



BUREAU OF EDUCATION & RESEARCH

A Unique Two-Day Live Online Conference



Next Generation Science Standards Conference

December 7 and 8

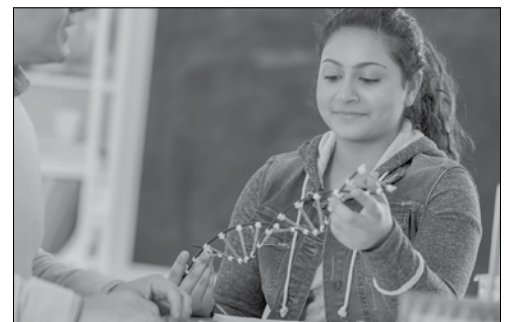
Start Time: 9 AM Eastern

(8 AM Central, 7 AM Mountain, 6 AM Pacific)

CEUs and Graduate Credits Available

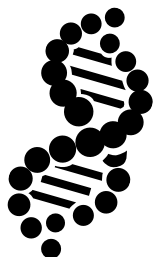
See page 7 for details

Choose from 21 Strategy-Packed Conference Sessions



Outstanding Trainers • Science Teacher Resources • Hundreds of Practical Strategies

Practical Strategies to Take Back to Your Classroom!



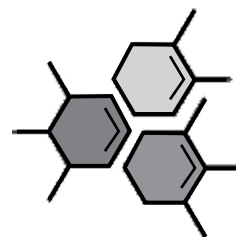
Life Science



*Engineering &
Technology*



*Earth &
Space Sciences*



*Physical
Sciences*

Meet Your Team of Expert Instructors

Dr. MARQUITA BLADES is an experienced and award-winning secondary science teacher, international speaker, author, and science consultant. Marquita's diverse experiences have put her on the front line of the implementation and integration of *Next Generation Science Standards*. She has managed national STEM programs for secondary level students and has served as a curriculum and assessment developer, and professional learning facilitator for numerous school districts.

VINCE MANCUSO is a highly experienced science teacher, national presenter and author with a passion for phenomena-driven inquiry and the *NGSS*. He is a frequent presenter at science conferences where his sessions draw standing-room only crowds. Vince enjoys sharing his enthusiasm for using phenomena to get students excited and curious about science. His ideas are powerful and practical and all have been student-proven in his own classroom.

ELIZABETH (Liz) MIRRA is a science instructional coach and a middle and high school science educator. She was involved in reviewing and providing feedback on the *Next Generation Science Standards* throughout their development and has worked with numerous school districts providing professional development on best science practices and assistance with aligning curriculum to the new *NGSS* standards. Elizabeth is the recipient of the prestigious President's Award for Excellence in Science Teaching.

Who Should Attend

Educators who teach Science in Grades 6-12: Classroom Teachers, Department Heads, Science Specialists, and Administrators



Day One

Keynote • 9:00 – 9:30 am

“Taking the NGSS to the Next Level: Increasing Scientific Literacy for ALL Students” – 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 for all students is challenging – yet 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 • 9:40 am – 12:10 pm

Choose **ONE** Full Morning Session OR **TWO** 70-Minute Sessions
One mid-morning break

Full Morning Session • 9:40 am – 12:10 pm

A-1: 3-Dimensional Problem-Based Science Instruction – Marquita Blades

Developing strong problem-solving skills can only happen if students have opportunities to practice solving problems. In this session, participants will engage in a sample problem-based simulation and learn how to use three dimensional practices to enhance problem-based learning experiences. Participants will also leave with the resources needed to duplicate the problem-based simulation model with their own students.

First 70-Minute Morning Sessions
9:40 – 10:50 am

CHOOSE ONE: A-2 or A-3

A-2: Powerful Ways to Make Phenomena More Meaningful for Your Students – Vince Mancuso

Science education research shows that students learn best when their classroom experiences are personally meaningful. In this session, we will explore how phenomena can be delivered in ways that profoundly affect students at personal levels. Discover how to construct experiences that can be meaningful to students within the structure of an NGSS learning environment and lesson.

A-3: Planning Engaging Units Aligned to the NGSS for any Learning Environment – 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 in your classroom.

Second 70-Minute Morning Sessions
11:00 am – 12:10 pm

CHOOSE ONE: A-4 or A-5

A-4: Using Discourse to Collaboratively Construct Meaning of Phenomena – Vince Mancuso

One of educators' fundamental roles in the NGSS classroom is to frame and navigate the learning environment towards the co-construction of knowledge. Discover powerful strategies and techniques that foster more rewarding discourse, leading to a deeper understanding of natural phenomena.

A-5: 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 complementing the NGSS.



Team Discount

ONE DAY

One Person: \$289

BOTH DAYS

One person: \$489

Team of 3+: \$469 per person
when enrolled at the same time



Lunch break • 12:10 – 1:10 pm

... “Engaging presentations filled with applicable information!” ...



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.

“Fantastic. One of the best conferences I’ve attended. Great presenters: supportive and helpful, well prepared, and gracefully answered questions.”

– Silvio Monacelli, Teacher



Day One

AFTERNOON SESSIONS • 1:10 – 3:40 pm

Choose **ONE** Full Afternoon Session OR **TWO** 70-Minute Sessions
One mid-afternoon break

Full Afternoon Session • 1:10 – 3:40 pm

B-1: Using Phenomenon to Launch and Drive a More Powerful NGSS Lesson

– *Vince Mancuso*

Among the most difficult challenges facing science educators aligning to the NGSS is developing 3-dimensional curriculum. In this interactive session, you will discover how your existing or required science curriculum can be reshaped into a lesson that lines up with NGSS learning objectives. Learn ways that with minor modifications, your current science lessons can be easily transformed into a more powerful three-dimensional learning experience!

First 70-Minute Afternoon Sessions 1:10 – 2:20 pm

CHOOSE ONE: B-2 or B-3

B-2: Using Academic Discourse to Drive NGSS Instruction

– *Marquita Blades*

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

B-3: The NGSS in the Physical Science, Chemistry and Physics Classrooms – *Liz Mirra*

Learn the content shifts found in the Disciplinary Core Ideas that impact physical science, chemistry, and physics classroom. Get subject-specific resources and examples specifically aligned to the standards that will work in your classroom.

Second 70-Minute Afternoon Sessions 2:30 – 3:40 pm

CHOOSE ONE: B-4 or B-5

B-4: Next Generation Science Stations – Intentionally Incorporating Crosscutting Concepts – *Marquita Blades*

Including multiple, much less all, crosscutting concepts in one lesson or lab can be a challenge. In this session, learn ways to use stations more intentionally to not only include crosscutting concepts, but also to support authentic mastery of the scientific inquiry process.

B-5: Online and Paper-Based 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-including examples of assessments for online platforms. Learn where to find the newest and best resources to help you and your teachers develop assessments aligned to the new standards.

Can't Attend?

Online Professional Development Options:

Related Online Courses

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



Day Two

MORNING SESSIONS • 9:00 – 11:40 am

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

Full Morning Session • 9:00 – 11:40 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 9:00 – 10:15 am

CHOOSE ONE: C-2 or C-3

C-2: Bump It UP – Marquita Blades

Learn how to incorporate both Cross Cutting Concepts and Science and Engineering Practices in practical ways, using the lessons and materials that you already have. Bring a copy of your favorite lab or activity that could use a little boost and we will Bump it UP!

C-3: Harness the Power of Discrepant Event Phenomena in the Science Classroom – Vince Mancuso

A discrepant event phenomenon can be one of the most powerful and valuable strategies in a science educator's toolbox. The learning potentials of a discrepant event demonstration lie in their specific attributes, format and delivery. Discover the most rewarding features of discrepant events and learn to anchor them to lessons in ways that can meaningfully engage and significantly influence learning outcomes.

Second 75–Minute Morning Sessions 10:25 – 11:40 am

CHOOSE ONE: C-4 or C-5

C-4: The 3rd Dimension: Reinforcing Science and Engineering Practices – Marquita Blades

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

C-5: Delivering NGSS Learning Experiences in Life Sciences/Biology – Vince Mancuso

Among the most challenging disciplines to identify phenomena and develop lessons that embody the NGSS objectives are the life sciences. In this interactive session, you will discover new and innovative lessons, phenomena and resources that align directly to the NGSS standards for life science, biology, and anatomy.

Lunch Break • 11:40 am – 12:40 pm

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 or call 877-857-8964 to speak with an On-Site Training PD Consultant.

Comprehensive Digital Resource Handbook

You will receive an extensive digital 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

"Lots of ideas to bring back to our science department!"

– Lindsay Ando, Science Teacher



... *"This conference gave me an ABUNDANCE of resources to dive into."* ...

ABOUT BER LIVE ONLINE CONFERENCES

Outstanding Instructors

All programs are led by outstanding, top-rated BER national trainers

Extensive Digital Resource Handbook

You'll receive an extensive digital Resource Handbook full of practical strategies and resources.

Highly Interactive

You'll be able to ask questions, consult with the instructors, and share ideas with other participants

Program Guarantee

As we have for 45 years, we guarantee the high quality of our programs. If you are not satisfied, we'll give you a 100% refund.



"I have a LOT to think about and many resources to investigate. Thank you to all of the instructors for sharing their knowledge and resources with us!"

– Kathleen Murphy, Teacher

Day Two

AFTERNOON SESSIONS • 12:40 – 3:20 pm

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

First 75-Minute Afternoon Sessions 12:40 – 1:55 pm

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

D-1: Make it Phenomenal: Choosing and Creating Appropriate Phenomena for Designing 3D Lessons – *Marquita Blades*

Phenomena are not one size fits all ... Learn what to look for when selecting and what to think about when creating your own phenomena. You'll leave this session with sample phenomena that speak directly to your students' needs and interests.

D-2: Utilize Effective Student Assessment Strategies in the Phenomena-Driven Science Classroom – *Vince Mancuso*

Assessment techniques should complement the style of learning students experience in the classroom. For those implementing an NGSS classroom, assessment presents unique challenges. This session will provide tools, resources, and practical strategies for appropriate summative and formative assessment of student understanding of science and skill development in a three-dimensional learning environment.

D-3: Using Anchoring Phenomena for Optimum Learning – *Liz Mirra*

Designing instruction around anchoring phenomena is one of the key shifts in the new standards. But where do you find anchoring phenomena, how do you make sure the ones you choose don't "flop" when used with students, and what do you do with them? Learn how to successfully integrate anchoring phenomena into your science instruction.

Second 75-Minute Afternoon Sessions 2:05 – 3:20 pm

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

D-4: Meet Them Where They Are: Differentiated NGSS Instruction – *Marquita Blades*

How can you ensure that you are maintaining the appropriate level of rigor while leaving no student behind? In this session we will explore using the Escape Room model and Google Forms branching and tiering to create 3D lessons that are inclusive for students at varying levels of achievement.

D-5: Guiding Students to Develop Rigorous Research Questions in the Phenomena-Driven Classroom – *Vince Mancuso*

In the NGSS classroom, the ability for students to develop their own research question is a critical skill that frames their investigation but is unfamiliar territory for most students. Discover proven strategies and scaffolding techniques that will guide students towards the construction of rigorous and rewarding research questions.

D-6: 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.



Next Generation Science Standards Conference

Registration (NGH3F1)

(Please copy this registration form for additional registrants)

DECEMBER 7 and 8, 2022 (Start time: 9 AM Eastern)

Both days: December 7 and 8, 2022

One day only: December 7, 2022

One day only: December 8, 2022

FIRST NAME M.I. LAST NAME

POSITION, SUBJECT TAUGHT GRADE LEVEL

SCHOOL NAME

SCHOOL MAILING ADDRESS

CITY & STATE ZIP CODE

SCHOOL PHONE NUMBER HOME PHONE NUMBER

() ()

Registration confirmations and login details are sent via e-mail

E-MAIL ADDRESS (REQUIRED FOR EACH REGISTRANT)

HOME MAILING ADDRESS

CITY & STATE ZIP CODE

PRIORITY ID CODE: ENGH3F1

METHOD OF PAYMENT – Group Discount Available

Payment is due prior to the program. No cash, please.

One day only, **\$289**; both days, **\$489**;

\$469 per person for groups of three or more registering at the same time for both days.

- A check (payable to **Bureau of Education & Research**) is attached
- A purchase order is attached, P.O. # _____
(Be sure to include priority ID code on the P.O.)
- Charge my: MasterCard VISA Discover

Account # _____ Exp. Date: _____ MO/YR

Billing Zip Code: _____ 3 Digit CVV Code: _____
(Found on back of card)

Please print name as it appears on card

Earn One to Four Graduate Semester Credits



Up to four graduate level professional development credits are available with an additional fee and completion of follow up practicum activities. Details may be found at www.ber.org/credit

Meet Inservice Requirements / Earn State CEUs

Participants can receive a certificate of participation that may be used to verify continuing education hours. In addition, state CEUs are available. For details, visit www.ber.org/ceus

Registration Fee:

The fee for the first or second day registration only is \$289 per person. If a person registers for both days, the registration fee is discounted to \$489 per person; \$469 per person for groups of three or more registering at the same time for both days. Registration fees are **due prior to the program**. No cash please.

Fee includes conference registration, a certificate of daily attendance and an extensive digital resource handbook with materials for all sessions – even those you don't attend.

FIVE EASY WAYS TO REGISTER

REGISTER ONLINE at:
www.ber.org

EMAIL this form to:
register@ber.org

PHONE toll-free:
1-800-735-3503
(Weekdays 5:30 am - 5:00 pm Pacific Time)

FAX this form to:
1-425-453-1134

MAIL this form to:
Bureau of Education & Research
915 118th Avenue SE • PO Box 96068
Bellevue, WA 98009-9668

Session Preferences: Session Numbers Required

DAY 1

- One Full Morning Session: A-1**
– OR –
- Two 70-Minute Morning Sessions**
A- _____ – and – A- _____
(A-2 or A-3) (A-4 or A-5)

- One Full Afternoon Session: B-1**
– OR –
- Two 70-Minute Afternoon Sessions**
B- _____ – and – B- _____
(B-2 or B-3) (B-4 or B-5)

DAY 2

- One Full Morning Session: C-1**
– OR –
- Two 75-Minute Morning Sessions**
C- _____ – and – C- _____
(C-2 or C-3) (C-4 or C-5)

- Two 75-Minute Afternoon Sessions**
D- _____ (D-1, D-2 or D-3)
– AND –
D- _____ (D-4, D-5 or D-6)

Cancellation/Substitutions:

100% of your paid registration fee will be refunded if you can't attend and notify us at least 10 days before the conference. Late cancellations made prior to the conference date will be refunded less a \$15 service fee. Substitutions may be made at any time without charge.

Program Guarantee

We stand behind the high quality of our programs by providing the following unconditional guarantee: If you are not satisfied with this program, we'll give you a 100% refund of your registration fee.



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 Conference
 (December 2022)**

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NGH3F1

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