

South Dakota Science Teachers Association South Dakota Council Teachers Mathematics

February 6, 7, & 8, 2014 Crossroads Hotel-Huron Event Center Huron, SD

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Graduate Credit is available through DWU-Mitchell.	
Next year's conference will be February 5, 6, & 7, 2015.	

Featured Speakers

BANQUET SPEAKERS — Rose DuBois and Randy Hagen



Success Perfect is a book that was co-authored by Rose & Randy. They both have taught at Central High School in Rapid City. The book contains sixteen ingredients for achieving success. Rose has produced six educational videos on the power of words, developing confidence, performance, etc. DuBois has taught high school biology and PE for over three decades. DuBois was selected as "SD High School PE Teacher of the Year" in 2010, and received the "Distinguished Service Award" by the SDHSAA in 2009.

Randy has been an educator and coach for over 25 years. During this time he has been part of eight state championship teams in football, track and gymnastics. He has coached over 50 individual state champions. Randy has twice received the S D H S Teacher of the year award in Physical Education.

Randy's insightful presentations on the "Seven Attitudes of a Champion" and "Every Day Greatness," will confirm that success is never a result of chance, but a result of the choices one makes every day. Take part in this presentation and you too will have the confidence that you can live life "Like a Champion Every Day!"

OTHER FEATURED SPEAKERS

Mike Marlow - does not have to be told about the importance of experiential learning. Marlow, associate professor in science education in the School of Education and Human Development at CU Denver since 1994, has been a pioneer in the 'field,' having taken students on learning excursions all across the United States for 40 years now. He started taking geology students to Hawaii while teaching in Michigan and soon after began taking teachers. "I've been doing that since the mid-70s," he explains. "I began by leading geology trips all over the U.S. This evolved into field studies for teachers to places like the Hawaii volcanoes."

Fawn Nguyen - teaches math at Mesa Union Junior High in southern California. After starting out as a science teacher for 14 years, she has been teaching math for the last 10 years. She is a co-founder of the *Thousand Oaks Math Teachers' Circle*. In an effort to share and learn from other math teachers, Fawn blogs at *Finding Ways to Nguyen Students Over* and authors 3 other websites, including *Visual Patterns*, *MathTalks*, and *180 Days of Math at Mesa*.

Sandy Atkins - is the owner and Executive Director of Creating AHAs. An inspiring speaker, Dr. Atkins is committed to finding those "aha moments" when mathematical connections are made by teachers and students. Her sessions are thought provoking and practical. An educator for over 25 years, Sandy currently works with school districts across the United States in developing conceptual understandings, or Creating AHAs, for teachers and students in grades K-8.

Sheli Smith - leads an innovative team of national STEM Coordinators who design, facilitate, and implement unique and engaging trans-disciplinary problem-based programs in South Dakota and across the country. Sheli is committed to a holistic approach to learning that has garnered her a reputation on the leading edge of educational reform. Smith and her team help teachers transform from traditional to more engaging methods to meet the student needs of today. Meet this PAST Provocateur as she presents sessions at the SD Math & Science Conference.

Jen Dickenson & Marie Steckelberg - have both worked with Dakota Players. Jen was originally from Vermillion and graduated from the University of Minnesota in 2006. She worked with several educational theatres such as AmeriCorps, Power of Hope, and Washington State Endowment for Arts. In 2012 Jen graduated from the University of Hawaii. Marie is the owner of Steckelberg Consulting, LLC and has taught science education at USD, coordinated the Joining Across Miles Environmental Systems (JAMES) Project, was state director for Science Olympiad, and is now coordinating the SD NASA Summer of Innovation Project.

2014 Joint Professional Development Conference

South Dakota Science Teachers Association South Dakota Council of Teachers of Mathematics

The meeting rooms for all sessions are in **The Crossroads Hotel/Huron Events Center**

Program

7:00 PM - 9:00 PM	Thursday, February 6, 2014 Evening Sessions	(See Program)
7:00 AM - 4:20 PM	Friday, February 7, 2014 Registration Open	Pre-Function Area
8:00 AM - 5:00 PM	Exhibits Open	Pre-Function Area
8:30 AM - 11:20 AM	Morning Sessions	(See Program)
11:45 AM - 1:10 PM	Friday Luncheon	Prairie A, B, C
1:30 PM - 4:20 PM	(cost included in the registration fee) Afternoon Sessions	(See Program)
4:30 PM	SDCTM Business Meeting SDSTA Business Meeting	Dakota C Dakota G
5:30-6:45 PM	Social Hour CASH BAR-Hors d'oeuvres sponsored by Think Through Math & Dr. Arnio's Learning	Pre-Function Area Solutions
7:00 PM	Friday Evening Banquet (Cost is \$25)	Prairie A, B, C
	Saturday, February 8, 2014	
7:00 AM - 11:20 AM 7:00 AM - 8:00 AM	Registration Open Breakfast Meeting Presidential Awardees (Past & Prese	Pre-Function Area Salon ent)
8:30 AM - 11:20 AM	Morning Sessions	(See Program)
12:00 Noon - 1:00 PM	Saturday Luncheon	Prairie A, B, C
1:00 PM - 3:50 PM	(cost included in the registration fee) Afternoon Sessions	(See Program)
4:00 PM	Joint SDCTM & SDSTA Executive Board Meeting	Boardroom

SDSTA/SDCTM Joint Conference 2014 Planner

Thursday, Feb. 6, 2014			
	First Choice	Second Choice	
	Session #:	Session #:	
7:00 PM	Location:	Location:	
	Title:	Title:	

Friday, Feb. 7, 2014					
	Remember to visit the exhibits in the Lobby and Hallways of the Crossroads Hotel.				
	First Choice Second Choice				
	Session #:	Session #:			
8:30 AM	Location:	Location:			
	Title:	Title:			
	Session #:	Session #:			
9:30 AM	Location:	Location:			
	Title:	Title:			
10:30 AM	Session #:	Session #:			
	Location:	Location:			
	Title:	Title:			
Noon	Friday Noon Luncheon in Crossroads Hotel - Prairie A, B, C				
	Session #:	Session #:			
1:30 PM	Location:	Location:			
	Title:	Title:			
	Session #:	Session #:			
2:30 PM	Location:	Location:			
	Title:	Title:			
	Session #:	Session #:			
3:30 PM	Location:	Location:			
	Title:	Title:			
4:30 PM	SDCTM BUSINESS MEETING in Dakota C	5:30 - 6:45			
	SDSTA BUSINESS MEETING in Dakota G	SOCIAL Hour			
7 PM	Friday Night Banquet in Prairie Ballrooms A, B,	C			
/ F1VI	(Banquet Tickets Required-Cost is \$25)				

	Saturo	day, Feb. 8, 2014	
	First Choice	Second Choice	
	Session #:	Session #:	
8:30 AM	Location:	Location:	
	Title:	Title:	
	Session #:	Session #:	
9:30 AM	Location:	Location:	
	Title:	Title:	
	Session #:	Session #:	
10:30 AM	Location:	Location:	
	Title:	Title:	
Noon	Saturday Noon Luncheon in Crossroads Hotel – Prairie A, B, C		
	Session #:	Session #:	
1:00 PM	Location:	Location:	
	Title:	Title:	
	Session #:	Session #:	
2:00 PM	Location:	Location:	
	Title:	Title:	
3:00 PM	Session #:	Session #:	
	Location:	Location:	
	Title:	Title:	
4:00 PM	SDCTM & SDSTA JOINT BOARD MEETING IN THE BOARDROOM		

Program for 2014 Joint Conference

Special thanks for helping make our conference a success:

TIE for the projectors; and to THINK THROUGH MATH

and Learning Solutions for the Social Hour.

Thursday 7 pm Friday 8:30 am

7:00-9:00 pm Session: 1 Dakota C Feb. 6, 2014

Grade Level: All

Presenter: Ellie Cooch SDCTM President

ecooch@spearfish.k12.sd.us http://www.sdctm.org

Math Sharing Session

Sharing lessons and activities will be the focus of this session. Bring 25 copies of your favorite activity or lesson. Or just come!

7:00-9:00 pm Session: 2 Dakota G Feb. 6, 2014

Grade Level: All

Presenter: Julie Olson SDSTA President-Elect Julie@SDSTA.org http://www.sdsta.org

Science Sharing Session

Bring an idea to share with the group. If it is a lab idea, bring 30 copies to pass out to the participants.

8:30-10:20 am Session: 3 Prairie A Feb. 7, 2014

Grade Level: K-5

FEATURED SPEAKER Sandy Atkins

Creating AHAs SAtkins@creatingahas.com http://www.creatingahas.com

Identifying and Preventing Mathematical Disconnects

Join us as we examine common mathematical misconceptions, pinpoint disconnects, and determine the possible cause so that we can fine tune our instructional practices. Examples for closing conceptual gaps will be shared for immediate classroom use.

Are you taking the Conference for credit?

Did you know that you can count one hour of visiting with the vendors?

Questions?
Ask at the registration table!

8:30 am

Friday

8:30 am

Session: 6

Feb. 7, 2014

8:30-9:20 am Prairie B

Session: 4 Feb. 7, 2014

Grade Level: K-5

FEATURED SPEAKER Marie Steckelberg, EdD & Vanessa Hight

SD Discovery Center MSteckelberg@dishmail.net http://www.sd-discovery.com

Describing Science

Children naturally like to talk and share what they know. Using descriptive words in questioning, observing, and conclusions, whether spoken or written, makes science more interesting and engaging for students AND more accurate. How descriptive are you? Come and find out!!

8:30-9:20 am Dakota E

Grade Level: 9-12

Presenter: Mary Lou McGirr, Learning Specialist

Technology & Innovation in Education

mmcgirr@tie.net http://www.tie.net

Blended Learning for Meeting Learner Needs

School leaders, especially in small schools, are challenged to meet diverse learning needs with limited resources. To maintain a viable curriculum and respond to learner needs and expectations, school leaders can take a blended learning approach. This approach offers a cost effective option for customizing learning for student needs.

8:30-9:20 am Dakota D

Session: 5 Feb. 7, 2014

Grade Level: 9-12

Presenter: Sharon Rendon

& Bjorg Remmers-Seymour

RCAS/CPM rendon@cpm.org

Struggling Learners Find Success in First Year Algebra

Come hear about our journey with at risk students as they are changing their mindset while experiencing success in a math classroom for the first time in years. Bjorg will share the strategies she uses to engage these students in rigor and the CCSS standards for mathematical practice.

8:30-9:20 am Session: 7 Dakota F Feb. 7, 2014

Grade Level: 9-12

Presenter: Emily Koehler

DeSmet HS

Emily.Koehler@k12.sd.us

Twitter: A Terrific Tool for Teachers

Twitter isn't just for the Kim Kardashians of the world! Teachers all over the world have been using Twitter to build Professional Learning Networks, share resources, and chat about all things education. Come join me to see how you can use Twitter for your professional development!

> Next Year's Conference is February 5, 6, 47, 2015!

8:30 am

Friday

9:30 am

Session: 10

8:30-9:20 am Dakota H Session: 8 Feb. 7, 2014

Grade Level: 9-12

Presenter: Madhav Nepal

& Larry Browning

SDSU

Larry.Browning@sdstate.edu http://seti-2-2013.wikispaces.com/

Quadrat to Query Plants and Prairies

Square foot quadrat will be constructed by participants to survey plants as an outdoor activity. Ways to use this in classroom will be discussed. This was presented at SETI² – a Title II sponsored workshop during August 2013.

9:30-10:20 am Prairie C

Feb. 7, 2014

Duplicate of 102

Grade Level: 6-8

FEATURED SPEAKER

Fawn Nguyen

Mesa Union Junior High FawnpNguyen@gmail.com http://fawnnguyen.com

Hands-on Activity to Foster CCSS-M Practices

Participants will engage in classroom-tested hands-on activity to foster the Standards for Mathematical Practices. You will build "hotels" with linking cubes with the goal of maximizing profit. You will figure in building costs and consider potential income. This task is easily adaptable to many levels.

Friday

Prairie B

9:30 am

9:30-10:20 am

Session: 9 Feb. 7, 2014

Duplicate of 72

Grade Level: 9-12

FEATURED SPEAKER Michael Marlow

University of Colorado Denver (Retired) Mike.Marlow@ucdenver.edu

Doing Authentic Science: Teaching for Understanding

The purpose of this session is to demonstrate how authentic science inquiries utilizing a constructive inquiry method may be incorporated into a high school science curriculum. Participants will participate in a series of connected hands-on activities designed to follow the constructivistic inquiry method resulting in a deep understanding.

9:30-10:20 am Session: 11 Dakota A Feb. 7, 2014

Grade Level: 3-9

Presenter: Dr. Robert Arnio Learning Solutions

bhlearningsolutions@rushmore.com

Using Think Through Math for Underachievers

Think through math is one of the fastest growing web-based math intervention programs in the country. Focusing on 3rd grade through Algebra 1, this program provides several layers of help for the student, including connecting the student with a certified math teacher for live assistance. Session 64.5 at 3:30 will feature teachers from Native schools that will discuss the implementation of TTM with their students.

9:30 am

Friday

9:30 am

Session: 14

Feb. 7, 2014

9:30-10:20 am Dakota B Session: 12 Feb. 7, 2014

Grade Level: 6-12

Presenter: Peter Vitiello Sanford Research

Peter.Vitiello@sanfordhealth.org http://www.sanfordresearch.org

Science Educator Research Fellowship

Are you interested in doing health research over the summer? Learn about the Science Educator Research Fellowship (SERF) at Sanford Research which provides middle and high school science teachers with biomedical research training through independent research in a Sanford lab and learning how to translate these approaches into the classroom.

9:30-10:20 am Session: 13 Dakota C Feb. 7, 2014

Grade Level: 9-12

Presenter: Steven Rokusek
SD Public Broadcasting
Steven.Rokusek@state.sd.us

http://sdpb.sd.gov/oldschoolscience/dissection.aspx

Dissection Series Update

During this session participants will review science dissections. We will introduce new resources developed after the "Dissection 101" session offered during the 2013 conference. Updates include suggestions we received from participants during the 2013 session.

Have you checked out "Share the Classroom Treasures"?

Stop in Salon Π and see what is there.

9:30-10:20 am Dakota D

Grade Level: K-5

FEATURED SPEAKER
Marie Steckelberg, EdD
& Vanessa Hight
SD Discovery Center

SD Discovery Center danhight@gwtc.net

Learning Logs in Science, Become Scientifically Literate

The Next Generation Science Standards state that students need to ask questions, define problems, investigate and analyze data. Using fun hands-on NASA activities and your LEARNING LOGS we will practice the art of questioning, communicating and reflecting to meet the goals of the NGSS. Join us for fun and learning at the elementary school level.

9:30-10:20 am Dakota E Session: 15 Feb. 7, 2014

Grade Level: 9-12

Presenter: Terry Aslesen
Mitchell Senior HS
Terry.Aslesen@k12.sd.us

Drugs: Legal and Illegal

Topics covered will include: Generics, major types of Prescription Drugs, Scheduling of Drugs: Alcohol, Marijuana, Performance enhancing drugs; Amphetamines, Barbituates, Hallucinogens, Inhalants and Club Drugs. You can never know too much about these topics and neither can your students.

9:30 am

Friday

9:30 am

9:30-10:20 am Dakota F

Session: 16 Feb. 7, 2014 9:30-10:20 am Dakota H

Grade Level: 9-12

Presenter: Madhav Nepal

Session: 18 Feb. 7, 2014

Grade Level: All

Presenter: Jill Weimer, PhD & Mari Biehl

> Sanford Research & SD Innovation Lab & the PAST Foundation Jill.Weimer@sanfordhealth.org http://www.sdinnovationlab.org

Plant Press Make and Take

Materials for 30 plant presses will be provided and time devoted to construct your own plant press. This design is the result of SETI^2 workshop-- Title II Sponsored event during the summer of 2013.

& Larry Browning

Larry.Browning@sdstate.edu

http://seti-2-2013.wikispaces.com/

STEM Education in Rural Classrooms

The aspiration of educators is to deliver rigorous and relevant knowledge through engaging methods or pedagogy. SDIL teachers are transforming their classrooms into STEM learning centers using the instructional strategy of TPBL. Journey with us as we explain how we integrate technology and innovation to create a working model for rural SD.

9:30-10:20 am

Session: 19

Salon I

Feb. 7, 2014

Grade Level: 9-12

Presenter: LuAnn Lindskov Timber Lake HS

9:30-10:20 am Dakota G

Session: 17 Feb. 7, 2014

Duplicate of 95

Grade Level: All

Presenter: Sharon Vestal, Dan Van Peursem,

Larry Browning, & Matt Miller

SDSU & USD

Sharon.Vestal@sdstate.edu

Then and Now: How Teaching Math Has Changed

Luann.Lindskov@k12.sd.us

This session will showcase mathematics lessons developed by the National Math and Science Initiative that are aligned to the Common Core Standards. Participants will engage in discussion comparing how these activities differ from many traditional math lessons and how the role of the teacher is changing as well.

Meet the Future Teachers

Prospective science and math teachers from all South Dakota institutions will be invited to engage in conversation with veteran science and math teachers. The goal is to provide support and encouragement for the next generation of teachers by providing advice, encouraging stories, and successful strategies.

DO YOU HAVE A BANQUET TICKET?

See Steve Caron to purchase a ticket. Purchase by noon today!

9:30 am

Friday

10:30 am

9:30-10:20 am Symposium Session: 20 Feb. 7, 2014

10:30-11:20 am Dakota B

Grade Level: 9-12

Session: 22 Feb. 7, 2014

Grade Level: 9-12

Presenter: John McEnelly

& Dr. Peggy Norris Chamberlain HS & BHSU/SURF John.McEnelly@k12.sd.us **Presenter:** Peter Vitiello

Sanford Research

Peter.Vitiello@sanfordhealth.org http://www.sanfordresearch.org

Particle Physics: Its Time Has Come

Peggy Norris, educational outreach specialist of Sanford Labs, Lead, SD and I were selected by the American Physical Society to design a program exposing high school students to career opportunities in particle (modern) physics. We shall describe our experiences, support offered by Sanford Labs, and how we can help you get started.

Basic Research in a Biomedical World

The spectrum of biomedical research goes far beyond clinical settings yet it is difficult to capture the important nature of basic research until it has more obvious "real-world" applications. Peter Vitiello will discuss the continuum of biomedical sciences with an emphasis on basic research and how these discoveries impact the everyday world.

Friday

10:30 am

10:30-11:20 am Dakota A Session: 21 Feb. 7, 2014

Grade Level: K-5

Presenter: Heather Overland Wakpala School/Smee District

Heather.Overland@k12.sd.us

Thinking Outside of the Book

This session will focus on valuing the knowledge that children bring and the way that they think about math. It will also focus on different problem solving strategies and getting children to talk about and explain their thinking with higher order thinking questions.

10:30-11:20 am Session: 23 Dakota C Feb. 7, 2014

Grade Level: 6-8

Presenter: Misty Roberts

& Marcia Torgrude

SD DOE & TIE

Misty.Roberts@state.sd.us

Using Instructional Blueprints to Meet CCSS in Math

Take a trip through the SD blueprints to learn how they can best be used. Determine if your math curriculum materials are in alignment with the CCSS or if you can adapt your current materials to meet the blueprints. Learn how to take ownership of the blueprints and use them to your advantage while discovering more resources for your classroom.

10:30 am

Friday

10:30 am

10:30-11:20 am Dakota D Session: 24 Feb. 7, 2014 10:30-11:20 am Session: 26 Dakota F Feb. 7, 2014

Grade Level: K-5

Grade Level: K-12

Presenter: Tracy Mittleider, MSEd

RightStart Mathematics Tracy@RightStartMath.com Presenter: Mark Iverson, Carl Fellbaum & Benjamin Benson

Castlewood Elementary & SDSU Mark.A.Iverson@k12.sd.us

Elementary Math Using the Abacus

Learn about an approach using the visual part of the brain and language to help children understand numbers and place value. Counting on fingers, flash cards, and tears need not be part of the equation. The abacus, math games, and other tools help visual, tactile, and auditory learners.

Two Scientists and a Fungi

Mycorrhizal interactions can be used to conduct labs dealing with symbiotic relationships as well as plant growth and reproduction. Information given will be adaptable to any skill level. Participants will engage in a hands-on lab, receive resources for classroom use, and receive Excel documents to strengthen results through statistical analysis

10:30-11:20 am

Session: 25 Feb. 7, 2014

10:30-11:20 am Session: 27 Dakota G Feb. 7, 2014

Grade Level: 9-12

Dakota E

Grade Level: 9-12

Presenter: Dr. Joan Hegerfeld-Baker

SDSU

Joan.Hegerfeld-Baker@sdstate.edu

Presenter: Lindsey Brewer, NBCT & Lori Keleher, NBCT

Huron HS

Lindsey.Brewer@k12.sd.us

Influence of STEM Education in Selecting Food and Ag Science

Market forces identify a faster than average growth rate expected for agriculture and food scientists. SDSU research investigated the influential factors comparing STEM to non-STEM majors (n = 458) in choosing careers as well as the technology teachers (n = 239) in SD are using to teach math and science concepts.

iPad Apps with Activities

You will leave this session familiar with 4 iPad apps for the math classroom. For each app there will be a handout to guide and assess student learning.

SOCIAL HOUR

FRIDAY 5:30-6:45

CASH BAR

Hors d'oeuvres

sponsored by

THINK THROUGH MATH

and Dr. Arnio's Learning Solutions

10:30 am

10:30-11:20 am Dakota H Session: 28 Feb. 7, 2014

Session: 29

Feb. 7, 2014

Grade Level: 6-8

Presenter: Anne Lewis SD Discovery Center

AnneLewis@sd-discovery.com http://www.sd-discovery.com

Into the Dead Zone

Take your middle/high school students into the dead zone using the tools and resources of EarthEcho International. Explore the NGSS correlated lesson plans. Get info about a new service learning program that includes a minigrant. This is a sneak peak to next summer's field-based professional development!

10:30-11:20 am Salon I

Grade Level: K-5

FEATURED SPEAKER Marie Steckelberg, EdD & Vanessa Hight

SD Discovery Center MSteckelberg@dishmail.net http://www.sd-discovery.com

Catch the Drag!

The NGSS Framework asks teachers to help students to use both science and engineering practices. Explore the differences and similarities as we "catch the drag" to deliver special cargo.

Friday

10:30 am

10:30-11:20 am Symposium

Session: 30 Feb. 7, 2014

Duplicate of 43

Grade Level: All

Presenter: Carolyn Spomer SD Retirement System Travis.Almond@state.sd.us www.sdrs.sd.gov

Understanding Your SD Retirement System

This presentation is designed to provide a general overview of the retirement programs available to you as a public school employee. Participants will have the opportunity to learn about SDRS, the SDRS Supplemental Retirement Plan (SRP), and the Special Pay Plan (SPP). Whether you are new to public employment or are nearing retirement, you are encouraged to attend this informative presentation to have a sound understanding of your SDRS benefits and the additional savings options offered through the SDRS-SRP.

Friday

NOON

Session: 31

Feb. 7, 2014

Noon-1:00 pm Prairie A, B & C

Grade Level: All

Presenter: Ellie Cooch & Brenda Murphey

SDCTM & SDSTA Presidents

1:30 pm

Friday

1:30 pm

1:30-2:20 pm Prairie A Session: 32 Feb. 7, 2014

Grade Level: K-5

FEATURED SPEAKER Sandy Atkins

Creating AHAs SAtkins@creatingahas.com http://www.creatingahas.com

Building a Firm Foundation

Join us for this interactive session as we examine the vital components of an early grades mathematics program. Included will be a discussion of key number sense experiences, mathematically sound sequences for developing conceptual understandings, and potential hazards that may lead to misconceptions

1:30-2:20 pm Session: 34 Prairie C Feb. 7, 2014

Grade Level: All

FEATURED SPEAKER Jen Dickenson, Marie Steckelberg & Vanessa Hight

Dakota Players

JDickenson@dakotaplayers.com

http://DakotaPlayers.com

In Your Galaxy Soon! Space School Musical

Move and groove along with the planets, moons, meteors, comets, asteroids and even some rockin' scientists as they (and you) sing, dance and serve up the freshest facts in the galaxy. Learn how you can bring this ultra-cool edu-tainment "hip-hopera" that is out of this world to your community!!

1:30-2:20 pm Session: 33 Prairie B Feb. 7, 2014

Grade Level: K-8

FEATURED SPEAKER

Sheli Smith
STEM Coordinator
SSmith@pastfoundation.org
http://www.pastfoundation.org

An Artist's Eye for Math and Science

Beauty exists all around us. So does math and science. Explore with me how to mix it all up with problem-based learning that empowers both teachers and students to express science and math with art, music, and dance.

1:30-2:20 pm Session: 35 Dakota A Feb. 7, 2014

Grade Level: 6-8

Presenter: Steve Lewis
The PAST Foundation
SLewis@pastfoundation.org
http://www.pastfoundation.org

Number Sense in Cool Math

Let's manipulate numbers kinesthetically, revealing how numbers go together then apply these concepts to real life problems that we can solve through engaging projects with products that showcase the various modalities of learning.

1:30 pm

Friday

1:30 pm

1:30-2:20 pm Dakota B Session: 36 Feb. 7, 2014

1:30-2:20 pm Dakota D Session: 37 Feb. 7, 2014

Session: 38

Feb. 7, 2014

Grade Level: 9-12

Presenter: LuAnn Lindskov

Timber Lake HS Luann.Lindskov@k12.sd.us

Grade Level: All

Presenter: Sharon Vestal & Lisa Weier SDSU & Mickelson MS-Brookings sdsu.isee@sdstate.edu http://www.sdstate.edu/isee/

The Next Generation of Science Education

This session will showcase science lessons developed by the National Math and Science Initiative that are aligned to the Next Generation Science Standards. Participants will discuss how these lessons challenge students in preparation for success in advanced coursework and nurture interest in STEM-related careers.

What Is ISEE and How Can It Help You?

South Dakota State University recently created the Institute for STEM Education Enhancement. This session will discuss our goals and mission, but the focus will be on how ISEE can help K-12 science and math teachers in South Dakota.



Visit www.SanfordResearch.org/Education Email Sanfordhealth.org or Call 605.312.6590 for information on:

- Student and Teacher Research Experiences
- Student and Teacher Workshops
- Biomedical Activity Modules
- Equipment Sharing
- Visits to Sanford Research
- SDIL and PLTW Partnerships
- Various other outreach opportunities

Dakota E

Grade Level: 9-12

1:30-2:20 pm

Presenter: Aaron Kromann
Project Lead The Way
AKromann@pltw.org
http://www.pltw.org

Biomedical Science Curriculum

Learn how the PLTW Biomedical Science program can prepare students for college and careers related to healthcare, medicine, research, and bioengineering. Students explore the concepts of human medicine, and work collaboratively to investigate and design innovative solutions to prevalent health challenges such as fighting cancer with nanotechnology.

Don't forget the business meetings from 4:30-5:30.

1:30 pm

Friday

1:30 pm

1:30-2:20 pm Dakota F Session: 39 Feb. 7, 2014

1:30-2:20 pm Dakota H Session: 41 Feb. 7, 2014

Grade Level: 9-12

Grade Level: 9-12

Presenter: William Kliche & Samra Trask Rapid City Schools/SD DOE/Wall HS

William.Kliche@k12.sd.us

Presenter: Chris Larson

SDSU

Christine.Larson@sdstate.edu

New Course for College Algebra Prep

Recently a course has been developed through a partnership from SD BOR, SD DOE, college professors and high school teachers. This course has one primary goal: Get students ready for college algebra!! This course has been coded and an outline developed. This presentation will explain the background of this course.

Practicing Mathematical Practices

Mathematical Practices from the Common Core are the focus of this session. Algebra and geometry content for middle and high school will be used to demonstrate ways to implement the mathematical practices.

1:30-2:20 pm Dakota G Session: 40 Feb. 7, 2014 Dakota C

1:30-2:20 pm

Session: 42 Feb. 7, 2014

Grade Level: 9-12

Grade Level: 6-12

Presenter: Paul Kuhlman

Avon School

Paul.Kuhlman@k12.sd.us http://pk014.k12.sd.us Presenter: Judy Vondruska

SDSU

Judy.Vondruska@sdstate.edu

Using common core strategies in the science classroom

How do you "make your students thinking visible?" The use of sustained silent writing (SSW) is an excellent way! This session will involve activities that teachers can use to help incorporate this strategy into their science classroom.

iPad Science Shar-a-thon

A great number of science apps have been developed - some informational while others are more interactive. Unfortunately, the apps are not always easy to find! In this session participants will be provided an overview of apps appropriate for a variety of science classes. Participants will also be encouraged to share their own science app finds!

Next Year's Conference is February 5, 6, 47, 2015!

Everyone here has something that they do well!

Have you considered being a presenter?

Please think about sharing with other South Dakota teachers.

1:30 pm

Friday

2:30 pm

1:30-2:20 pm Symposium Session: 43 Feb. 7, 2014

Duplicate of 30

Grade Level: All

Presenter: Carolyn Spomer SD Retirement System Travis.Almond@state.sd.us www.sdrs.sd.gov

Understanding Your SD Retirement System

This presentation is designed to provide a general overview of the retirement programs available to you as a public school employee. Participants will have the opportunity to learn about SDRS, the SDRS Supplemental Retirement Plan (SRP), and the Special Pay Plan (SPP). Whether you are new to public employment or are nearing retirement, you are encouraged to attend this informative presentation to have a sound understanding of your SDRS benefits and the additional savings options offered through the SDRS-SRP.

SOCIAL HOUR

FRIDAY 5:30-6:45

Hors d'oeuvres

sponsored by

THINK THROUGH MATH

and

Dr. Arnio's Learning Solutions

CASH BAR

2:30-3:20 pm Session: 44 Prairie A Feb. 7, 2014

Grade Level: K-5

FEATURED SPEAKER Sandy Atkins

Creating AHAs SAtkins@creatingahas.com http://www.creatingahas.com

Assessing for Conceptual Depth: The Power of whole class interviews

Before we can design valuable learning experiences we must first determine students' depth of mathematical understanding. Easier said than done. Join us for this interactive session as we examine a model for using whole class interviews to assess for conceptual depth.

2:30-4:20 pm Session: 45 Prairie B Feb. 7, 2014

Grade Level: 9-12

FEATURED SPEAKER Michael Marlow

University of Colorado Denver (Retired)
Mike.Marlow@ucdenver.edu

Experiential Learning: Impacts on Science Identity

Experiential learning as professional development is a process through which a teacher constructs knowledge, skill, and a science identity directly from an experience within the environment. This session will show a number of teacher field experiences, how they were planned, goals and objectives, and pre- and post- activities.

2:30 pm

Friday

2:30 pm

2:30-4:20 pm Prairie C Session: 46 Feb. 7, 2014

Duplicate of 73

Grade Level: 6-8

FEATURED SPEAKER

Fawn Nguyen

Mesa Union Junior High FawnpNguyen@gmail.com http://fawnnguyen.com

Problem Solving Tasks and Using Visual Patterns

Participants will see strategies for implementing problem solving in the classroom, where to find resources for rich tasks, and how visual pattens can be used to foster deep and flexible algebraic thinking.

2:30-3:20 pm Session: 47 Dakota A Feb. 7, 2014

Grade Level: 6-12

Presenter: Ashley Digmann & Rocky Von Eye

DWU

asdigman@DWU.EDU

Integrating the Smart Pen into Your Teaching Tool-belt

An introduction to smart pens which record everything a teacher writes and speaks. Presentation will include a demonstration of the pens and allow participants to make a pencast of their own. The presenters will demonstrate compatible programs such as Evernote, a note-taking tool.

2:30-3:20 pm Session: 48 Dakota B Feb. 7, 2014

Duplicate of 79

Grade Level: K-5

Presenter: Aaron Kromann
Project Lead The Way
AKromann@pltw.org
http://www.pltw.org

Elementary STEM Curriculum

Studies show that students decide as early as second grade whether they like, and think they are good at, math and science. Project Lead The Way's elementary program is designed to spark interests of K-5 students and will align to the Next Generation Science Standards and Common Core State Standards.

2:30-3:20 pm Session: 49 Dakota C Feb. 7, 2014

Grade Level: 6-8

Presenter: Alan Haarstad

SD DOF

Alan.Haarstad@state.sd.us http://doe.sd.gov/oats/NAEP.aspx

8th Grade NAEP Math Scores in South Dakota

In the Spring of 2013, many of South Dakota's 8th grade students participated in the National Assessment of Educational Progress (NAEP) for Mathematics. I will be sharing the results of the 2013 assessment in order to understand how our students performed compared to past administrations and to other states.

Don't forget the business meetings from 4:30-5:30.

Science in Dakota G

Math in Dakota C

2:30 pm

Friday

2:30 pm

2:30-4:20 pm Dakota D Session: 50 Feb. 7, 2014

2:30-3:20 pm Dakota F Session: 52 Feb. 7, 2014

Grade Level: 9-12

Grade Level: K-12

Presenter: Dr. Joan Hegerfeld-Baker

Presenter: Judy Vondruska SDSU

SDSU

Judy.Vondruska@sdstate.edu

Joan.Hegerfeld-Baker@sdstate.edu

Experience the SDSU Curriculum: Food Safety

Scientist. Includes virtual and hands-on labs and

What Can I Do to Help My Students Learn?

Food Safety Scientist Curriculum

Our time with students is limited and we want to make the most of it! What evidence does education research provide about increasing student achievement? This session will relate the efforts of John Hattie in figuring out what works and what doesn't. We will focus on the

top five most effective and least effective

educational tools incorporating basic STEM concepts and laboratory techniques into food and agriculture science. Includes four units: molds and toxins in foods, pH manipulation of foods; microbial dairy inspections; water

influences on achievement.

activity and moisture.

2:30-3:20 pm Session: 51 Dakota E Feb. 7, 2014

Duplicate of 91

Grade Level: K-5

Presenter: Cindy Kroon

Montrose HS Cindy.Kroon@k12.sd.us http://ck022.k12.sd.us 2:30-3:20 pm Session: 53 Dakota G Feb. 7, 2014

Grade Level: 9-12

Presenter: Paul Kuhlman

& Gayle Cushenberry

Avon School

Paul.Kuhlman@k12.sd.us http://pk014.k12.sd.us

Break-lyn Bridge: Modeling with Spaghetti

Arrivaderci cookbook data collection activities! Put on your student hat as we design an experiment, then collect data on the strength of spaghetti bridges. Participants will use modeling techniques and the scientific method during an inquiry-based activity. Itsa gonna be great!

Incorporating Literature in the Science Classroom

Read a good book lately? How about a good fiction or non-fiction science book? This session will focus on using outside literature in the science classroom. Presenters will share examples they use and also ask that participants share ideas or better yet bring books used in their own classroom.

2:30 pm

Friday

2:30 pm

Session: 56

Feb. 7, 2014

2:30-3:20 pm Dakota H

Grade Level: 9-12

Session: 54 Feb. 7, 2014

Crada Lavali 0.1

2:30-3:20 pm

Symposium

Grade Level: 9-12

Presenter: Dan Van Peursem

DPeursem@usd.edu

USD/BOR

Presenter: Madhav Nepal

& Larry Browning

SDSU

Larry.Browning@sdstate.edu http://seti-2-2013.wikispaces.com/

Transitioning Your Math Students from High School to College

Come and visit with mathematics faculty from the BOR institutions to discuss topics having to do with the transition from high school to college. Come with questions dealing with placement policy, Smarter Balance, or how we teach our college classes and what we expect from our students.

Hands on Genetics in the Biology Classroom

Using free resources to teach hands on genetics in biology classes will be the focus of this session. Please bring your laptop. This activity was presented at SETI² workshop sponsored by a Title II grant during August 2013.

2:30-3:20 pm Salon I Session: 55 Feb. 7, 2014

Grade Level: 9-12

Presenter: Marvin Gamble

USD

Marvin.Gamble@usd.edu

Friday 3:30 pm

3:30-4:20 pm Session: 57 Prairie A Feb. 7, 2014

Grade Level: 9-12

Presenter: Rose DuBois

Retired

pearcros@yahoo.com

Pythagorean Triples from Infinity and Beyond?

You will be able to find prime Pythagorean triples with the method that will be discussed. I will show what type of numbers can or cannot be Pythagorean triples. A short history of Pythagoras and his school and triples will be discussed.

Activate Your Environment

Enjoy a multitude of ingredients to increase a successful working environment. Topics will cover: interpersonal relationsips, self esteem, and increasing the level of intelligence and

success.

If you were a part of Cosmic Math in the Summer of 2013
You should attend one of the housekeeping sessions at 8:00 am
Saturday

3:30 pm

Friday

3:30 pm

3:30-4:20 pm Dakota A

Session: 58 Feb. 7, 2014 3:30-4:20 pm Dakota C

Grade Level: 9-12

Session: 60 Feb. 7, 2014

Grade Level: K-5

Presenter: Janet Wagner

Bon Homme Schools Janet.Wagner@k12.sd.us **Presenter:** Molly TenBroek

McIntosh HS

Molly.Tenbroek@k12.sd.us

Elementary My Dear Newton!

This session will be a make and take with experiments to reinforce the principles of Newton' three laws of motion at the

elementary level.

Old and New Teaching Ideas for the Science Classroom

Isn't Science Fun? This session will combine some old and new teaching ideas that I use in my science classes. The old ideas are things that have proven effective. The new ideas were developed to include components of common

core and the K-12 framework.

3:30-4:20 pm Session: 59 Dakota B Feb. 7, 2014

Grade Level: K-5 (and 6-12)

Presenter: Michelle Regan

National Trainer mmnregan@gmail.com 3:30-4:20 pm Session: 61 Dakota E Feb. 7, 2014

Grade Level: 9-12

Why Some Creatures Eat Their Young... Tempted?

If you knew what we knew, you wouldn't be! Have you ever gotten through the day exhausted but unable to pinpoint why? You're the victim of all those small, annoying, timeconsuming behaviors. They wear you down! Teaching doesn't have to be like that--there's hope! Learn classroom management tools to save you time and renew your energy.

Presenter: Liz McMillan Sanford PROMISE

> Elizabeth.McMillan@sanfordhealth.org http://www.sanfordresearch.org/education

Genomics

3,000,000,000 base pairs of DNA?! How can we utilize next generation sequencing technologies to identify your genetic code and then what can we do with all that data?

Next Year's Conference is February 5, 6, 47, 2015!

3:30 pm

Friday

3:30 pm

3:30-4:20 pm Dakota F

Session: 62 Feb. 7, 2014 3:30-4:20 pm Dakota H

Session: 64 Feb. 7, 2014

Grade Level: 9-12

Grade Level: 6-8

Presenter: Sharon Rendon

RCAS/CPM rendon@cpm.org Presenter: Sam Smith

SDSU

Samson.Smith@sdstate.edu http://facebook.com/biosamsmith

Making Middle School Math Come Alive with Games and Activities

Participants will be actively engaged in games and activities developed for Middle School math topics. Some topics included are operations with integers, probability, graphing, and measures of central tendency. Learn to justify your answers with a Scavenger Hunt. Join me for engaging math lessons.

Don't Forget to Astound! Visualization of the Mundane

Spatial visualization of large numbers helps reinforce the unbelievable magnitude of those data points we casually discuss like the age of the earth and the surface area of human intestines. I will demonstrate how I used simple objects to shake complacency and stimulate discussion in a non-majors biology classroom.

3:30-4:20 pm Dakota G

Session: 63

Feb. 7, 2014

Grade Level: 9-12

Presenter: James Stearns

SD AAPT

James.Stearns@k12.sd.us http://SDAAPT.SDSTA.org

AD-AAPT Photo Contest & Annual Meeting All Physics and/or Physical Science teachers are invited to the annual meeting and the final voting & judging of the photos and essays that have been submitted. Check out the photos in the hall Thursday night and/or Friday and put in your two cents worth. Vote by putting in a penny for your top choice or two. All physics or physical science teachers are invited to this meeting.

Session: 64.5 3:30-4:20 pm Salon I Feb. 7, 2014

Grade Level: All

Presenter: Richard Dart

Math Intervention for Native American **Low Achievers**

South Dakota GEAR UP provided a grant for Native schools to use Think Through Math, a web-based math intervention program for 3rd grade through Algebra. This panel of teachers will discuss their experiences with this program and make recommendations to other teachers

3:30 pm

3:30-4:20 pm Symposium Session: 65 Feb. 7, 2014

Grade Level: K-5

Presenter: Alan Haarstad

SD DOE

Alan.Haarstad@state.sd.us http://doe.sd.gov/oats/NAEP.aspx

4th Grade NAEP Math Scores in South Dakota

In the Spring of 2013, many of South Dakota's 4th grade students participated in the National Assessment of Educational Progress (NAEP) for Mathematics. I will be sharing the results of the 2013 assessment in order to understand how our students performed compared to past administrations and to other states.

Friday 4:30 pm

4:30-5:30 pm Session: 66 Dakota C Feb. 7, 2014

Grade Level: All

Presenter: Ellie Cooch SDCTM President

SDCTM Business Meeting

4:30-5:30 pm Session: 67 Dakota G Feb. 7, 2014

Grade Level: All

Presenter: Brenda Murphey

SDSTA President

SDSTA Business Meeting

SOCIAL HOUR

5:30-6:45

Hors d'oeuvres

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THINK THROUGH MATH

and

Dr. Arnio's Learning Solutions

CASH BAR

Friday 7:00 pm

7:00 pm--- Session: 68 Prairie A, B & C Feb. 7, 2014

Grade Level: All

Presenter: Rose DuBois & Randy Hagen

Banquet

Saturday

7:00 am

7:00-8:00 am Session: 69 Library Feb. 8, 2014

Grade Level: Awardees

Presenter: Diana McCann

& Ramona Lundberg PAEMST Coordinators

Breakfast for PAEMST Awardees and Finalists

8:00 am

Saturday

8:30 am

8:00-8:30 am Dakota H Session: 70 Feb. 8, 2014

Grade Level: 9-12

Presenter: Larry Browning

SDSU

Larry.Browning@sdstate.edu http://cosmicworkshop.wikispaces.com

CC13-1: Cosmic Connections 2013 Paperwork

This session is for those teachers who were in the NCLB/Title II sponsored workshop "Cosmic Connections 2013" during July of 2013 on SDSU's campus and wish to register for the additional graduate credit. Important paperwork and information will be completed during this half-hour session at the beginning of Saturday.

8:30-9:20 am Session: 72 Prairie B Feb. 8, 2014

Duplicate of 9

Grade Level: 9-12

FEATURED SPEAKER Michael Marlow

University of Colorado Denver (Retired)
Mike.Marlow@ucdenver.edu

Doing Authentic Science: Teaching for Understanding

The purpose of this session is to demonstrate how authentic science inquiries utilizing a constructive inquiry method may be incorporated into a high school science curriculum. Participants will participate in a series of connected hands-on activities designed to follow the constructivistic inquiry method resulting in a deep understanding.

Saturday 8:30 am

8:30-10:20 am Session: 71 Prairie A Feb. 8, 2014

Grade Level: K-5

FEATURED SPEAKER Sandy Atkins

Creating AHAs SAtkins@creatingahas.com http://www.creatingahas.com

Using Multiple Representations to Build Conceptual Understandings of Fractions

Participants will examine the purposeful use of concrete, pictorial, verbal and symbolic representations to build conceptual understandings of fractional relationships.

Sample activities for immediate classroom use will be shared.

8:30-10:20 am Session: 73 Prairie C Feb. 8, 2014

Duplicate of 46

Grade Level: 6-8

FEATURED SPEAKER

Fawn Nguyen

Mesa Union Junior High FawnpNguyen@gmail.com http://fawnnguyen.com

Problem Solving Tasks and Using Visual Patterns

Participants will see strategies for implementing problem solving in the classroom, where to find resources for rich tasks, and how visual patterns can be used to foster deep and flexible algebraic thinking.

8:30 am

8:30-10:20 am

Saturday

8:30 am

8:30-10:20 am Dakota A Session: 74 Feb. 8, 2014

Dakota C

Session: 76 Feb. 8, 2014

Grade Level: 6-8

Presenter: Peggy Norris

BHSU/SURF
PNorris@sanford

PNorris@sanfordlab.org http://sanfordlab.ord/education

Strategies for Broadening Participation in STEM

SciGirls (www.scigirlsconnect.org) is working to change how millions of girls think about science, technology, engineering and math - aka STEM. Grounded in education research, their strategies have also been proven to work with all learners, including underrepresented youth. This workshop will be a hands-on introduction to SCIGirls resources.

Grade Level: 9-12

Presenter: Dr. Janet Briggs

BHSU

Janet.Briggs@bhsu.edu

Next Generation Science Standards in Practice

Come and explore basic chemistry and engineering performances based on the Next Generation Science Standards. See how a series of student performances using basic kitchen materials can meet the 3 dimensions of NGSS (practices, crosscutting concepts, and disciplinary core ideas) as well as the Common Core Mathematics and Language Arts standards.

8:30-9:20 am Dakota B Session: 75 Feb. 8, 2014 8:30-9:20 am Dakota D Session: 77 Feb. 8, 2014

Grade Level: K-5

Presenter: Mari Biehl

SD Innovation Lab and the PAST Foundation

MBiehl@pastfoundation.org http://sdinnovationlab.org Presenter: Kelly Riedell
Brookings HS

Kelly.Riedell@k12.sd.us http://kr021.k12.sd.us

How to integrate your community into a STEM/TPBL classroom

Ms. Biehl will discuss practices for building a STEM/TPBL classroom that makes learning contextually and culturally relevant. Learn how she worked with her 2nd graders to indentify a growing concern over limited habitats for Monarch butterflies in central SD and how they used science and math infused TPBL to build a community butterfly garden.

Modeling Biology

Grade Level: 9-12

The introduction of coming NGSS and recent changes to AP Biology curriculum ask students to develop and use MODELS to communicate scientific phenomena and solve scientific problems. Come and see how modeling can be used in your classroom to increase student engagement and understanding of science content. Door prizes!

8:30 am

Saturday

8:30-10:20 am

Grade Level: 9-12

Dakota G

8:30 am

Session: 80

Feb. 8, 2014

8:30-9:20 am Dakota E Session: 78 Feb. 8, 2014

Duplicate of 50

Grade Level: 6-8

Presenter: Misty Roberts

& Marcia Torgrude

SD DOE & TIE

Misty.Roberts@state.sd.us

Presenter: Dr. Joan Hegerfeld-Baker

SDSU

Joan.Hegerfeld-Baker@sdstate.edu

Using HOT Skills to Achieve Math Success on SB Assessment

Join us to explore how the Smarter Balanced Assessment was developed and learn how to use those processes to create your own higher order thinking math questions and assessments in the classroom. Learn how Achievement Level Descriptors (ALD's) can be used to help improve students' thinking and overall success by using various WEBB level tools.

Food Safety Scientist Curriculum

Experience the SDSU Curriculum: Food Safety Scientist. Includes virtual and hands-on labs and educational tools incorporating basic STEM concepts and laboratory techniques into food and agriculture science. Includes four units: molds and toxins in foods, pH manipulation of foods; microbial dairy inspections; water activity and moisture.

8:30-9:20 am Dakota F Session: 79 Feb. 8, 2014

Duplicate of 48

Grade Level: K-5

Presenter: Aaron Kromann

Project Lead The Way AKromann@pltw.org http://www.pltw.org 8:30-9:20 am Session: 81 Dakota H Feb. 8, 2014

Grade Level: 9-12

Presenter: Chris Larson & Larry Browning

SDSU

Christine.Larson@sdstate.edu

Elementary STEM Curriculum

Studies show that students decide as early as second grade whether they like, and think they are good at, math and science. Project Lead The Way's elementary program is designed to spark interests of K-5 students and will align to the Next Generation Science Standards and Common Core State Standards.

CC13-2 Spherical Geometry in the Cosmos

Basic characteristics of spherical geometry are discussed with applications in astronomy. Models including balloons and Lenart Spheres will be used. This presentation is part of the NCLB/Title II sponsored workship: Cosmic Connections 2013.

Next Year's Conference is February 5, 6, 47, 2015!

8:30 am

Saturday

9:30 am

Session: 85

Feb. 8, 2014

8:30-9:20 am Salon I

Session: 82 Feb. 8, 2014 9:30-10:20 am Session: 84 Dakota B Feb. 8, 2014

Grade Level: K-12

Grade Level: K-5

Presenter: Diana McCann

Sanford PROMISE

Presenter: Liz McMillan

& Ramona Lundberg

Elizabeth.McMillan@sanfordhealth.org http://www.sanfordresearch.org/education

PAEMST Coordinators

Diagnosing and Discussing Rare Genetic Disease

With genetics and genetic disease we can teach young students about inheritance and about how we can celebrate our differences. Teach an appreciation for these rare diseases and raising awareness of rare genetic disease through several resources with The Sanford PROMISE,

Tips for Winning Money Would you like to receive \$10,000? Every year,

South Dakota is able to give two \$10,000 awards, one in science and one in math. The Presidential Award is sponsored by the White House and the National Science Foundation.

CoRDS, and genesareus.org.



Saturday

9:30 am

9:30-10:20 am Prairie B

Session: 83 Feb. 8, 2014

Grade Level: 6-12

Grade Level: 9-12

9:30-10:20 am

Dakota D

FEATURED SPEAKER

RCAS/CPM rendon@cpm.org

Sheli Smith STEM Coordinator SSmith@pastfoundation.org http://www.pastfoundation.org **Fun Functions Agenda**

Presenter: Sharon Rendon

An Artist's Eye for Math and Science Beauty exists all around us. So does math and science. Explore with me how to mix it all up with problem-based learning that empowers both teachers and students to express science and math with art, music, and dance.

Participants will experience several activities concerning functions. These will include using a human graph to explore functions, domain and range, and asymptotes. There will be an activity with function machines, a carousel, and a silent board game. We will end with a Function Treasure Hunt. The CCSSM Practices will be processed throughout.

9:30 am

Saturday

9:30 am

9:30-10:20 am Dakota E Session: 86 Feb. 8, 2014

9:30-10:20 am Dakota H Session: 88 Feb. 8, 2014

Grade Level: 9-12

Presenter: Matt Miller

SDSU

Matt.Miller@sdstate.edu

SDSU

Presenter: Chris Larson

Cosmic Connections 2013

Grade Level: 9-12

Christine.Larson@sdstate.edu

Come create parabolas and discover their

characteristics using pipe cleaners. This is part

of a NCLB/Title II sponsored workshop entitled

CC13-3 Pipe Cleaner Parabolas

"Translating the NGSS for Classroom Instruction"

We will discuss a the book entitled "Translating the NGSS for Classroom Instruction." The book was written by Roger Bybee at the request of leaders involved in the development of the NGSS. Two specific chapters will be the focus: "From NGSS to Instruction in a High School Classroom" and "Planning to ADAPT Materials for Classroom Instruction."

9:30-10:20 am Salon I

Grade Level: K-5

Session: 89 Feb. 8. 2014

9:30-10:20 am Session: 87 Dakota F Feb. 8, 2014

Grade Level: 6-8

Presenter: Steve Lewis

The PAST Foundation
SLewis@pastfoundation.org

http://www.pastfoundation.org

Calculator Not! Why Not!

Presenter: Jan Martin

Based on the expectations of the CC standards, students in grades 3, 4, and 5 will not be allowed to use a calculator for the Smarter Balanced assessment. Why this shift? What shifts need to be occuring in the classroom for students to have them ready for the new assessments?

SD Department of Education

http://www.smarterbalanced.org

Jan.Martin@state.sd.us

Fractions in Cool Math

Let's demystify fractions by exploring how they span mathematics and then relate these concepts to real life problems that we can solve through engaging projects with products that showcase the various modalities of learning.

Next Year's Conference is February 5, 6, 47, 2015!

Have you considered being a presenter?

Everyone here has something that they do well!

10:30 am

Saturday

10:30 am

10:30-11:20 am Dakota A

Session: 90 Feb. 8, 2014

Session: 92 10:30-11:20 am Dakota C Feb. 8, 2014

Grade Level: K-5

Grade Level: 9-12

Presenter: Anne Lewis

SD Discovery Center

AnneLewis@sd-discovery.com http://www.sd-discovery.com **Presenter:** Kara Schweitzer SD DOE

http://doe.sd.gov

PLTW: How to Get Started

Project WET

Get WET (Water Education for Teachers)! Project WET is a resource swimming with hands-on activities that extend across the curriculum to teach about water. Come learn some of the most popular activities!

As school districts begin to plan and implement new and innovative curriculum, they must coordinate their resources toward a sustainable adoption. The purpose of this presentation is to provide guidance on the processes and factors a school district may consider when mplementing a new program.

10:30-11:20 am Session: 91 Dakota B Feb. 8, 2014

10:30-11:20 am Session: 93 Dakota D Feb. 8, 2014

Grade Level: K-5

Grade Level: 6-8

Presenter: Cindy Kroon

Montrose HS

Cindy.Kroon@k12.sd.us http://ck022.k12.sd.us

Presenter: Joshua Schmidt McCook Central

Joshua.Schmidt@k12.sd.us joshuaschmidt.wikispaces.com

Break-lyn Bridge: Modeling with Spaghetti

Arrivaderci cookbook data collection activities! Put on your student hat as we design an experiment, then collect data on the strength of spaghetti bridges. Participants will use modeling techniques and the scientific method during an inquiry-based activity. Itsa gonna be great!

A Middle School MCL Classroom

This is my third year in a MCL video based clasroom. I'm hoping to give advice and answer questions for people hoping to try similar ideas.

> Have you checked out "Share the Classroom Treasures"? Stop in Salon I and see what is there.

At 4:30 pm today, these treasures become trash!

Next Year's Conference is February 5, 6, 47, 2015!

10:30 am

Saturday

10:30 am

10:30-11:20 am Dakota E

Session: 94 Feb. 8, 2014

10:30-11:20 am Dakota G

Grade Level: 6-8

Session: 96 Feb. 8, 2014

Grade Level: 6-12

Presenter: Jill Weimer, PhD

Sanford Research Jill.Weimer@sanfordhealth.org http://www.sanfordresearch.org

John.Hollingsworth@SDUniversityCenter.org

One Sided Pentominoes

Presenter: John D. Hollingsworth

University Center--Sioux Falls

We will attempt to show that we can cover a quadrupling of any pentomino with a complete set of 18 one-sided pentominoes. We will first need a set of one-sided pentominoes. As of today I do not know if this can be done.

Neuroscience Meets Magic and a Zombie Apocalypse

Join Sanford Research neuroscientist Dr. Jill Weimer to learn about her research on brain development and pediatric neurodegenerative disorders. Dr. Weimer will discuss inquirybased strategies for integration of neuroscience into your classroom - through topics such as drug abuse, magic and the brain, and analyzing the zombie brain.

10:30-11:20 am

Grade Level: 6-12

Presenter: Judy Vondruska SDSU

Session: 97

10:30-11:20 am

Dakota H

Feb. 8, 2014

Feb. 8, 2014

Duplicate of 17

Session: 95

Judy.Vondruska@sdstate.edu

Grade Level: All

Dakota F

Presenter: Sharon Vestal, Dan Van Peursem,

Larry Browning, & Matt Miller

SDSU & USD

Sharon.Vestal@sdstate.edu

CC4: Using NASA Space Math to Teach Math and Science Concepts

Space science and astronomy provide a great vehicle for engaging students in learning about science and math. This session will provide an overview of SpaceMath@NASA which can be used to teach many different physical science and mathematics concepts. Participants will also gain hands-on experience with various activities.

Meet the Future Teachers

Prospective science and math teachers from all South Dakota institutions will be invited to engage in conversation with veteran science and math teachers. The goal is to provide support and encouragement for the next generation of teachers by providing advice, encouraging stories, and successful strategies.

10:30 am

10:30-11:20 am Salon I Session: 98 Feb. 8, 2014

Grade Level: K-12

Presenter: Dr. Janet Briggs

BHSU

Janet.Briggs@bhsu.edu

Using Master Gardeners to Enhance Your Science Curriculum

Are you interested in starting a school garden, a butterfly garden, or planting trees at your school? Master Gardeners are volunteers who assist others in community/school gardening; including growing vegetable gardens, fruit trees, and flowers. Learn about resources available to you and discuss options for getting students excited about gardening!

Saturday

1:00-1:50 pm Prairie A Session: 100 Feb. 8, 2014

1:00 pm

Grade Level: All

FEATURED SPEAKER

Sheli Smith
STEM Coordinator
SSmith@pastfoundation.org
http://www.pastfoundation.org

We know when kids get excited about learning there is nothing they won't tackle. We know without science and math, we couldn't replicate recipes, point masterpieces, or photograph our children. We know that in everyday life, science and math are part of everything we do, but we don't teach this way. So, how do we link learning to life for *every* kid.

Saturday NOON

Noon-1:00 pm Session: 99 Prairie A, B & C Feb. 8, 2014

Grade Level: All

Presenter: Brenda Murphey & Ellie Cooch

SDSTA & SDCTM Presidents

Lunch

1:00-2:50 pm Session: 101 Prairie B Feb. 8, 2014

Grade Level: 6-8

FEATURED SPEAKER Michael Marlow

University of Colorado Denver (Retired)
Mike.Marlow@ucdenver.edu

Building Complex Understandings through Inquiry Activities

Participants will do a series of connected inquiry activities using flowers to demonstrate a method that moves students from base knowledge to more complex understandings. The model uses a decontruct/reconstruct methodology that may transfer over to a number of other content topics.

1:00 pm

Saturday

1:00 pm

1:00-1:50 pm Session: 102 Prairie C Feb. 8, 2014

Duplicate of 10

Grade Level: 6-8

1:00-1:50 pm Session: 104
Dakota B Feb. 8, 2014

Duplicate of 59

Grade Level: K-5 (and 6-12)

Presenter: Michelle Regan National Trainer mmnregan@gmail.com

Why Some Creatures Eat Their Young... Tempted?

If you knew what we knew, you wouldn't be! Have you ever gotten through the day exhausted but unable to pinpoint why? You're the victim of all those small, annoying, time-consuming behaviors. They wear you down! Teaching doesn't have to be like that--there's hope! Learn classroom management tools to save you time and renew your energy.

FEATURED SPEAKER

Fawn Nguyen

Mesa Union Junior High FawnpNguyen@gmail.com http://fawnnguyen.com

Hands-on Activity to Foster CCSS-M Practices

Participants will engage in classroom-tested hands-on activity to foster the Standards for Mathematical Practices. You will build "hotels" with linking cubes with the goal of maximizing profit. You will figure in building costs and consider potential income. This task is easily adaptable to many levels.

1:00-1:50 pm Session: 103 Dakota A Feb. 8, 2014

Grade Level: 9-12

Presenter: Dr. Michael Catalano

DWU

micatala@dwu.edu

Numeracy: Nerdiness or Neurosis?

What is numeracy, why is it important, and how do we foster it in students who tend to think of math as something for nerds or crazy people? The session will include examples that can be used in a variety of classes which focus on concepts in quantitative literacy.

1:00-1:50 pm Session: 105 Dakota D Feb. 8, 2014

Grade Level:

Presenter: Sam Shaw

SD DOE

Sam.Shaw@state.sd.us http://doe.sd.gov

Common Core Literacy in Science

In this session, teachers will practice with an instructional planning tool to integrate literacy and writing standards into their curriculum.

1:00 pm

Saturday

1:00 pm

1:00-1:50 pm Dakota E Session: 106 Feb. 8, 2014

Session: 107

Feb. 8, 2014

1:00-1:50 pm Dakota G Session: 108 Feb. 8, 2014

Duplicate of 25

Grade Level: 9-12

Presenter: Aaron Kromann

Project Lead The Way AKromann@pltw.org http://www.pltw.org Grade Level: 9-12

Presenter: Dr. Joan Hegerfeld-Baker

SDSU

Joan.Hegerfeld-Baker@sdstate.edu

Biomedical Science Curriculum

Learn how the PLTW Biomedical Science program can prepare students for college and careers related to healthcare, medicine, research, and bioengineering. Students explore the concepts of human medicine, and work collaboratively to investigate and design innovative solutions to prevalent health challenges such as fighting cancer with nanotechnology.

Duplicate of 38

Influence of STEM education in selecting food and ag science

Market forces identify a faster than average growth rate expected for agriculture and food scientists. SDSU research investigated the influential factors comparing STEM to non-STEM majors (n = 458) in choosing careers as well as the technology teachers (n = 239) in SD are using to teach math and science concepts.

1:00-1:50 pm Dakota F

Duplicate of 37

Grade Level: All

Presenter: Sharon Vestal & Lisa Weier

SDSU & Mickelson MS-Brookings sdsu.isee@sdstate.edu http://www.sdstate.edu/isee/

1:00-1:50 pm Session: 109 Dakota H Feb. 8, 2014

Grade Level: 9-12

Presenter: Larry Browning

SDSU

Larry. Browning@sdstate.edu

What is ISEE and how can it help you?

South Dakota State University recently created the Institute for STEM Education Enhancement. This session will discuss our goals and mission, but the focus will be on how ISEE can help K-12 science and math teachers in South Dakota.

IPEVO Interactive Whiteboard and Socrative Website

IPEVO has introduced a camera system that will allow a projector and computer to turn a surface into an interactive whiteboard inexpensively. The IPEVO technology will be used in conjunction with the Socrative website to show ways to engage your class. Bring a web enabled device (smart phone, tablet, etc.) to join in the activities.

2:00 pm

Saturday

2:00 pm

2:00-2:50 pm Dakota A Session: 110 Feb. 8, 2014 2:00-2:50 pm Dakota C Session: 112 Feb. 8, 2014

Session: 113

Feb. 8, 2014

Grade Level: 6-8

Grade Level: K-5

Presenter: Jan Martin

SD Department of Education
Jan.Martin@state.sd.us
http://www.smarterbalanced.org

Presenter: Steven Rokusek SD Public Broadcasting

Steven.Rokusek@state.sd.us http://sdpb.sd.org/SciencelQ

Calculators? Formulas? What Students Need to Know!

Based on the expectations of the CCSS, students in grades 6-8 will no longer have formula sheets for math on the Smarter Balanced assessment. Calculators will be online when appropriate. Are your students ready for these shifts in expectations? The assessment framework will be presented highlighting changes in student expectations.

Engaging Science Activities

During this session participants will learn about four science activities that will keep the children in their care entertained and educated. The activities will include, but are not limited to bubble/balloon races, Skittle Your Senses and more.

2:00-2:50 pm Dakota B Session: 111 Feb. 8, 2014

Grade Level: 6-12

2:00-2:50 pm

Dakota D

Grade Level: 9-12

Presenter: Joan Lubben

& Bethany Melroe-Lehrman

DWU

jolubben@dwu.edu

http://myweb.dwu.edu/jolubben/

Presenter: Dan Van Peursem

USD

DPeursem@usd.edu

Math and Models and Science, OH MY!

We'll use inquiry based learning as we develop mathematical models from real-world data and our own chemistry experiments. The activities presented encompass pre-calc, statistics, chemistry, and biology, plus we'll throw in computer and writing components to create an interdisciplinary learning experience for your math or science classroom.

Crack the Code

We will start with elementary codes, discuss ISBN codes, and then look at some more complicated codes. A worksheet will be distributed that you can use in your classes. This is an excellent introduction to inverse functions.

Please fill out your evaluation of the conference. We want next year's to be even better.

2:00 pm

Saturday

2:00 pm

2:00-2:50 pm Dakota E

Session: 114 Feb. 8, 2014

2:00-2:50 pm Dakota H

Grade Level: 9-12

Session: 116 Feb. 8, 2014

Grade Level: 9-12

Presenter: Emily Koehler

DeSmet HS

Emily.Koehler@k12.sd.us

Presenter: Larry Browning & Matt Miller

Larry.Browning@sdstate.edu

STEM Student Research

Come learn how I implemented a student research class in my district. Discussion of the book STEM Student Research Handbook by Darci J. Harland, use of Edmodo to run the class, and results of the student research projects will be included.

Demonstrations to Spark Their Interest

We will present new demonstrations (at least different from last year) which are easy to make from materials you can find. Our goal is to present a variety of demonstrations that can be incorporated at multiple levels. The content will focus on physics and chemistry.

2:00-2:50 pm Dakota F

Session: 115 Feb. 8, 2014

Grade Level: 9-12

Saturday

3:00 pm

Session: 118

Feb. 8, 2014

Presenter: Rachel Blume & Brenda Merkel

NESD Area Health Education Center

info@nesdahec.org http://www.nesdahec.org 3:00-3:50 pm Session: 117 Dakota C Feb. 8, 2014

Grade Level: All

Presenter: Ellie Cooch

This is a chance to share your reflections on the sessions you attended at the conference.

Hands On Health Occupations for the Science

This will be a demonstration of hands on activities that correlate the science class with health careers. NESD AHEC will be bringing in equipment to make this a demonstration event to take back to the classroom.

Grade Level: All

Dakota G

3:00-3:50 pm

Presenter: Brenda Murphey

This is a chance to share your reflections on the sessions you attended at the conference.

4:00-???? Session: 119 Boardroom Feb. 8, 2014

Joint Board Meeting

Representatives will be exhibiting on Friday from 8:00 AM until 5:00 PM. These include:

Connecting Point Computer Center
CPM Educational Program
Houghton Mifflin Harcourt
Innovation in Education
Institute for STEM Ed. Enhancement SDSU
North East SD Area Health Ed. Center
NSTA
Nutritional Sciences and Extension

Nutritional Sciences and Extension Project Lead the Way Renaissance Learning Sanford Underground Research Facility

SD Discovery Center (Pierre)

Courtney Jutting & Mark Robbins

Bob Peterson

Matt Misialek & Christina Trindle

Mary Lou McGirr Sharon Vestal

Brenda Merkel & Rachel Blume

Ramona Lundberg Joan Hegerfeld-Baker Aaron Kromann

Ron Given & Peggy Packer

Peggy Norris

Anne Lewis & Marie Steckelberg

South Dakota Science Teachers Association Business Meeting will be held in Dakota G at 4:30 pm on Friday, February 7, 2014

SD Council of Teachers of Mathematics Business Meeting will be held in Dakota C at 4:30 pm on Friday, February 7, 2014

Graduate Credit

Conference credit will be offered through Dakota Wesleyan University. You may register for one hour of credit at the 499 or 599 level.. Attendance at a sharing session is required to earn graduate credit from Dakota Wesleyan University. There will be personnel available to register you for the credit on Thursday night from 7:00 to 9:00 pm, and on Friday morning from 7:30 to 8:30 am. Check in the hotel lobby for the DWU table. A syllabus listing course requirements will be available at the time of registration. For more information, contact Rocky Von Eye at (605) 995-2625.

Next year's conference will be **February 5, 6, & 7, 2015**

^{*}Name Tag Lanyards are compliments of SD Game Fish and Parks



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2014 Mathematics and Science Conference SDSTA & SDCTM

Please take time to respond to the following questions concerning the conference. This information will help the program committee take steps to improve future conferences. Circle one in each group:

Content Area: Grade Band:	Math Elementary	Science Middle School	Both High School
	•	a feel were the most useful or he	
What made it (or	them) good?		
Were there any pr	resentations that disappo	inted you?	
Please give us you share.	ur overall assessment of	the conference along with any c	comments you would like to
	the following for a final	prize to be sent after the conferon form.	rence. To register for the prize
	Name		_
	Address		_
	City, State, Zip Co	ode	_

The 2014 Conference Committee would like to offer a Special Thanks to ...

Dakota Weslyan University and Rocky Von Eye for handling the credit.

Coke for helping provide refreshments throughout the conference.

All speakers for their dedication to the future of mathematics and science education.

All exhibitors for their enthusiastic participation.

The **Huron Area Chamber of Commerce**, The **Huron Convention and Visitors Bureau** for a great deal of help and cooperation.

The **Huron Events Center & Crossroads Hotel** for their help and generous hospitality.

All the conference participants who make all of our efforts worthwhile and without whom there would be no conference.

A SPECIAL THANKS GOES TO **TIE** FOR HELPING US WITH PROJECTORS!

Join TIE at this region's premier ed tech conference and expo-April 13-15, 2014 at the Sioux Falls Convention Center.

Next year's conference will be **February 5, 6, & 7, 2015.**

The 2014 Spring Conference is a joint venture of the South Dakota Science Teachers Association (SDSTA) and the South Dakota Council of Teachers of Mathematics (SDCTM)

Note: There is a common registration form for the conferences. One form is used to register for all activities, including SDSTA and SDCTM memberships.

ONE-day (SDCTM or SDSTA members) \$50 Non-members \$100 Students \$15 includes the Noon Luncheon for that day

TWO-day (SDCTM or SDSTA members) \$75 Non-members \$125 Students \$25

includes the Noon Luncheon for both days

The Friday Night Banquet is **NOT** included in the registration fee. A ticket for the banquet may be obtained at an additional cost of \$25.

Because of a limited printing budget, the program was available in advance at the SDCTM website [www.sdctm.org] or SDSTA web site [www.sdsta.org]. Printed programs were not mailed, but were distributed on site with the registration materials.

