

## Keynote • 8:30 - 9:05 am

### “The NGSS: Capturing the Vision in Your Own Classroom”

– Liz Mirra

The vision for the *Next Generation Science Standards* is ambitious. All students should develop a foundational understanding of science through the practices and make connections to the crosscutting concepts. Instruction should be focused on figuring out phenomena and solving problems. Achieving this vision is challenging – yet entirely doable! Join nationally recognized science educator Liz Mirra as she shares her reflections and tips for success based on her work with thousands of science educators across the country.

## MORNING SESSIONS • 9:15 - 11:50 am

Choose **TWO** 70-Minute Sessions • *One mid-morning break*

### 70-Minute Sessions • 9:15 – 10:25 am

#### **CHOOSE ONE: A-1, A-2 or A-3**

##### **A-1: Planning Engaging Units Aligned to the NGSS** – Liz Mirra

So you have an anchoring phenomenon to start your unit with. What do you do with it? What do you do next? What does the unit look like? How do you keep coming back to the anchoring phenomenon in an authentic way? In this session, go step-by-step through what an NGSS-aligned unit will look like and begin developing a unit of your own to take back and use in your classroom.

##### **A-2: Using Academic Discourse as a Basis for NGSS Instruction** – Marquita S. Blades

Get your students sounding like scientists and engineers by learning practical methods for increasing the use of academic discourse while implementing NGSS.

##### **A-3: Top 10 Strategies to Support Argumentation in the NGSS Classroom**

– Mary Anne Butler

Frameworks, strategies, and ideas to get your students talking on task! To understand and apply NGSS content and skills students need to do more of the talking than the teacher. Discover how you can teach students to have conversations that will help them process NGSS concepts and develop their critical thinking skills.

### 70-Minute Sessions • 10:40 – 11:50 am

#### **CHOOSE ONE: A-4, A-5 or A-6**

##### **A-4: Crosscutting Concepts-Unlocking the Potential** – Liz Mirra

The crosscutting concepts are the dimension of the NGSS most teachers are least sure how to explicitly implement in the classroom. Learn what the crosscutting concepts are, why they are such a powerful tool for improving student learning, and, most importantly, get ideas and strategies to take back and use in the classroom.

##### **A-5: The Problem-Based Learning Model for NGSS Mastery**

– Marquita S. Blades

Developing strong problem-solving skills, requires that students engage with real-world problems. Learn highly effective strategies for using problem-based learning to teach crosscutting concepts and model science and engineering practices.

##### **A-6: Teaching Students How to Ask Good Questions in the Phenomena-Based Classroom** – Mary Anne Butler

The one asking the questions is doing the learning! This session will give your strategies to teach students the critical thinking skills needed to develop and ask meaningful questions in your NGSS classroom. Discover processes to help students access content by asking questions.



“This was very helpful in gaining perspective on new science standards.”

– Sandra Fischer, Science Teacher



“Thanks – a great, meaningful science conference that helps make more sense of overwhelming NGSS.”

– Heather Streeter,  
High School Teacher



### Team Discount

#### ONE DAY

One Person: \$289

#### BOTH DAYS

One person: \$479

Team of 3+: \$459 per person  
when registered at the  
same time

Lunch break on your own • 11:50 am – 1:05 pm (A great time to network with colleagues!)

“Lots of hands-on, practical ways to implement new science practices”



## Online Learning

BER offers educators a wide range of online courses that are affordable, fun, fast, and convenient. BER is now offering

On Demand Video-Based courses. You also may earn optional graduate-level credits for most courses. See the catalog of available courses at [www.ber.org/online](http://www.ber.org/online)



## Who is BER?

The Bureau of Education & Research is North America's leading presenter of training for professional educators. Our goal is to provide high-quality PD programs, based on sound research, with an emphasis on practical strategies and techniques that can be immediately implemented.

# Day One

## AFTERNOON SESSIONS • 1:05 - 3:35 pm

Choose **TWO** 70-Minute Sessions • One mid-afternoon break

### First 70-Minute Afternoon Sessions 1:05 – 2:15 pm

#### **CHOOSE ONE: B1, B-2 or B-3**

##### **B-1: The NGSS in the Physical Science, Chemistry and Physics Classrooms**

– Liz Mirra

Get subject-specific resources and examples specifically aligned to the standards addressed in the physical science, chemistry or physics classroom.

##### **B-2: Next Generation Science Stations – Incorporating Crosscutting Concepts**

– Marquita S. Blades

Including multiple, if not all, crosscutting concepts into one lesson or lab can be a challenge. In this session, learn ways to more effectively use stations to not only include crosscutting concepts, but allow for authentic connections to be made.

##### **B-3: Non-Fiction and Fiction Text to Support Implementation of NGSS**

– Mary Anne Butler

Get your students reading! Use the best and latest novels and non-fiction texts to motivate your students to learn the science content and take ownership of the learning.

### Second 70-Minute Afternoon Sessions 2:25 – 3:35 pm

#### **CHOOSE ONE: B-4, B-5 or B-6**

##### **B-4: Finding and Developing Assessments Aligned to the NGSS** – Liz Mirra

Explore the critical components of three-dimensional assessments and get quality examples of assessments aligned to the NGSS. Learn where to find the newest and best resources to help you and your teachers develop assessments aligned to the new standards.

##### **B-5: Reinforcing Science and Engineering Practices** – Marquita S. Blades

Thinking like a scientist or engineer requires practice. In this session you'll receive real-world examples of strategies that will help your students develop the skills necessary to master science and engineering practices and apply them in any situation.

##### **B-6: Stepping Away from the Textbook in the NGSS Classroom** – Mary Anne Butler

Develop students' content knowledge by using deliberate reading and writing strategies to develop deep understanding of 3D in NGSS. Discover resources and strategies to support the reluctant reader to create varied and interesting opportunities for students to interact with high-interest text beyond the textbook.



## Can't Attend? Online Professional Development Option:

### Related Online Course

A related On Demand Video-Based Online Learning Course, *Help Your Students Master the Next Generation Science Standards: Practical Strategies and the Best, New Tools*, for Grades 6-12, is available for immediate registration. To enroll, visit [www.ber.org/online](http://www.ber.org/online)

# Day Two

## MORNING SESSIONS • 8:30 – 11:15 am

Choose **ONE** Full Morning Session OR **TWO** 75-Minute Sessions  
*One mid-morning break*

### Full Morning Session • 8:30 – 11:15 am

#### **C-1: Developing an NGSS-Aligned Curriculum** – *Liz Mirra*

Aligning a curriculum to the NGSS is a challenging undertaking for any school or district. Learn about the resources that are available to help you through this process and work through a proven step-by-step process that will guide you and your teachers to a science curriculum that is truly three-dimensional.

#### First 75-Minute Morning Sessions 8:30 – 9:45 am

#### **CHOOSE ONE: C-2 or C-3**

#### **C-2: Practical Implementation of Crosscutting Concepts and Science and Engineering Practices** – *Marquita S. Blades*

Learn how to address both crosscutting concepts and science and engineering practices in practical ways, using lessons and materials that you already have.

#### **C-3: Design Challenges that Support NGSS Learning** – *Mary Anne Butler*

Receive practical ideas for the secondary science classroom on how to incorporate design challenges to address the engineering practices in the 3-D classroom.

#### Second 75-Minute Morning Sessions 10:00 – 11:15 am

#### **CHOOSE ONE: C-4 or C-5**

#### **C-4: Make it Phenomenal: Choosing and Creating Appropriate Phenomena for NGSS Lessons** – *Marquita S. Blades*

Phenomena are not a one size fits all ... Learn proven ways to choose and/or create anchoring phenomena that are culturally responsive and relevant to your student population.

#### **C-5: The NGSS in Life Sciences/Biology** – *Mary Anne Butler*

Get subject-specific resources, case studies and phenomena aligned to the standards addressed in life science and biology courses.

### 11:15 am – 12:30 pm • Lunch Break (on your own)



## On-Site Training

Conferences like this one along with many other topics can be brought to your school or district. Please view all of our On-Site PD options at [www.ber.org/onsite](http://www.ber.org/onsite) or call 877-857-8964 to speak with an On-Site PD Consultant.



## Comprehensive NGSS Resource Handbook

You will receive an extensive NGSS resource handbook specifically designed for this conference. Included in the handbook are resource materials for ALL conference sessions, even those you don't attend. These materials include:

- Practical ideas for helping your students meet rigorous science content and practice standards, including those aligned with the *Next Generation Science Standards*
- Innovative strategies for integrating the science and engineering practices and crosscutting concepts into your science instruction
- Proven step-by-step techniques for planning engaging instructional sequences aligned to the NGSS
- Outstanding ideas for incorporating engineering into your science instruction
- STEM-related career choices to use with students



*“Very informative, knowledgeable and applicable”*

## Conference Locations & Hotel Accommodations



**BOSTON** offers sightseeing opportunities including the world-renowned Museum of Fine Arts, the Isabella Stewart Museum, the Freedom Trail through Boston's historic sites, or a boat cruise on the Charles River.

### Conference location and overnight accommodations:

Holiday Inn – Dedham  
(781) 329-1000

Mention you are attending this BER conference prior to November 17, 2019 to receive the special rate of \$124 (Single), rates subject to availability.



**CHICAGO** offers a diverse array of sightseeing opportunities, including shopping options at Chicago's famed Magnificent Mile and Water Tower Place.

### Conference location and overnight accommodations:

Crowne Plaza – Burr Ridge  
(630) 325-2900

Mention you are attending this BER conference prior to November 10, 2019 to receive the special rate of \$99 (Single/Double), rates subject to availability.

# Day Two

## AFTERNOON SESSIONS • 12:30 - 3:10 pm

Choose **TWO** 75-Minute Afternoon Sessions  
*One mid-afternoon break*

### First 75-Minute Afternoon Sessions 12:30 - 1:45 pm

#### CHOOSE ONE: D-1, D-2 or D-3

##### **D-1: Lessons Learned: What Works for School or District-Wide Implementation – Liz Mirra**

Learn what works (and doesn't) when implementing the NGSS school or district wide. Liz will share her firsthand experiences working with dozens of schools across the country that have successfully transitioned to the new standards.

##### **D-2: Using Multiple Intelligences to Drive NGSS Instruction**

– Marquita S. Blades

Discover how data from multiple intelligences surveys can also be used to drive NGSS instruction. Learn how giving an MI survey on the first (or second) day of class can set you up for differentiated and data-driven NGSS instruction.

##### **D-3: Using Case Studies to Support NGSS Learning – Mary Anne Butler**

Walk through several case studies all aligned to the NGSS and uncover the value of using multi-day, engaging case studies to provide core content to all students.



### Second 75-Minute Afternoon Sessions 1:55 – 3:10 pm

#### CHOOSE ONE: D-4, D-5 or D-6

##### **D-4: What an NGSS Classroom Looks Like: Coaching and Observing Science Teaching – Liz Mirra**

A classroom that is truly aligned to the NGSS looks very different from the traditional science classroom. Discover the hallmarks to look for when observing a classroom that is transitioning to the NGSS and learn how to coach teachers to continue to improve their practice.

##### **D-5: Meet Them Where They Are: NGSS Strategies for Students at All Levels**

– Marquita S. Blades

How can you ensure that you maintain the appropriate level of rigor while leaving no student behind? Learn proven strategies that will provide inclusive instruction to students at all levels.

##### **D-6: Designing a Unit or Lesson Using Forensic Science to Implement the Next Generation of Science Standards**

– Mary Anne Butler

Learn how to design a unit or lesson to deliver NGSS content in a forensic science context. Use authentic phenomenon including crime scene photos, car accident evidence, and botanical specimens to motivate students to generate questions, apply scientific content, and engage in student discourse to answer a legal query.

