



November 8, 2019

# Colorado Science Conference

## PRESENTATIONS AT-A-GLANCE\*

### Session 1: 8:00-8:55

#### **Mindfulness, Empathy, and Enthusiasm in the Science Classroom**

Nadene Klein

*Daniel C. Oakes High School*

**Focus:** General Science

**Audience:** General

**Room:** K 35-39

#### **Implementing NGSS for Engagement, Equity, and Agency**

Shannon Wachowski

*University of Wyoming*

**Focus:** General Science

**Audience:** Middle School / High School

**Room:** K 49-53

#### **Bat Biology for Beginners and Experts**

Dave Jackson

*CaveSim*

**Focus:** Life Science/Biology

**Audience:** General Elementary (K-6)

**Room:** J 30-38

#### **Nature in YOUR Teaching: Turning Your Classroom Inside OUT!**

DeLene Hoffner

*EE SE Regional Council*

**Focus:** Life Science/Biology

**Audience:** General Elementary (K-6)

**Room:** J 40-46

#### **Chem Major 2.0: a modern curriculum at scale**

Anthony Rappe

*Colorado State University*

**Focus:** Chemistry

**Audience:** High School

**Room:** J 48-52

#### **Science and Literacy: Making the Connection**

Kenn Heydrick

*STEMscopes / Accelerate Learning*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** J 31-39

#### **Crosscutting Concepts: Putting Them To Work To Support Learning**

Craig Gabler

*Horizons Educational Consulting*

**Focus:** General Science

**Audience:** Elementary (3-6)

**Room:** J 41-47

#### **I'm Leading STEM Club! What's Next?**

Heathre Palige

*Pinnacle Charter School*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** K 41-47

#### **Using a Variety of Methods to Assess for the Three Dimensions**

Dawn Smith

*TCI*

**Focus:** General Science

**Audience:** General

**Room:** H 39-45

#### **"What's your Problem?"**

Cassie Whitecotton

*Educational Consultant*

**Focus:** Technology Education

**Audience:** General

**Room:** H 31-37

#### **Push, Pull, Go!**

Erik Benton

*Carolina Biological*

**Focus:** Physical Science

**Audience:** Elementary (K-2)

**Room:** G 30-36

#### **What makes an assessment "3D?"**

Kerri Wingert

*University of Colorado at Boulder*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** G 38-44

#### **Using Improvisational Theater Exercises to Teach Science Communication and Collaboration Skills**

Megan Littrell

*CIRES Education & Outreach*

**Focus:** General Science

**Audience:** Middle School / High School

**Room:** H 40-46

#### **Industry Partner Immersion For Focus on Integrating NGSS Science and Engineering Practices**

Shanna Atzmiller

*Bear Creek High School*

**Focus:** Life Science/Biology

**Audience:** High School

**Room:** G 31-37

#### **Practical Strategies for Teaching with PhET Interactive Simulations**

Amy Rouinfar

*University of Colorado Boulder*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** H 30-38

#### **It's DEMO Time!!!**

Josh Morris

*EDGE Program at Legend High School*

**Focus:** Chemistry

**Audience:** General

**Room:** J 49-53

#### **\*Please Note:**

Sessions & room numbers may change. Any changes will be posted accordingly at the conference.

## Session 2: 9:10-10:05

### **CSEN Gathering: Leveraging partnerships toward a common vision**

Lori Reinsvold  
*MAST Institute, University of Northern Colorado*  
**Focus:** Other  
**Audience:** General  
**Room:** K 35-39

### **Transplantation Science - A FREE Hands-on Workshop for Students**

Anne Gaspers  
*Donor Alliance*  
**Focus:** Life Science/Biology  
**Audience:** Middle / High School  
**Room:** K 41-47

### **EarthComm: A Project-Based Earth Science Curriculum that Uses an Authentic NGSS Approach**

Marilyn Schmidt  
**Focus:** Earth/Space Science  
**Audience:** General  
**Room:** K 49-53

### **Cave Rescue meets Electromagnetism**

Dave Jackson  
*CaveSim*  
**Focus:** General Science  
**Audience:** Middle / High School  
**Room:** J 30-38

### **Modeling Nutrients as Contaminants**

Lisa Yemma  
*Slavens with Lab Aids and SEPUP*  
**Focus:** Environmental Science  
**Audience:** Middle School  
**Room:** J 40-46

### **Colorful Chemistry Demos**

Linda Cummings  
*UCCS*  
**Focus:** Chemistry  
**Audience:** Middle / High School  
**Room:** J 48-52

### **“Phenominal” Design Challenges by Raft**

Nick Haag  
*RAFT*  
**Focus:** General Science  
**Audience:** General Elementary (K-6)  
**Room:** J 31-39

### **Little Shop of Physics: We Are All Connected!**

Sheila Ferguson  
*Colorado State University*  
**Focus:** Physics  
**Audience:** General  
**Room:** Exhibit Hall

### **Getting Students Excited About Stoichiometry with Project Based Learning**

Deanna Detmer  
*Kent Denver School*  
**Focus:** Chemistry  
**Audience:** High School  
**Room:** J 49-53

### **Engineering Design Project-Based Labs Using PASCO Technology**

Rosario Rodolfo  
*PASCO scientific*  
**Focus:** General Science  
**Audience:** Middle / High School  
**Room:** H 40-46

### **Landing on Mars with Inquiry-Based Learning**

Monnie Barrett  
*Science Matters in America*  
**Focus:** Earth/Space Science  
**Audience:** General Elementary (K-6)  
**Room:** G 39-45

### **Going 3D: Making Sense of the New Colorado Science Standards**

Jessi Davis  
*US Learning Services*  
**Focus:** General Science  
**Audience:** General  
**Room:** F 38-44

### **Bring Science and Math together with the Technology thru Engineering**

Cassie Whitecotton  
*Educational Consultant*  
**Focus:** Physical Science  
**Audience:** General  
**Room:** H 31-37

### **Engineering Design in the NGSS**

Dawn Smith  
*TCI*  
**Focus:** General Science  
**Audience:** Middle School  
**Room:** H 39-45

### **Modeling Changes on the Earth’s Surface**

Erik Benton  
*Carolina Biological*  
**Focus:** Earth/Space Science  
**Audience:** Elementary (3-6)  
**Room:** G 30-36

### **Ute STEM: Colorado’s First Scientists**

Liz Cook  
*History Colorado*  
**Focus:** Environmental Science  
**Audience:** Informal Education  
**Room:** G 38-44

### **2020 Colorado Science Standards**

Maya Garcia  
*Colorado Department of Education*  
**Focus:** Other  
**Audience:** General  
**Room:** G 31-37

### **The CU Boulder Museum’s Fossils in the Classroom Project:**

**The Hands-on Study of Fossils**  
James Hakala  
*University of Colorado Museum*  
**Focus:** Earth/Space Science  
**Audience:** Elementary (3-6)  
**Room:** H 30-38

### **Fire Ecology at Rocky Mountain National Park**

Danielle York  
*National Park Service*  
**Focus:** Environmental Science  
**Audience:** Middle / High School  
**Room:** G 47-53

### **The CREATE Open Program: a next-level robotics program focused on freedom of choice**

Jim Schulte  
*CREATE Foundation*  
**Focus:** Technology Education  
**Audience:** Middle / High School  
**Room:** F 30-36

### **Reimagining Field Trips: Ranger Led Virtual Programs with Rocky Mountain National Park**

Kathryn Ferguson  
*Rocky Mountain National Park*  
**Focus:** Environmental Science  
**Audience:** General  
**Room:** H 48-52

### **Rocky Mountain Environmental Hazards Challenge - An Engaging Approach to Natural Hazards Education**

Justin Zakoren  
*Earth Force*  
**Focus:** Environmental Science  
**Audience:** Middle / High School  
**Room:** F 46-52

### **Project Based Learning with HyperDinos and Animals in Elementary Classrooms**

Jennifer Parrish  
*University of Northern Colorado*  
**Focus:** General Science  
**Audience:** General Elementary (K-6)  
**Room:** J 41-47

## Session 3: 12:15-1:10

### **The First Step in 3-D Printing**

Nadene Klein

*Daniel C. Oakes High School*

**Focus:** General Science

**Audience:** General

**Room:** K 35-39

### **Growing a Gender-Inclusive Biology Curriculum**

Sam Long

*Jeffco Public Schools*

**Focus:** Life Science/Biology

**Audience:** Middle / High School

**Room:** K 41-47

### **A Focus on Modeling in the Phenomenon-Based Classroom**

Marilyn Schmidt

*Academic coach*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** K 49-53

### **Explore a Cave to Learn Geology and Chemistry**

Dave Jackson, *CaveSim*

**Focus:** Chemistry

**Audience:** General Elementary (K-6)

**Room:** J 30-38

### **ATMOSPHERE, CLIMATE & GLOBAL WARMING**

Lisa Yemma

*Slavens with Lab Aids and SEPUP*

**Focus:** Environmental Science

**Audience:** Middle School

**Room:** J 40-46

### **AP Chemistry Teaching Nuggets**

Linda Cummings, *UCCS*

**Focus:** Chemistry

**Audience:** High School

**Room:** J 48-52

### **Creating Effective Outdoor Science Activities**

Katie Navin

*Colorado Alliance for Environmental Education*

**Focus:** Environmental Science

**Audience:** General

**Room:** J 31-39

### **Phenomenon "What, Where, When, Why?"**

Craig Gabler

*Horizons Educational Consulting*

**Focus:** General Science

**Audience:** Elementary (3-6)

**Room:** J 41-47

### **Do It Like A Scientist! Claims, Evidence, & Reasoning**

Josh Morris

*EDGE Program at Legend High School*

**Focus:** General Science

**Audience:** General

**Room:** J 49-53

### **Order Up a Helping of Forensics, With a Side of Maggots!**

Jeff Lukens

*Retired Science Teacher*

**Focus:** Other

**Audience:** Middle / High School

**Room:** H 30-38

### **STEPUP: A cultural change to inspire Girls in Physics**

Alisa Grimes

**Focus:** Physical Science

**Audience:** General

**Room:** H 40-46

### **CLEAN & NGSS**

Katie Boyd, *CIRES*

**Focus:** Earth/Space Science

**Audience:** Middle / High School

**Room:** H 48-52

### **Take Flight With Wings Over the Rockies' Aerospace Programs**

April Lanotte

*Wings Over the Rockies*

**Focus:** Technology Education

**Audience:** General

**Room:** H 31-37

### **Integrating Crosscutting Concepts into Your Classroom**

Dawn Smith, *TCI*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** H 39-45

### **Elementary Science Make-and-Take**

Teresa Higgins & UNC Students

*University of Northern Colorado*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** G 46-52 & H 47-53

### **Get Inspired to Teach NGSS with GLOBE Weather**

Emily Snode-Brenneman

*University Corporation for Atmospheric Research*

**Focus:** Earth/Space Science

**Audience:** Middle School

**Room:** G 30-36

### **Astronomy Outside the Box**

Mary Gregory

*Lewi s Palmer High School*

**Focus:** Earth/Space Science

**Audience:** Middle / High School

**Room:** G 38-44

### **Designing Inclusive Science Learning Environments: Supporting Students Who Receive Special Education Services**

Maya Garcia

*Colorado Department of Education*

**Focus:** Other

**Audience:** General

**Room:** G 31-37

### **Soil- Life's Main Ingredient**

Melissa Bigge

*Nutrients for Life Foundation*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** G 39-45

### **A Medical Mystery--A Free Online Curriculum for Middle School**

Betty Stennett

*BSCS Science Learning*

**Focus:** Life Science/Biology

**Audience:** Middle School

**Room:** G 47-53

### **On-Target® Water Testing Kits**

Josephine Hofstetter

*Access Sensor Technologies*

**Focus:** Environmental Science

**Audience:** General

**Room:** F 30-36

### **Houghton Mifflin Harcourt - Scientific Modeling K-5**

James Oliver

*Houghton Mifflin Harcourt*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** F 38-44

### **Ecology Field Methods in the Classroom**

Katelin Gaeth

*Denver Botanic Gardens*

**Focus:** Environmental Science

**Audience:** General

**Room:** F 46-52

### **Little Shop of Physics: We Are All Connected!**

Sheila Ferguson

*Colorado State University*

**Focus:** Physics

**Audience:** General

**Room:** Exhibit Hall

## Session 4: 1:55-2:50

### **Raising the Bar With At-Risk Youth**

Nadene Klein

*Daniel C. Oakes High School*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** K 35-39

### **You CAD Do This**

Rob Funk

*Sagewood Middle School*

**Focus:** Technology Education

**Audience:** General

**Room:** K 41-47

### **Making Three-Dimensional Learning Meaningful for Students Using Science Storylines**

Marilyn Schmidt

*Academic coach*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** K 49-53

### **Hands-on Physics with a 12 Foot Tower**

Dave Jackson

*CaveSim*

**Focus:** Physics

**Audience:** General Elementary (K-6)

**Room:** J 30-38

### **Citizen Science in the Classroom**

Theresa Hemming

*Douglas County HS*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** J 40-46

### **Playing with the Periodic Table**

Sandra Weeks

*Rocky Mountain High School*

**Focus:** Chemistry

**Audience:** High School

**Room:** J 48-52

### **Claim-Evidence-Reasoning: Scientific Explanations to Increase Student Voice**

Kenn Heydrick

*STEMscopes / Accelerate Learning*

**Focus:** General Science

**Audience:** Middle School

**Room:** J 31-39

### **Using Authentic Science Notebooks in K-5**

Brian Campbell

*Lawrence Hall of Science*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** J 41-47

### **Healthy Oceans as an Elementary School Curriculum Topic**

Nancy Carlisle

*retired*

**Focus:** Environmental Science

**Audience:** General Elementary (K-6)

**Room:** J 49-53

### **Is a Zombie Apocalypse Eating at You? Try These STEM Strategies!**

Jeff Lukens

*Retired Science Teacher*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** H 30-38

### **Discover the world with Atlas Robotics**

Tom Frederick

*Higher Order Innovation*

**Focus:** Technology Education

**Audience:** Middle / High School

**Room:** H 40-46

### **Worm Composting: A Complete Ecosystem in Your Classroom**

Diane Odbert

*Knowledge Quest Academy*

**Focus:** Life Science/Biology

**Audience:** Middle School

**Room:** H 48-52

### **NASA Space Technology: You Can't Take It All With You**

April Lanotte

*Wings Over the Rockies*

**Focus:** Technology Education

**Audience:** General

**Room:** H 31-37

### **Evolution for Middle School Educators**

Shauna Chapa

*TIES*

**Focus:** Life Science/Biology

**Audience:** Middle / High School

**Room:** H 39-45

### **Using the 4Cs in the Elementary Science Classroom**

Katie Poulsen

*eleSTEMary*

**Focus:** General Science

**Audience:** General Elementary (K-6)

**Room:** F 46-52

### **Balanced and Unbalanced Forces**

Erik Benton

*Carolina Biological*

**Focus:**

**Audience:** Elementary (3-6)

**Room:** G 30-36

### **Claim, Evidence, Reasoning that supports ELD students**

Linda Flohr

*Glenwood Springs High School*

**Focus:** General Science

**Audience:** Middle / High School

**Room:** G 38-44

### **Planning for 3D Instruction: Introducing the Five Tools**

Maya Garcia

*Colorado Department of Education*

**Focus:** Other

**Audience:** General

**Room:** G 31-37

### **Ride The Rails**

Michael Johnson

**Focus:** Physical Science

**Audience:** Middle / High School

**Room:** G 39-45

### **Incorporating Native Plants Into the Classroom**

David Julie

*Colorado Native Plant Society*

**Focus:** Life Science/Biology

**Audience:** Middle / High School

**Room:** G 47-53

### **Easy and Engaging Dissections for All! - squid, chicken wing, and cow eye**

Jessica McVeigh

*Stargate School*

**Focus:** Life Science/Biology

**Audience:** Middle / High School

**Room:** F 30-36

### **STEM Program Teaching World Food Sustainability**

Jennifer Scharpe

*CO Foundation for Agriculture*

**Focus:** Environmental Science

**Audience:** Middle / High School

**Room:** F 38-44

### **30 Demos in 50 Minutes**

Rob Reinsvold & UNC Students

*University of Northern Colorado*

**Focus:** General Science

**Audience:** General

**Room:** G 46-52 & H 47-53

### **Little Shop of Physics: We Are All Connected!**

Sheila Ferguson

*Colorado State University*

**Focus:** Physics

**Audience:** General

**Room:** Exhibit Hall

## Session 5: 3:05-4:00

**Meeting the Needs of Noyce Scholars**  
Rob Reinsvold  
*University of Northern Colorado*  
**Focus:** General Science  
**Audience:** Middle / High School  
**Room:** K 35-39

**Critical Creativity in the Secondary Classroom**  
Pamela McWilliams  
*Euclid Middle School*  
**Focus:** General Science  
**Audience:** Middle / High School  
**Room:** K 41-47

**Astronaut Health: Science Education Resources for K-12 and Beyond**  
Dana Abbey  
*NNLM*  
**Focus:** General Science  
**Audience:** Middle / High School  
**Room:** J 30-38

**3e NGSS EVOLUTION: INVESTIGATING EMBRYOLOGY**  
Lisa Yemma  
*Slavens with Lab Aids and SEPUP*  
**Focus:** Life Science/Biology  
**Audience:** Middle School  
**Room:** J 40-46

**Avogadro's Number, Surprise!**  
Tom Bindel  
*Retired / Pomona High School*  
**Focus:** Chemistry  
**Audience:** High School  
**Room:** J 48-52

**Let's Use the 5-Es to Provide Equity in Science Instruction**  
Kenn Heydrick  
*STEMscopes / Accelerate Learning*  
**Focus:** Other  
**Audience:** General  
**Room:** J 31-39

**Phenomena Based Learning: Inquiry for All**  
Laurie Wretling  
*PEBC*  
**Focus:** General Science  
**Audience:** General Elementary (K-6)  
**Room:** G 38-44

**Effects of TDS (total dissolved solids and temperature on Ocean and Local Water Systems)**  
Rachel Kissner  
*American Meteorology Society-AMS*  
**Focus:** Chemistry  
**Audience:** Middle / High School  
**Room:** J 49-53

**Sweating Alcohol in 3-D**  
Jeff Lukens  
*Retired Science Teacher*  
**Focus:** General Science  
**Audience:** Middle / High School  
**Room:** H 30-38

**Play with phones and robots!**  
Tom Frederick  
*Higher Order Innovation*  
**Focus:** Technology Education  
**Audience:** Middle / High School  
**Room:** H 40-46

**Meaning Making in Primary Grades**  
Eileen Patrick  
*FOSS Science*  
**Focus:** General Science  
**Audience:** Elementary (K-2)  
**Room:** H 48-52

**Bring high energy physics research into your classroom!**  
Cherie Bornhorst  
*Colorado School of Mines*  
**Focus:** Physics  
**Audience:** High School / College  
**Room:** H 31-37

**Empowering Behavior Change through Student-Centered Energy Reduction Competition**  
Shannon Oliver  
*Adams 12 Five Star Schools*  
**Focus:** General Science  
**Audience:** General  
**Room:** K 49-53

**Exploring Three-Dimensional Instructional Alignment**  
Maya Garcia  
*Colorado Department of Education*  
**Focus:** Other  
**Audience:** General  
**Room:** G 31-37

**The Young Artist as Scientist: Learning From Leonardo da Vinci**  
Mary Jo Pollman  
*Metropolitan State University*  
**Focus:** Other  
**Audience:** Elementary (K-2)  
**Room:** G 39-45

**Data Literacy for all: SOS Explorer Mobile free app!**  
Hilary Peddicord  
*NOAA*  
**Focus:** General Science  
**Audience:** General  
**Room:** G 47-53

**Sense-Making through Modeling, Argumentation, and Explanations in Grades K-6**  
Brian Campbell  
*Lawrence Hall of Science*  
**Focus:** General Science  
**Audience:** General Elementary (K-6)  
**Room:** J 41-47

**Building Resilience in Colorado Communities to Natural Hazards**  
Erin Leckey  
*University of Colorado, Boulder*  
**Focus:** Environmental Science  
**Audience:** Middle / High School  
**Room:** G 30-36

**Something is in the Air!**  
Shelly Grandell  
*Ken Caryl Middle School*  
**Focus:** Earth/Space Science  
**Audience:** Middle / High School  
**Room:** H 39-45

For more details and presentation descriptions,  
please see the conference program or app.



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