek, University of Minnesota
- Beth Murphy, The Bakken Museum
- Nancy Walters, MN Office of Higher Education

We welcome seven new members to the Board of Directors:

- Kristil MacDonald, Pine River/Bacus Schools
- Amaza Ritemier, Medtronic
- Jerry Sosinske, Boston Scientific
- Doug Stang, 3M
- Troy Vincent, Farnsworth Elementary
- Bhaskar Upadhyay, University of Minnesota

It's been a great year and next year promises to be as exciting.

Sincerely,

Sally Standiford, Ph.D., Executive Director

## MN STEM Teacher Center and Frameworks

The screenshot shows the website for the Minnesota STEM Teacher Center. The header includes the SciMathMN logo and navigation links: Home, Frameworks, Standards, Resources, and About Us. The main heading is 'Frameworks for MN Mathematics & Science Standards'. Below this, there is a section titled 'WHAT ARE FRAMEWORKS?' which explains that frameworks are resources developed to help teachers translate Minnesota state standards into classroom practice. There are two main content boxes: 'Mathematics Frameworks' and 'Science Frameworks', both with 'Find by Grade or View All' options. The Mathematics Frameworks box has links for K, 1, 2, 3, 4, 5, 6, 7, 8, and 9-12. The Science Frameworks box has links for K, 1, 2, 3, 4, 5, 6, 7, 8, and 9-12. To the right, there is an 'About the Creators' section and a 'Getting the Most out of this Site' section.

We are completing our work with the Minnesota Department of Education to design a MN STEM Teacher Center and recreate Frameworks that guide the translation of Academic Math and Science Standards into K-12 classroom practice.

In partnership with the MN Department of Education, SciMathMN has been coordinating the effort involving over 170 teachers and curriculum experts. Many of the state's best K-16 science and math teachers and faculty have been involved in the Frameworks project to help teachers develop and organize their materials, instructional practices, and assessments at their local schools.

information?

- A pathway to stakeholder support: What will cause the institutional and individual leaders in STEM across the State to support the work of the Minnesota STEM Network . . . with their time, talent, and treasury?
- A pathway to financial sustainability: How can SciMathMN and the Minnesota STEM Network build and sustain the resource base needed to implement the initiatives identified in the strategic plan? What is the financial future of the organization?



We believe the Frameworks will be critical components in moving Minnesota's world-class standards to become world-class practice in Minnesota classrooms. The Frameworks provide supporting information and resources for each of the math and science standards, including:

- An **Overview** of the standard including Correlations to other standards
- **Student Misconceptions**
- A **Vignette** of that standard being delivered in the classroom
- **Resources** and new vocabulary
- **Sample Assessment** items
- **Differentiation** for the range of students in the classroom
- **Suggestions for Administrators and Parents**

Bookmark the [MN STEM Teacher Center](#) to have this resource close at hand!

The LarsonAllen team is working with a 13-member steering committee consisting of SciMathMN board members, Leadership Team members, and four members of the STEM community at large to guide the strategic planning and reflect upon the input received.

LarsonAllen will:

- Initiate a survey with those in the network database on buy-in of the mission/vision, goals and strategies established in 2010
- Conduct a number of one-on-one interviews with stakeholders
- Hold group interviews with stakeholders in STEM education in regions around the state;
- Carry out several

**Please note:** *The MN STEM Teacher Center opened to the public on June 30, 2011. However, we will still be reviewing and updating the content for a few weeks. We appreciate your patience with us during this process and welcome your suggestions. We hope you like what you find here and will become a regular visitor.*

**Here is what MN educators have to say about the NEW MN STEM Teacher Center and Frameworks:**



## Policymaker Briefing on STEM Recap

Our 2011 Policymaker Briefing focused on "Moving from World Class Standards to World Class Practice."



case studies of how other state STEM networks have become established.

The strategic plan is expected to be substantially completed by October, 2011.

LarsonAllen will present their findings to a joint meeting of the SciMathMN board and the Minnesota STEM Network Leadership Team.

## **SciMathMN**

***SciMathMN is a non-profit, statewide education and business coalition advocating for quality K-12 science, mathematics and technology education based on research, national standards and effective practices.***

---

## **SciMathMN Board of Directors**

Liesl Chatman, Science Museum of Minnesota

Marshall Davis, St. Paul Public Schools

Joel Donna, University of Minnesota College of Education and Human Development

Angie Eilers, Sophia Learning

Jim Field, Minnesota Independent School Forum

Tracy Fredin, Hamline University

Julie Guelich, Normandale Community College

The program featured the new MN STEM Teacher Center. Dr. Rodger Bybee delivered the keynote address. A panel of STEM education experts provided teacher, administrator, post-secondary and business perspectives on the next steps in achieving world-class practice for MN K-12 STEM education. Panel members included:



- Sarah Etzel, Minneapolis Public Schools
- Maggie Hoody, Winona State University
- Pat Ridgeley, SciMathMN
- Troy Vincent, Farnsworth Middle School



To kick off the event, SciMathMN held its first-ever STEM Best of Best Showcase featuring top students and teams from a variety of Minnesota STEM competitions and organizations including:

- Clean Energy Exploration
- FIRST Robotics Edina
- FIRST Robotics Minneapolis
- High Tech Kids
- InSciEd Out/Zebrafish Project
- KidWind
- Leonardo's Basement
- MTEA Supermileage Competition
- Project Lead the Way
- TPT SciGirls

AND individual student representatives:



- Connor Klemenhagen
- Karin Sather
- Travis Sigafos

We would like to thank our sponsors for making this event possible:

**HOST SPONSOR**  
Science Museum of Minnesota

Ed Hessler, Minnesota  
Science Teachers  
Association

Anne Hornickel, University of  
Minnesota College of  
Science and Engineering

Richard Hudson, Twin Cities  
Public Television

Steve Kelley, University of  
Minnesota Humphrey  
Institute of Public Affairs

Mike Lindstrom, Minnesota  
Technology and Engineering  
Education Association

Jenny Manogue, Kelly  
Mitchell Group

Kristil MacDonald, Pine  
River/Bacus Schools

Tom Muchlinski, Minnesota  
Council of Teachers of  
Mathematics

Greg Mueller, H.B. Fuller

John Olson, Minnesota  
Department of Education

Doug Paulson, Minnesota  
Department of Education

Taylor Pettis, Sophia  
Learning

Becky Rennie, Perham  
Dent High School

Matt Richey, St Olaf College

Pat Ridgely, Medtronic Inc.

Amaza Ritemier, Medtronic

Colleen Sauter, Colleen Riley  
Sauter Consulting

Patty Simpson, St. Cloud  
Community College

**EVENT SPONSOR**  
3M

**FRAMEWORKS SPONSOR**  
Minnesota Department of Education

---

## **K12 STEM BIZCONNECT Partnership Guide**

SciMathMN, with the support of HB Fuller, hosted an Adopt-A-School/Adopt-A-Business pilot kickoff meeting on May 12, 2011. Participants representing business, education (K-12/higher ed), non-profits, and policymakers discussed ways to advance STEM engagement through community partnerships.



An initial draft of the K12 STEM BIZCONNECT Toolkit was shared with attendees. The toolkit serves as a sample guide to partnership formation and outlines a variety of program examples.

Pilot participants will review the contents of the toolkit and assist with future content revisions so the guide becomes a continuously evolving document authored by many contributors. In the future, SciMathMN plans to initiate a web-portal where partnerships can showcase their programs.

Please contact [Colleen Sauter](#) to obtain a copy of the K12 STEM BIZCONNECT Toolkit.



---

## **Annual Meeting Highlights**

Over 175 educators, informal



State University

Jerry Sosinske, Boston  
Scientific

Sally Standiford, SciMathMN

Doug Stang, 3M

Cathy Summa, Wellesley  
College

Cassandra Svendsen,  
Society of Women  
Engineers

Julie Tangeman, Teacher-in-  
residence, The Bakken  
Museum

Bhaskar Upadhyay,  
University of Minnesota

Troy Vincent, Farnsworth  
Elementary

Carolyn Williams, St. Cloud  
State University

Susan Wygant, Minnesota  
Dept. of Education

---

## **Minnesota STEM Network**

***The Minnesota STEM  
Network is aimed at  
addressing critical issues  
in improving STEM  
education in Minnesota.  
By articulating and  
aligning strategies, and  
effectively communicating  
the value of STEM, the  
network is committed to  
powering STEM learning  
and innovation across  
Minnesota.***

---

**MN STEM Network  
2010-2011**

educators, and representatives  
of business, government and  
cultural community  
organizations attended the  
second annual Minnesota  
STEM Network meeting on  
Thursday, April 21, 2011 at  
Boston Scientific in Maple Grove.



Leadership team member Jerry Sosinske and Boston Scientific's STEM Council hosted the daylong meeting. The meeting featured networking, plenary presentations, breakout sessions, and a poster session on successful programs promoting STEM to girls in underrepresented students.



Plenary presentations featured:

- Beth Aune, Director of Academic Standards and P-20 Initiatives, Minnesota Dept of Education (MDE)
- Margaret Anderson Kelliher, President and CEO of the Minnesota High Tech Association (MHTA)
- Randy Johnson, President of the Rochester Math and Science Partnership (RAMSP)
- Sally Standiford, Executive Director of SciMathMN
- Doug Paulson, STEM Specialist, Minnesota Dept of Education.

Dr. Aune highlighted MDE's initiatives to increase student achievement in STEM fields. Ms. Anderson-Kelliher provided an overview of the employment outlook in STEM in the next decade. Randy Johnson described the history and initiatives of the Rochester Area Math and Science Partnership. This partnership of 18 years involving IBM, Mayo Clinic, Rochester Public Schools, Winona State University and 13 regional school districts in SE Minnesota is dedicated to the professional development and support of area teachers, students, and communities through quality STEM education. Sally Standiford described SciMathMN's Frameworks project which provides background and pedagogy on each of the new science and math standards. She then introduced Marilee Grant, director of community relations of Boston Scientific who announced Boston Scientific's support toward the Minnesota STEM Network. She announced \$179,100 grant to SciMathMN which will fund the involvement of LarsonAllen consultants toward six months of strategic planning (see adjacent article). Doug Paulson provided an illustration of how the network aims to compile a website which will represent the numerous STEM

## Leadership Team

### SciMathMN board members:

Cynthia Crist, Minnesota State Colleges and Universities

Joel Donna, University of Minnesota College of Education and Human Development

Ed Hessler, Hamline University; Minnesota Science Teachers Association

Anne Hornickel, University of Minnesota College of Science and Engineering

Richard Hudson, Twin Cities Public Television

Steve Kelley, University of Minnesota Humphrey Institute

Mike Lindstrom, Minnesota Technology and Engineering Educators Association

Tom Muchlinski, Minnesota Council of Teachers of Mathematics

Doug Paulson, Minnesota Department of Education

Colleen Sauter, Colleen Riley Sauter Consulting

Jerry Sosinske, Boston Scientific

Sally Standiford, SciMathMN

Cassandra Svendsen, Society of Women Engineers

initiatives in Minnesota.

Breakout sessions featured discussions on business-school partnerships, research in STEM education, engaging girls, and engagement and career pathways in STEM.



The afternoon featured a brief address by Senator Al Franken, who expressed support for the network and offered his perspective on the value of STEM to Minnesotans and his current initiatives relevant to STEM in the U.S. Senate.

---

## STEM Day at the 2011 Minnesota State Fair

The second annual STEM Day at the Fair, sponsored by the Minnesota STEM Network, will again have a prominent place in Carousel Park on Thursday, August 25th, opening day of the 2011 Minnesota State Fair. Families may visit over 25 exhibitors between 8 am and 5 pm in Carousel Park next to the Grandstand.



STEM Day at the State Fair is focused on reaching K-12 students, teachers and parents with the messages:

- STEM is fun
- STEM has a huge impact and benefit on our society
- Wonderful STEM career opportunities exist, both now and in the foreseeable future.



This year's roster of STEM Day at the State Fair participants includes:

- 3M Visiting Wizards
- The Bakken Museum



## Community members:

Sarah Audet, Medtronic Inc.

Ron Bennett, University of  
St. Thomas College of  
Engineering

Sophia Ginis, University of  
Minnesota Humphrey  
Institute

Jake Lantry, Minnesota High  
Tech Association

Mike Thyken, Merrill  
Corporation

Kim Van Wie, STARBASE  
Minnesota

Leah Wilkes, Univ. of MN  
Humphrey School of Public  
Affairs

Eva Scates-Winston,  
Minnesota State Colleges  
and Universities

---

## Get Linked in

Join the MN  
STEM



Network on Linked in. Post  
news and events so  
everyone in the network can  
stay up-to-date on STEM  
activities and news in  
Minnesota.

[Hurry- Join us today.](#)

- Bell Museum of Natural History
- Cedar Park STEM Elementary
- Eagan FIRST Robotics
- ExploraDomeMN
- First Tech Challenge First Robotics
- Future City
- High Tech Kids
- Imation
- Independent Learning LLP
- KidWind
- Laura Jeffrey Academy
- MTS Systems Corporation
- Microsoft
- Minnesota 4-H
- Minnesota Space Grant Consortium
- Minnesota High Tech Association
- National Center for STEM Elementary Education at St. Catherine University
- Raptor Center at the University of Minnesota
- Science Museum of Minnesota
- SciGirls at Twin Cities Public Television
- STARBASE Minnesota
- St. Cloud State University
- South Central College
- STEM Education Center at the University of Minnesota

The University of Minnesota Physics Force and chemistry show, Microsoft, Raptor Center and The Bakken will present on the main stage on an hourly performance schedule.



SciMathMN  
[www.scimathmn.org](http://www.scimathmn.org)  
Email: [info@scimathmn.org](mailto:info@scimathmn.org)

SciMathMN  
120 West Kellogg Boulevard  
St. Paul, Minnesota 55102  
US

[Read](#) the VerticalResponse marketing policy.

