



Illinois New Teacher Collaborative  
2<sup>nd</sup> Annual Beginning Teacher STEM Conference

July 29-30, 2014  
I Hotel and Conference Center

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## Illinois New Teacher Collaborative Beginning Teacher STEM Conference

**Tuesday, July 29, 2014**

11:00 – 11:30	Conference Check-in	Chancellor Ballroom Hall
11:30 – 11:45	Welcome	Chancellor Ballroom
11:45 – 12:15	Networking Lunch	Chancellor Ballroom
12:15 – 1:15	Keynote: Dr. Jeff Goldstein	Chancellor Ballroom
1:25 – 2:35	Breakout Sessions A	See Booklet Page 8
2:35 – 2:55	Dessert Break	Chancellor Ballroom Hall
2:55 – 4:05	Breakout Sessions B	See Booklet Page 10
4:15 - 5:25	Breakout Sessions C	See Booklet Page 12
5:30-6:30	Reception	Houlihan's

**Wednesday, July 30, 2014**

7:45 – 8:30	Conference Check-in and Breakfast Buffet	Chancellor Ballroom Hall
8:30 – 8:45	Welcome & Announcements	Chancellor Ballroom
8:45 – 9:55	Breakout Sessions D	See Booklet Page 14
10:05 – 11:15	Breakout Sessions E	See Booklet Page 16
11:25-12:00	Unconference Session: U-Teach	Breakout Rooms
12:00 – 12:45	Lunch Buffet	Chancellor Ballroom
12:45 – 1:45	Award Winning Teacher Panel	Chancellor Ballroom
1:45 – 2:00	Conference and CPDU Evaluation	Chancellor Ballroom
2:00 – 2:15	Closing Ceremonies and Raffle <i>Must be present to win</i>	Chancellor Ballroom

# President of the University of Illinois Letter of Support

UNIVERSITY OF ILLINOIS  
Urbana-Champaign • Chicago • Springfield

Office of the President  
364 Henry Administration Building  
506 South Wright Street  
Urbana, IL 61801-3689

**Robert A. Easter**  
*President*

“Education,” the late Nelson Mandela said, “is the most powerful weapon with which you can use to change the world.”

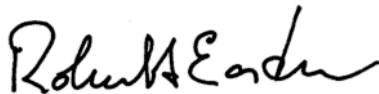
In today’s increasingly high-tech world, skills in math, science, engineering and technology are critical to progress. And each of you plays a crucial role, nurturing the scholarship and passion of students who will lead the next generation of discovery.

On behalf of the University of Illinois, I welcome you to the campus and to the Illinois New Teacher Collaborative’s (INTC) 2nd Annual Beginning Teacher STEM Conference.

INTC has been involved in the development of new teachers for nearly a decade, and the University of Illinois is proud to be a partner.

I’m grateful to INTC, the College of Education, and our partner the State Farm Companies Foundation for their commitment to excellence in Illinois’ classrooms.

And my thanks to you for using this conference to hone the talents that will enrich the lives of your students and build an even better tomorrow for our state and nation.



Robert A. Easter

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## Message from Governors State University



Dear Professional Colleagues:

Welcome to this exciting event! We are so proud that Governors State University has had the opportunity to be a major sponsor of both the initial and this second Illinois New Teacher Collaborative Beginning Teacher STEM Conference through our Teacher Quality Partnership grant.

Educators from across the state of Illinois have come together to learn more about STEM and to share ideas and information. Special thanks to the Illinois New Teacher Collaborative for their commitment to beginning teachers and STEM initiatives and their vision in planning this conference. We also offer thanks to the partner districts of our grant for their participation.

We know our new teachers and their mentors as well as others from throughout Illinois will gain tremendous insight through the keynote address, the breakout sessions, and the time for networking and reflection. The reception provides a great backdrop for networking on “big ideas” and future plans related to STEM instruction to touch the lives of the children we teach. Enjoy!

Dr. Karen Peterson and Dr. Pam Guimond  
Co-Directors, Governors State University  
Teacher Quality Partnership Grant

## Message from the Director

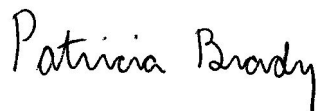
Dear Colleagues,

Welcome to the Illinois New Teacher Collaborative's second annual Beginning Teacher STEM Conference! This conference is expressly designed to give you the chance to learn, network with new teacher colleagues, and plan for your next year in the classroom. It is also an opportunity for you to hear cutting edge presentations in science, technology, engineering, and mathematics.

This conference would not be possible without the generous support of Governors State University and the College of Engineering at Illinois. We also thank the College of Education at Illinois and the State Farm Companies Foundation. Their continued support of teaching and new teacher induction impacts many teachers and their students throughout Illinois.

It is my sincere hope that this conference challenges and inspires you, helps prepare you for the coming school year, and strengthens your resolve to impact students positively through a STEM curriculum.

All the best!

A handwritten signature in cursive script that reads "Patricia Brady".

Dr. Patricia Brady  
Director, Illinois New Teacher Collaborative

## Special Thanks to Conference Sponsors

The Illinois New Teacher Collaborative would like to extend special thanks to its sponsors that make this conference possible including Governors State University, the College of Education at Illinois, the College of Engineering at Illinois, and the State Farm Companies Foundation.



State Farm  
Companies  
Foundation

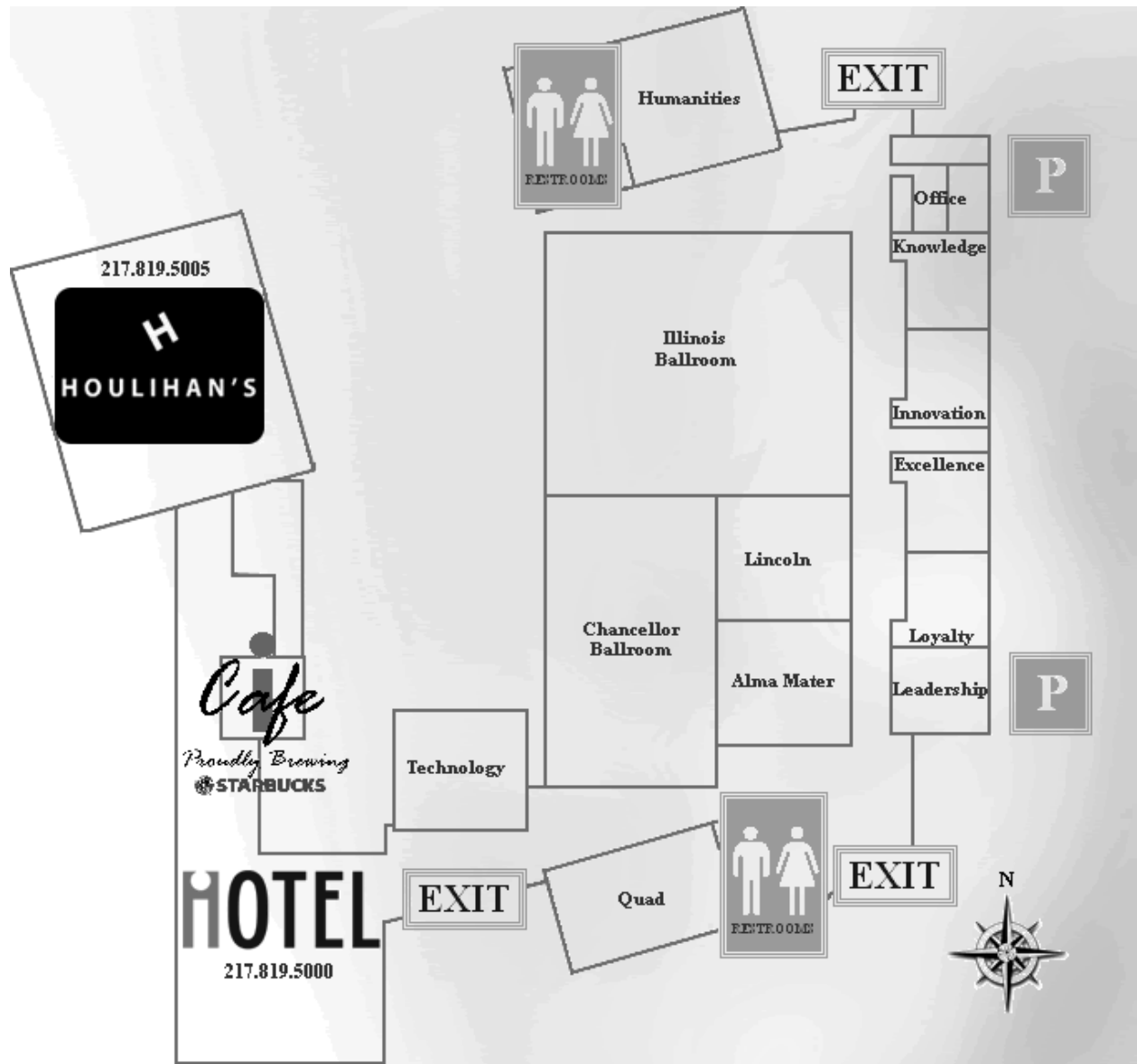


### Thank You Breakout Session Presenters and Contributors

The Breakout Session Presenters offered their expertise so that conference participants could take away much from the experience. Contributors to the conference offered books and other materials for the raffle. The Illinois New Teacher Collaborative staff would like to thank all of them!



# Conference Center Map



<b>SCHEDULE: BREAKOUT SESSIONS</b>					
<b>Room</b>	<b>Session A Tuesday, July 29 1:25 – 2:35</b>	<b>Session B Tuesday, July 29 2:55 – 4:05</b>	<b>Session C Tuesday, July 29 4:15 – 5:25</b>	<b>Session D Wednesday, July 30 8:45 – 9:55</b>	<b>Session E Wednesday, July 30 10:05 – 11:15</b>
Loyalty	A1. Number Talks: Using Kid Voice to Move Beyond Algorithms (EC-5) Brad Thompson	B1. Engineering and Imagination -- Helping Children Visualize the Invisible (EC-2) Jennifer Bernhard	C1. Linking Technology, Literacy and Literature in the Primary Grades (EC-2) Lisa Ferguson & Karla Moller	D1. STEM Activities for the EC-2 Classroom (EC-2) Kelly Hebert	E1. Kindergarteners Make the Best Scientists (EC-2) Bryan Lake
Excellence	A2. What Do Sugar Cubes Have To Do with the Nature of Science? (3-8) Gretchen Adams & Don DeCoste	B2. Bringing Insects into the Classroom: An Interactive Lesson in Entomology (3-5) Christina Silliman & Katie Dana	C2. Engaging Students in Science Using Live Insects (EC-12) Christina Silliman & Katie Dana	D2. Tackling Math in the Classroom: Advice and Strategies (3-5) Amos Lee	E2. How to Teach Science Process Skills (3-5) Brandon Rutherford
Innovation	A3. Engaging Elementary Science and Engineering Labs (EC-5) Joe Muskin	B3. Engaging Middle and High School Science and Engineering Labs (6-12) Joe Muskin	C3. Model Drawing: A Problem Solving Strategy to Help Your Students Make Sense of Mathematics (EC-8) Stephanie Saclarides	D3. The NGSS & Cosmology (6-12) Dave Leake	E3. Introduction to Microelectronics and Digital Logic (6-8) Elyse Rosenbaum
Knowledge	A4. Essential Classroom Tools from Hollywood, YouTube, and Social Media (6-12) Eric Snodgrass	B4. Creating Practical Tools for a Student-Centered Classroom (EC-5) Annie Insana	C4. Why Buildings Don't Fall Down (6-12) Anahid Behrouzi	D4. Teaching as an Ongoing Experiment (9-12) Kirsten Walker	E4. Windmill for Environmental Study (6-12) Rebecca Wattleworth
Technology	A5. Exploration and Experimentation in Mathematics: Resources and Examples (3-12) William Karr	B5. Biotechnology in Action (6-12) Sua Myong	C5. Science Vocabulary Acquisition (3-12) Patricia Braun	D5. Juegos y Conversaciones: ELLs and Reasoning, Precision, and Arguments (6-8) Juan Gerardo	E5. STEM Careers: Research Park Panel (K-12) Sena Cooper, Kerris Lee, Howard Gerwin, Ross Bundy, & Ken Taylor
Quad	A6. Discussion Session with Jeff Goldstein (K-12) Jeff Goldstein	B6. Create a Website: Class/Student Websites, Content Specific Sites (EC-12) Heather Johnson & Tamara Berrian	C6. Blue Waters Education and Outreach Initiatives Targeting High Performance Computing and Big Data (6-12) Cristina Beldica	D6. How FIRST Robotics can be used to inspire and motivate students K - 12 to be interested in STEM (K-12) Dan Green	E6. Solar Decathlon - Net-Zero Homes (6-12) Kevin Donovan

## Breakout Sessions Descriptions

Session A: Tuesday, July 29, 1:25 – 2:35

Room	Topic
Loyalty	A1. <i>Number Talks: Using Kid Voice to Move Beyond Algorithms (EC-5)</i>
Excellence	A2. <i>What Do Sugar Cubes Have To Do with the Nature of Science? (3-8)</i>
Innovation	A3. <i>Engaging Elementary Science and Engineering Labs (EC-5)</i>
Knowledge	A4. <i>Essential Classroom Tools from Hollywood, YouTube, and Social Media (6-12)</i>
Technology	A5. <i>Exploration and Experimentation in Mathematics: Resources and Examples (3-12)</i>
Quad	A6. <i>Discussion Session with Jeff Goldstein (K-12)</i>

### A1. Number Talks: Using Kid Voice to Move Beyond Algorithms (EC-5)

*Loyalty Room*

Brad Thompson, Center for Education in Small Urban Communities

Do your students see only one way to solve a problem? Is paper and pencil the only option? Is integrating the Common Core Math Practices into your instruction a challenge? Number Talks is a framework for addressing these issues. More importantly children are provided a forum to articulate and justify their own and each other's strategies.

### A2. What Do Sugar Cubes Have To Do with the Nature of Science? (3-8)

*Excellence Room*

Gretchen Adams & Don DeCoste, University of Illinois at Urbana-Champaign

It is important for students to understand how to apply scientific methodology. For example, students should understand how to design their own experiments (with a control), how to graph their results, how to predict future results, and how to interpret their findings. It can be difficult to develop experiments to allow students to grow in this area, especially in this age group. We will show you a fun and engaging way to do this using materials you can find at the store. The experiments we will show (and you will do) can be part of a large project or can be used separately depending on time and student abilities. The specific topic involves sugar solutions, but the overall goal is to help the students better understand the nature of science.

### A3. Engaging Elementary Science and Engineering Labs (EC-5)

*Innovation Room*

Joe Muskin, University of Illinois at Urbana-Champaign

Learn how to lead engaging hands-on labs for K-5 students that integrate emerging technologies concepts and skills. You will discover how to get students excited about doing science and engineering while addressing important Next Generation Science Standards and Common Core standards.

**A4. Essential Classroom Tools from Hollywood, YouTube, and Social Media (6-12)**

*Knowledge Room*

Eric Snodgrass, University of Illinois at Urbana-Champaign

It is no secret that connecting with our students must happen within two worlds – our advanced scientific arena and their social playground. I have found that connecting these worlds is a fantastic way to connect complicated scientific content with the world they experience outside of school. I plan to show you my best techniques in how to take Hollywood, YouTube, and Twitter and turn them into assets in the classroom. I want your students to be full time scientists, not just observers in your classes. Join me for an entertaining and engaging breakout session, and get ready to see how useful blockbuster bad science can be!

**A5. Exploration and Experimentation in Mathematics: Resources and Examples (3-12)**

*Technology Room*

William Karr, Illinois Geometry Lab, University of Illinois at Urbana-Champaign

Our goal is to show that Mathematics is a field rife with opportunities for exploration. We will provide examples that show experimentation can not only inspire but also motivate students to master “basic skills.” Finally, we will close with ways beginning teachers can find resources and partners like ourselves.

**A6. Discussion Session with Jeff Goldstein (K-12)**

*Quad Room*

Jeff Goldstein, NCESSSE Center Director

Attend this session for some extra time with Dr. Goldstein following his keynote address. Participants can come with questions or invite Dr. Goldstein to elaborate on parts of the keynote. You can consider this a 70-minute “free-for-all” conversation where you can explore many topics.

**Session B: Tuesday, July 29, 2:55 – 4:05**

<b>Room</b>	<b>Topic</b>
<b>Loyalty</b>	<i>B1. Engineering and Imagination – Helping Children Visualize the Invisible (EC-2)</i>
<b>Excellence</b>	<i>B2. Bringing Insects into the Classroom: An Interactive Lesson in Entomology (3-5)</i>
<b>Innovation</b>	<i>B3. Engaging Middle and High School Science and Engineering Labs (6-12)</i>
<b>Knowledge</b>	<i>B4. Creating Practical Tools for a Student-Centered Classroom (EC-5)</i>
<b>Technology</b>	<i>B5. Biotechnology in Action (6-12)</i>
<b>Quad</b>	<i>B6. Create a Website: Class/Student Websites &amp; Content Specific Sites</i>

**B1. Engineering and Imagination – Helping Children Visualize the Invisible (EC-2)**

*Loyalty Room*

Jennifer Bernhard, University of Illinois at Urbana-Champaign

The presentation, using volunteers, will describe and also go through several concepts of forces or phenomena that are invisible (gravity, electromagnetic (radio) waves, current flow in a circuit, etc.) but that young minds, full of imagination, can picture and relate to even if they will never be able to see them. These imagination exercises and the development of an ability to visualize things that are invisible lays the groundwork for innovation in our children and is a perfect match to individuals in this age group that have such vivid imaginations already.

**B2. Bringing Insects into the Classroom: An Interactive Lesson in Entomology (3-5)**

*Excellence Room*

Christina Silliman and Katie Dana, University of Illinois at Urbana-Champaign

Engage your students in science by bringing live insects into the classroom! We will provide CDs with all of our hands-on inquiry and engineering design based lessons developed for 2<sup>nd</sup> and 4<sup>th</sup> grade classrooms, aligned with the NGSS. You will get to experience the lessons, and we will provide a general entomology crash course (along with resources for further learning).

**B3. Engaging Middle and High School Science and Engineering Labs (6-12)**

*Innovation Room*

Joe Muskin, University of Illinois at Urbana-Champaign

Learn how to lead engaging hands-on labs for K-5 students that integrate emerging technologies concepts and skills. You will discover how to get students excited about doing science and engineering while addressing important Next Generation Science Standards and Common Core standards.

**B4. Creating Practical Tools for a Student-Centered Classroom (EC-5)**

*Knowledge Room*

Annie Insana, University of Illinois at Urbana-Champaign

Are you looking for a way to spice up your teacher-directed lectures and worksheets? Foldables™ by Dinah Zike and other two- and three- dimensional hands-on, interactive graphic organizers and models may be the answer. Come learn about these creative, student-generated strategies that are easily implemented into your already existing curriculum! These strategies work across the elementary grade levels (Pre-K to 5) and in several content areas, including science and math. We will model several techniques and examples to get you brainstorming and leave time to collaborate with your fellow participants in our “make it and take it” session. You will leave this breakout session with practical, ready-to-use ideas, models, and examples, plus a plan for implementation.

**B5. Biotechnology in Action (6-12)**

*Technology Room*

Sua Myong, University of Illinois at Urbana Champaign

I will discuss some of outreach lessons and accompanying activities including unzipping twisted Twizzlers to mimic DNA unwinding, threading fruit loops to barcode mRNA molecules, and using colorful glow sticks to emulate multi-color fluorescence measurement. Each lesson involves advanced biotechnology instrumentation that measures and profiles various biological entities such as molecules and cells.

**B6. Create a Website: Class/Student Websites & Content Specific Sites (EC-12)**

*Quad Room*

Heather Johnson & Tamara Berrian, Governor State University’s Teacher Quality Partnership

You will learn how to create, edit, and use a free class website through Weebly.com. A website has multiple purposes: share class information with families, post instructional materials/links/flip videos, and meet technology standards to publish student work. You will see examples of how teachers and students use websites to present content material/research projects, ie. Mexico Project, American Symbols, etc. (Participants are encouraged to bring personal technology devices to participate.)

**Session C: Tuesday, July 29, 4:15 – 5:25**

<b>Room</b>	<b>Topic</b>
<b>Loyalty</b>	<i>C1. Linking Technology, Literacy, and Literature in the Primary Grades (EC-2)</i>
<b>Excellence</b>	<i>C2. Engaging Students in Science Using Live Insects (EC-12)</i>
<b>Innovation</b>	<i>C3. Model Drawing: A Problem Solving Strategy to Help Your Students Make Sense of Mathematics (EC-8)</i>
<b>Knowledge</b>	<i>C4. Why Buildings Don't Fall Down (6-12)</i>
<b>Technology</b>	<i>C5. Science Vocabulary Acquisition (3-12)</i>
<b>Quad</b>	<i>C6. Blue Waters Education and Outreach Initiatives Targeting High Performance Computing and Big Data (6-12)</i>

**C1. Linking Technology, Literacy, and Literature in the Primary Grades (EC-2)**

*Loyalty Room*

Lisa Ferguson, Urbana School District 116 and Karla J. Moller, University of Illinois at Urbana-Champaign

Technology can be used to enhance connected literacy and literature instruction. In this presentation, we will share information drawn from the research literature and from classroom practice to highlight the possibilities for integrating technology, literacy, and literature in the primary grades. We will highlight technology projects Lisa has incorporated into her first-grade classroom (including instruction with digital cameras, iPads, SMARTboards, and laptop computers) and will share literature exemplars appropriate for early childhood students that have been or could be included. The session is built around our underlying belief in the inseparable nature of educational theory, empirical research, and classroom practice.

**C2. Engaging Students in Science Using Live Insects (EC-12)**

*Excellence Room*

Christina Silliman and Katie Dana, University of Illinois at Urbana-Champaign

Live insects inspire a unique fascination for all ages and are a wonderful asset to engage students in science. Two graduate students from the University of Illinois talk about their experiences bringing insects into the classroom – both for structured lessons and fun outreach sessions – and will provide a crash course in entomology. They will review the resources available for your classroom as well as some of their NGSS aligned lessons.

**C3. Model Drawing: A Problem Solving Strategy to Help Your Students Make Sense of Mathematics (EC-8)**

*Innovation Room*

Stephanie Saclarides, University of Illinois at Urbana-Champaign

Model Drawing, also known as Singapore Math, is a problem solving strategy that helps students make sense of mathematics. It is an organized method that allows students to represent word problems and numeric relationships through rectangular unit bars.

Students enjoy this strategy as it systematically helps them visualize and thus make sense of word problems.

**C4. Why Buildings Don't Fall Down (6-12)**

*Knowledge Room*

Anahid Behrouzi, University of Illinois at Urbana-Champaign

This presentation explores how all tangible objects (buildings, bridges, trees, and everything else) support forces from gravity, wind, and earthquakes without breaking or falling over. Students, teachers, and everyone else already know a lot about this as we live in a physical world where we are constantly observing how objects respond to our actions and the forces of nature. This presentation will cover how to go from conceptual understanding to engineering knowledge of the phenomena that govern how things are designed to not break or fall over.

**C5. Science Vocabulary Acquisition (3-12)**

*Technology Room*

Patricia Braun, Illinois Reading Council

Interactive read alouds are not just for elementary children. Students in the upper grades need to hear science vocabulary used repeatedly in familiar situations from teachers who know the terms and concepts. Hearing new vocabulary helps students to remember the words, understand the context for the vocabulary, and build background knowledge of the topic. Join me as I demonstrate nonfiction read alouds, their uses, and techniques.

**C6. Blue Waters\* Education and Outreach Initiatives Targeting High Performance Computing and Big Data (6-12)**

*Quad Room*

Cristina Beldica, National Center for Supercomputing Applications

Blue Waters incorporates a comprehensive education, outreach, and training program. The program has a national reach aimed at providing outreach, training and education services for faculty, researchers, and students well-versed in using existing large-scale high-performance computing (HPC) applications, as well as faculty, researchers, and students who have not traditionally used high-performance computing. Up to 1 percent of the Blue Waters computing and storage capacity is available for educational applications and activities. This allocation provides a unique learning experience for students across the nation by enabling them to use the extraordinary capability of Blue Waters to broaden their knowledge and develop their own interests in a wide array of disciplines, from the traditional areas of science and engineering to emerging areas in the humanities, arts, and social sciences.

\*Blue Waters is one of the world's most powerful supercomputers and the fastest located on a university campus. It is at Oak St. and St. Mary's Road, one block west of the I Hotel and Conference Center.



**Session D: Wednesday, July 30, 8:45 – 9:55**

<b>Room</b>	<b>Topic</b>
<b>Loyalty</b>	<i>D1. STEM Activities for the EC-2 Classroom (EC-2)</i>
<b>Excellence</b>	<i>D2. Tackling Math in the Classroom: Advice and Strategies (3-5)</i>
<b>Innovation</b>	<i>D3. The NGSS and Cosmology (6-12)</i>
<b>Knowledge</b>	<i>D4. Teaching as an Ongoing Experiment (9-12)</i>
<b>Technology</b>	<i>D5. Juegos y Conversaciones: ELLs and Reasoning, Precision, and Arguments (6-8)</i>
<b>Quad</b>	<i>D6. How FIRST Robotics Can Be Used to Inspire and Motivate Students K-12 to be Interested in STEM (K-12)</i>

**D1. STEM Activities for the EC-2 Classroom (EC-2)**

*Loyalty Room*

Kelly Hebert, Governor's State University's Teacher Quality Partnership

In this session participants will have the opportunity to perform hands-on activities for the EC-2 classroom that can be done with everyday items.

**D2. Tackling Math in the Classroom: Advice and Strategies (3-5)**

*Excellence Room*

Amos Lee, Champaign Unit #4 School District

Many of our students struggle with math. Sometimes we as teachers are anxious about teaching math. Come learn about why math is so difficult and what we can do about it as educators. Topics covered in this session will range from history of mathematics education, how we teach math in our schools, why students struggle with math, and strategies and advice to help our students.

**D3. The NGSS and Cosmology (6-12)**

*Innovation Room*

David Leake, Parkland Planetarium

The NGSS has brought modern cosmology (the study of the universe as a whole) to the curriculum. We'll go over a strategy for teaching what some might call a controversial topic and include several in-class demonstrations and activities that you may use with your own students.

**D4. Teaching as an Ongoing Experiment (9-12)**

*Knowledge Room*

Kirsten Walker, Illinois Sustainable Technology Center

My talk will discuss the ways I had to be inventive and experimental in my lessons/units based on the situations I was placed in while teaching high school science. There will be two examples of these lessons and an example of a lesson that I created for NIU pre-

service teachers when I was working on my graduate studies as well as my current work with ISTC and the Prairie Research Institute's Summer Science Camp.

**D5. Juegos y Conversaciones: ELLs and Reasoning, Precision, and Arguments (6-8)**

*Technology Room*

Juan Manuel Gerardo, University of Illinois at Urbana-Champaign

Through the use of mathematical games and problem solving, we will discuss the linguistic demands on ELLs in mathematics classes. We will discuss both challenges and recommendations to have ELLs do the "Standards for Mathematical Practice." (Note: Part of this session will be conducted in Spanish; Spanish fluency is not required to participate.)

**D6. How *FIRST* Robotics Can Be Used to Inspire and Motivate Students K-12 to be Interested in STEM (K-12)**

*Quad Room*

Dan Green, Illinois *FIRST* Robotics

*FIRST* has multiple programs for students grades K - 12 and had over 350,000 participants this past year. Included is a brief overview of how "real world" problem solving skills are integrated into these programs. Documented successes as well as what *FIRST* offers will be discussed. Also, information on how to start a *FIRST* program at your school and why this can be facilitated both by technically oriented and non-technically oriented teachers will be provided. *FIRST's* programs are fun for both the students and the teachers, and the results show how successful this can be.

**Session E: Wednesday, July 30, 10:05-11:15**

<b>Room</b>	<b>Topic</b>
<b>Loyalty</b>	<i>E1. Kindergarteners Make the Best Scientists! (EC-2)</i>
<b>Excellence</b>	<i>E2. How to Teach Science Process Skills (3-5)</i>
<b>Innovation</b>	<i>E3. Introduction to Microelectronics and Digital Logic (6-8)</i>
<b>Knowledge</b>	<i>E4. Windmill for Environmental Study (6-12)</i>
<b>Technology</b>	<i>E5. STEM Careers: Research Park Panel (K-12)</i>
<b>Quad</b>	<i>E6. Solar Decathlon – Net Zero Homes (6-12)</i>

**E1. Kindergarteners Make the Best Scientists! (EC-2)**

*Loyalty Room*

Bryan Lake, Urbana School District #116

Use the Next Generation Science (and Engineering) Standards to harness natural curiosities for learning, managing behavior, planning for inquiry-based integrated units, and solving all of the world's problems! This session will be interactive and most appropriate for EC-2-minded folks.

**E2. How to Teach Science Process Skills (3-5)**

*Excellence Room*

Brandon Rutherford, Champaign Unit #4 School District

This will be a presentation on the importance of science process skills and the role they have in elementary education. The presentation discusses how skills gained through formal instruction in the scientific method and open-ended experimentation can enrich student learning in all areas of curriculum, including languages arts. The speaker will share basic strategies to support process skills learning for both primary and intermediate grade levels in reference to Illinois and the Next Generation Science Standards. Activities will include several interactive science experiments and advice on how to easily integrate process skill learning into daily instruction.

**E3. Introduction to Microelectronics and Digital Logic (6-8)**

*Innovation Room*

Elyse Rosenbaum, University of Illinois at Urbana-Champaign

Integrated circuits are the brains of our cars, cell phones, and computers. In this lesson, we will explore what is inside these tiny components and how they work. Base-2 arithmetic will be covered.

**E4. Windmill for Environmental Study (6-12)**

*Knowledge Room*

Rebecca Wattleworth, Warrensburg-Latham School District

Participants will be building a windmill from a WARD kit. We will then discuss how NGSS are addressed as well as how STEM is implemented in this project. This project

can be completed in a variety of ways with a variety of age groups. If time permits, we will then discuss/receive materials for building a small hot air balloon.

**E5. STEM Careers: Research Park Panel (K-12)**

*Technology Room*

Sena Cooper, Project Lead the Way; Howard Gerwin, John Deere's Technology Innovation Center; Ken Taylor, Akuna Capital; Kerris Lee, Cazoodle and Illini for Kids; Ross Bundy, Turn Innovation Center

“Why do I have to learn this?” students may ask. You want a quick and effective answer. Hear from five science, technology, and engineering professionals who will talk about their own career paths and backgrounds, their current work, and advice for K-12 teachers on how to imbue a love and understanding of STEM to their students.

**E6. Solar Decathlon – Net Zero Homes (6-12)**

*Quad Room*

Kevin Donovan, University of Illinois Solar House Decathlon

This presentation overviews the Solar Decathlon process and results. Designing, constructing, and competing with a net-zero residence is a large task with many challenges. Past home case studies will be presented along with a tour of our 2009 home, located just outside the conference center.

## Reception



# Reception at Houlihan's Restaurant

Sponsored by Engineering at Illinois

July 29, 2014  
5:30-6:30 PM

The reception will feature complimentary hors d'oeuvres and soft drinks plus unstructured networking time.

We invite you to chat with your peers and build your professional network.



## **Conference Raffle**

### **Conference Closing Wednesday, July 30, 2:00-2:15**

- Seven assortments of teaching resources
- iPad mini

One drawing ticket is inserted into the back of your nametag.

All door prizes are intended for professional use.

You must be present to win.

## Biography of Keynote Dr. Jeff Goldstein

Dr. Jeff Goldstein is a nationally recognized science educator and planetary scientist who has dedicated his career to the public understanding of science and the joys of learning. As NCSSE Center Director, he is responsible for overseeing the creation and delivery of national science education initiatives with a focus on earth and space. These include programs for schools, families, and the public; professional development for grade K-12 educators; and exhibitions for museums and science centers. Initiatives are meant to provide a window on the nature of science and the lives of modern-day explorers, with special emphasis on not just what is known about Earth and space but how it has come to be known. Programs embrace a Learning Community Model for science education.

Dr. Goldstein oversaw the creation of the Center's national science education initiatives, including the Student Spaceflight Experiments Program (SSEP), which immerses hundreds of students across each participating community in every facet of real research. Since program operations began in 2010, 21,600 students across 60 communities have been fully immersed in real experiment design, 5,090 proposals for microgravity experiments have been received from student teams, 81 experiments have been selected for flight, and 53 have already been flown on the final two Space Shuttle flights and to the International Space Station (ISS) on the SpaceX Dragon vehicle – the first commercial spacecraft to dock with ISS.

Dr. Goldstein is Director for the Center's activities supporting NASA's MESSENGER spacecraft mission to Mercury, which includes establishment of the *MESSENGER Educator Fellows*, a corps of master science teachers that are providing training for 27,000 teachers on Solar System science and exploration content. He also oversees Journey through the Universe—a national science education initiative that engages entire communities—students, teachers, families, and the public. Since its inception, over 200,000 students have participated in the program.

Finally, Dr. Goldstein directs the Family Science Night program at the Smithsonian's National Air and Space Museum and is its principal speaker. The program has provided a school field trip designed for family learning, after-hours, in one of the most visited museums on the planet, for over 50,000 parents, students, and teachers since program inception in 1993.

Dr. Goldstein is a blogger at the Huffington Post, and he writes *Blog on the Universe*, a collection of his essays on education, science and STEM education, climate change, space exploration, and the universe.

## **Keynote Address: Nurturing Exploration in Our Children**

Dr. Jeff Goldstein, Center Director, NCESSSE

We remember that magical time when our children first begin to express themselves, that moment marking the beginning of an unending stream of questions. In our children, we can see our humanity — our innate curiosity — and recognize the obvious ... that we are born to explore.

We are also born evidence-based learners with a need to poke our corner of the universe in every way we can and see the evidence it presents us. It is how we reveal the operation of nature and how we fit into this greater landscape.

As teachers it is our charge to nurture and extend these innately human gifts, placing high value on those skills that enable human exploration – ownership in learning, joyful inquiry, critical thinking, and the ability to navigate an interdisciplinary landscape in quest of an answer. It's not about the acquisition of knowledge... it's about promoting the journey. It is how we enable the explorer, regardless of discipline, to take the human race to places we've never been. And more generally, it is the best gift we can give the next generation so they are prepared for the 21<sup>st</sup> Century job market and most capable of addressing myriad issues we face as a community, a nation, and a planet.



## Biographies of Breakout Session Presenters

**Gretchen Adams** received her undergraduate degree in the Teaching of Chemistry in 1998 and her Masters of Science in the Teaching of Chemistry in 1999, both degrees from the University of Illinois at Urbana-Champaign. She joined the Chemistry Department in January 2003. Prior to this, Adams taught high school science in Iowa for four years. In addition to teaching chemistry courses with the General Chemistry division, she directs the Chemistry Merit Program for Emerging Scholars and serves as the Director of Undergraduate Studies. Adams does several large demonstration shows, small-group presentations, and hands-on activities every year for the state of Illinois community and schools at large. She is most known for her demonstration shows and presentations to prospective and incoming freshman on how to be a successful science student in college (often co-presented with colleague Don DeCoste).

**Anahid Behrouzi** is a doctoral student of civil engineering at the University of Illinois at Urbana-Champaign. She has worked on a variety of large-scale experimental research projects investigating the earthquake performance of structures. Behrouzi has been involved with STEM education beginning in 2003 as a youth volunteer and summer instructor with the North Carolina Museum of Life and Science. She continues to engage in engineering outreach through the University of Illinois Network for Earthquake Engineering Simulation facility. She has assisted with undergraduate courses in engineering problem-solving and reinforced concrete and has been included on the list of excellent instructors at the University of Illinois at Urbana-Champaign.

**Cristina Beldica** is the Executive Director of Blue Waters at the National Center for Supercomputer Applications (NCSA) at the University of Illinois at Urbana-Champaign (UIUC). She also holds a joint appointment in the Aerospace Engineering (AE) Department at UIUC. Dr. Beldica's research interests include characterization of viscoelastic materials, linear and nonlinear stress analysis, and the fracture properties of reinforced composites. Currently she is working on aero-thermo-viscoelastic studies on divergence, flutter and aerodynamic noise response and control, optimum anisotropic viscoelastic damping properties of composites, and intelligent and piezoelectric viscoelastic materials.

**Jennifer Bernhard**'s research addresses applications-oriented electromagnetic problems with an emphasis on theoretical analysis and experimental investigation. Her research group focuses on two areas: electromagnetics for wireless communication and reconfigurable active and passive antennas. Bernhard has been teaching since 1995 and has been at Illinois since 1999. She was the 2011 recipient of the Ronald W. Pratt Faculty Outstanding Teaching Award.

**Tamara Berrian** is a third grade teacher in West Harvey-Dixmoor School District 147, located in the south suburbs of Chicago, Illinois. In addition to teaching third grade, Tamara is an eMSS mentor as well as a new teacher mentor for the GSU Teacher Quality Partnership. Visit her classroom at [room130.weebly.com](http://room130.weebly.com).

**Patricia Braun**'s teaching career began in 1970 in a third-grade classroom where reading was the main area of instruction. Six years later, she earned a Master's degree in reading, and taught reading in the first through eighth grades in suburban, urban, and rural communities. Programs and methods she taught included basals, phonics, class novels, readers' theater, oral

interpretation of literature, and reading workshop. After 15 years of classroom teaching, she started teaching reading methods to Master's level and undergrad students. At that time, she began doing Illinois Writing Project workshops focused on reading and writing methods as well as on content-area reading. After 30 years of teaching, she earned a doctorate in reading. Because reading aloud is a tradition in her classroom and her family life, Dr. Braun focused her doctoral studies on reading aloud in the content areas. Teaching reading is more than a job or career for her: It's her life.

### **Ross Bundy**

Mr. Bundy leads the Turn Innovation Center at the University of Illinois at Urbana-Champaign. He has an extensive engineering background gained through his 20 years of experience at IBM, Motorola, Yahoo!, and Riverbed Technology. He has experience in high tech industries including hands-on work throughout the product lifecycle in various leadership and development roles.

**Sena Cooper** is the Illinois Director of School Engagement for Project Lead The Way, a non-profit organization that develops hands-on, project based STEM curriculum for K-12. Prior to moving into non-profit and education, she spent twenty years in various engineering and program management roles at John Deere and Ford Motor Company. She has extensive experience overseeing all phases of program management life cycle and leading cross-functional teams. Ms. Cooper has a BS in Mechanical Engineering and an MS in Manufacturing Systems, both from the University of Michigan. Ms. Cooper is also the mother to an 8<sup>th</sup> grade daughter who aspires to be a space scientist.

**Elizabeth Dabrowski** is a third grade teacher at Booker T. Washington STEM Academy. She is a recent winner of the Illinois Science Teachers' Association New Teacher of the Year Award. The ISTA New Teacher of the Year award recognizes early career educators for excellence in facilitating science learning in their classrooms. This award is intended to encourage bright, up-and-coming teachers to continue to strive to be the best teachers that they can be.

**Catherine Dana** is an entomology graduate student at the University of Illinois at Urbana-Champaign (UIUC). Her research focuses on how insects detoxify things they come into contact with in their environment. There are many applications for this, but she is particularly interested in how this relates to honey bee health and management of pests (how can we make insecticides more toxic and yet use much less of them). She has always had a particular fondness for invertebrates (spineless creatures), but she has also worked with parrots, lizards, and fish.

**Don DeCoste** received his undergraduate degree in 1988 and his Ph.D. in 1996 from the University of Illinois at Urbana-Champaign. He joined the General Chemistry teaching faculty in 1996. Prior to this, Dr. DeCoste taught high school chemistry and mathematics for four years in Bakersfield, California. In addition to teaching with General Chemistry, he developed and teaches Chemistry 495, a course designed for undergraduate and graduate students interested in teaching high school chemistry. He also serves as an academic advisor for students interested in teaching (including those in the MSTC Program) and is the co-author of three chemistry textbooks.

**Kevin Donovan** is the project manager for the UIUC Solar House Decathlon. The Solar Decathlon is a biennial competition sponsored by the U.S. Department of Energy that challenges teams of college students from around the world to design and build energy-efficient, fully solar-powered homes. The United States has hosted five competitions since the inaugural event in 2002, and in 2010 Spain launched a companion European event. China later signed an agreement with the DOE and will host the inaugural Asian contest in Datong, about four hours west of Beijing.

**Lisa Ferguson** is currently a first grade teacher at Martin Luther King Jr. Elementary School in Urbana School District #116 and a graduate student at the University of Illinois. Driving her instruction is the belief that integrating a wide range of meaningful technologies enhances learning and motivates learners. She actively seeks out collaboration opportunities with other professionals so she can bring in new, authentic experiences for her young students, with a focus on literacy, literature, and technology. Lisa enjoys sharing her teaching experiences in her district and through presentations at national conferences.

**Howard Gerwin** is the Advanced System Engineering Manager at John Deere's Technology Innovation Center at the University of Illinois Research Park in Champaign, IL. Mr. Gerwin holds a BSME from Rice University (1986) and a Master's in System Design and Management from MIT (2000). His thesis was a System Dynamics study of the impact of Powertrain technology alternatives on an automotive company's strategy. Since arriving in Champaign, Mr. Gerwin has been heavily involved in the UIUC community. He has been invited to give class lectures and seminars in the area of agricultural systems, product development, technology strategy, as well as engine emissions and technology. He also acts as John Deere's ambassador in the Research Park community, taking a visible role in events and hosting frequent visits from both industry and academia. Mr. Gerwin began his professional career at Caterpillar, Inc, in the area of engine system modeling and simulation. After Caterpillar, he became a systems engineer at Ford Motor Company, leading engine and powertrain programs for various global product lines. As a manager at Ford, Mr. Gerwin spent three years on an overseas assignment, building a new powertrain system team and capability at Ford's UK Engineering Center. Mr. Gerwin joined John Deere in 2004 as the Manager of Engineering for the OEM engine business where he managed a large department in support of significant growth objectives. Mr. Gerwin moved to JDTIC in 2011 to expand Deere's capabilities in the area of complex systems design and development.

**Jeff Goldstein** is a nationally recognized science educator and planetary scientist who has dedicated his career to the public understanding of science and the joys of learning. As NCSSE Center Director, he is responsible for overseeing the creation and delivery of national science education initiatives with a focus on earth and space. These include programs for schools, families, and the public; professional development for grade K-12 educators; and exhibitions for museums and science centers. Initiatives are meant to provide a window on the nature of science and the lives of modern-day explorers, with special emphasis on not just what is known about Earth and space but how it has come to be known. Programs embrace a Learning Community Model for science education.

**Daniel Green** is the Executive Director of Illinois *FIRST* Robotics. He plans, directs, and coordinates the Midwest Regional Robotics competition involving 3,000 participants and 120 volunteer workers. He believes that today's society suffers from a lack of interest in STEM activities. Our youth does not consider it "cool" to learn about technology, and therefore, the number of experts being trained is dwindling. This is a situation that needs to be rectified. His passion is to make learning attractive and inspire people to want to work hard, aspiring to be innovators that solve important problems. It is because of this passion that he became involved with *FIRST* Robotics (For Inspiration and Recognition of Science and Technology). The results of these efforts have provided students motivation not only to pursue studies and careers in the field of engineering, but also other technology related fields such as R&D, medicine, marketing, and finance.

**Kelly Hebert** is a 2011 graduate of the Teacher Quality Partnership at Governor's State University. She is a middle school science teacher and has been teaching for eight years. She uses a variety of hands-on activities in her classroom, often using everyday items and has provided professional development at Governor's State University for teachers to help them do more hands-on science activities in their classrooms.

**Annie Insana** is a former elementary teacher who taught 3<sup>rd</sup> and 5<sup>th</sup> grade in California and Tennessee. She is currently in her last year of the doctoral program, studying teacher education at the University of Illinois at Urbana-Champaign in the Department of Curriculum & Instruction. Insana's research interests include adaptive teaching expertise, complex adaptive systems, teacher leadership, and new teacher mentoring and induction programs.

**Juan Manuel Gerardo** is a doctoral student at the University of Illinois at Urbana-Champaign. He has been teaching mathematics methods courses for several years and has worked with Dr. Rochelle Gutierrez to develop professional development opportunities for teachers around issues of social justice.

**Heather Johnson** is a third grade teacher in West Harvey-Dixmoor School District 147, facilitates a Technology PLC, and also serves as a new teacher mentor for the GSU Teaching Quality Partnership. She was a member of cohort 7 in the GSU Alt. Cert. Program. She and Tamara Berrian have co-presented at the ESEA~NCLB Annual Statewide Conference, the 21<sup>st</sup> Century Spring Conference in 2013, and the 2014 INTC Induction and Mentoring Conference.

**William Karr** studies Lorentzian and semi-Riemannian geometry with Stephanie Alexander at the University of Illinois at Urbana-Champaign. In addition to his research experience, he has mentored and tutored privately and through school programs in mathematics, physics, and chemistry. Karr was a teaching assistant during his first year in graduate school for calculus and multivariate calculus. He is currently on a National Science Foundation (NSF) Graduate Research Fellowship.

**Bryan Lake** taught kindergarten at Martin Luther King Jr. Elementary for five of the past 10 years. In 2014, he accepted a new position in the Urbana School District as an Instructional Coach. Lake believes that the natural curiosity of kindergartners makes them the best scientists, and that by integrating science teaching and learning into other academic areas he can harness

that curiosity to help students make natural connections throughout their learning. Lake currently serves on the committee preparing for the release of the Next Generation Science Standards. He leads workshops for local teachers to help them with the new science and engineering content and practices.

**David Leake** has been sharing the stars with kids at the William M. Staerkel Planetarium at Parkland College for 25 years. Currently the director of the planetarium, Leake also teaches Astronomy and Physics as an associate professor in the Natural Sciences department at Parkland. He is also the past president of the Great Lakes Planetarium Association.

**Amos Lee** is currently a 5<sup>th</sup> grade teacher at Stratton Elementary School. He has taught eight years for Champaign Unit #4 in 5<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grades. He has taught math at all three grade levels and is currently a doctoral student at the University of Illinois at Urbana-Champaign. He is in the Math, Science, and Technology division within the Department of Curriculum and Instruction in the College of Education.

### **Kerris Lee**

Kerris is an executive with Cazoodle, an IT company in University of Illinois Research Park, and founded the group, Illini for Kids. Through that group, he has worked with the University of Illinois, Parkland College, and Champaign Unit 4 to help K-12 students learn the basics in computer programming. Cazoodle provides software and internet services for Web search, integration, and mining, with a central objective to “deepen” search on the Web to access the vast amount of data beyond the reach of current search engines.

**Karla J. Möller** is an associate professor and associate head for graduate programs in the Department of Curriculum and Instruction in the College of Education at the University of Illinois at Urbana-Champaign. Her research and teaching focus on the selection and use of multicultural literature and on conceptualizations of struggling and capability with regard to school-based reading events. Dr. Möller conducts collaborative research with local teachers and has been on the “Lists of Teachers Ranked as Excellent” for many years.

**Joe Muskin** has an extensive background in teaching, research, curriculum development, and instructional design. He has taught several years in public and private schools, conducted university research in genetics, and designed curricula for a large company. Muskin is currently the Education Coordinator for the Nano-CEMMS project at the University of Illinois at Urbana-Champaign. He has presented his work at numerous state and national science teacher conferences and written articles for education publications, all based on the innovative labs he designs for students.

**Sua Myong** obtained her B.S in Molecular Cellular Biology and Ph.D in Nutrition from the University of California, Berkeley. She joined the laboratory of Taekjip Ha at the University of Illinois at Urbana-Champaign for her postdoctorate training. Dr. Myong’s enthusiasm for single molecule research was ignited from conducting helicase measurement in the Ha laboratory. Before joining the Bioengineering department as an assistant professor in 2009, Dr. Myong spent two years at the Institute for Genomic Biology where she currently remains an affiliate member as a core faculty of a newly emerging theme “cellular decision making in cancers.”

**Elyse Rosenbaum** received her Ph.D. from the University of California, Berkeley. She is presently Professor of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. Dr. Rosenbaum has been the recipient of a Best Student Paper Award from the IEDM, an Outstanding Paper Award from the EOS/ESD Symposium, a Technical Excellence Award from the SRC, an NSF Career Award, and an IBM Faculty Award. She was an editor for IEEE Transactions on Device and Materials Reliability from 2001 through 2011, and is currently an editor for the IEEE Transactions on Electron Devices.

**Brandon Rutherford** is a third grade gifted teacher at Stratton Elementary in Champaign and was named a New Teacher of the Year in 2013 by the Illinois Science Teachers Association. Growing up in a family of scientists, Rutherford felt an early connection with the subject and continues to pursue his passion for science both personally and professionally, recently creating a coral reef eco-system project that involves working with marine biologists and aquarium experts from around the world. Rutherford aspires to make science learning relevant and interesting to young children and believes that the STEM subjects are an essential part of the elementary curriculum.

**Stephanie Saclarides** attended Vanderbilt University and then moved to Phoenix, Arizona where she taught for six years. Saclarides taught 6<sup>th</sup> grade for four years and then 7<sup>th</sup> and 8<sup>th</sup> grade mathematics for one year. She spent one year as an instructional coach where she observed and evaluated teachers; co-planned, modeled, and co-taught lessons with teachers; and planned and implemented weekly professional development based on student and teacher needs. Saclarides spent two years as her district's Summer School Administrator where she worked collaboratively with her district, Teach for America, and Arizona State University to plan and oversee the summer school program, serving over 500 students each summer. Saclarides received two Masters degrees from Arizona State University, her first in Elementary Education and second in Educational Administration and Supervision. Saclarides is currently working on her PhD in Mathematics Education in the department of Curriculum and Instruction at the University of Illinois, Urbana-Champaign. She teaches two undergraduate mathematics methods courses in the College of Education and is also the Course Coordinator for the Education Justice Project at the Danville Correctional Center.

**Christina Silliman** is an entomology graduate student at the University of Illinois at Urbana-Champaign. She is interested in how science is communicated to the public; with the deluge of new studies in every sub-field of science, even we scientists can't keep up! With that in mind, what can we as scientists do to broaden our impact and communicate important scientific discoveries to the public in a way that will be relevant and impactful? She and a fellow entomology graduate student have developed inquiry-based entomology lessons for the 4<sup>th</sup> grade that adhere to the Next Generation Science Standards. These standards aim to integrate the engineering design cycle with other fields of science and promote an inquiry-based approach to the fields of science.

**Eric Snodgrass** guides over 1,500 students each year through the wild side weather in ATMS 120: Severe and Hazardous Weather. Snodgrass also teaches ENSU 310: Renewable and Alternative Energy for the Environmental Sustainability Program. He advises all undergraduate

majors and minors in atmospheric science (~100 students) and supervises graduate teaching assistants. Snodgrass' research initiatives focus on K-12 science education as well as weather forecasting applications in financial markets. He has recently been awarded the LAS Teaching Excellence award and the Campus Teaching Excellence Award.

**Ken Taylor** serves as the site director for the Champaign office of Akuna Capital, a commodity options trading firm headquartered in Chicago. Prior to joining Akuna Capital, he was the Software Engineering Manager of the Neustar Innovation Center where he led large-scale DNS data research projects and prototype development. He also served as a technology principal for Yahoo! on an Internet advertising exchange where he helped develop a large-scale data processing pipeline to collect and analyze web ad traffic. In addition to working with high-tech startups and Fortune 500 companies like Motorola, Sears Holdings Corporation, and Amdocs, he has also previously held teaching positions at the University of Illinois at Urbana-Champaign.

**Brad Thompson** brings his expertise in mathematics education to the Center for Education in Small Urban Communities at the University of Illinois at Urbana-Champaign as an elementary Teacher Collaborator. He has taught for over nine years in both elementary and middle schools. Thompson has served as a K-8 mathematics professional development consultant for numerous school districts in Illinois for over eight years. In his teaching experiences, Thompson has been guided by an on-going belief that learning is a personal experience that occurs most effectively when instruction connects at a personal level. He is particularly interested in using children's literature to frame mathematics lessons.

**Kirsten Walker** joined the Illinois Sustainable Technology Center (ISTC) in 2012 and is the Environmental Education Specialist for the Sponsored Research, Public Engagement, and Communications (SRPEC) group at the ISTC. The main focus of Walker's work is to provide educational programming support to the Sustainable Electronics Initiative (SEI) as well as other ISTC projects in collaborating with area schools, university faculty, and other officials about introducing sustainability concepts into the curriculum and to develop written and online and written curriculum and videos as well as organize and participate in environmental education activities for ISTC and the Prairie Research Institute. Prior to joining ISTC, Walker worked as a high school science teacher for District 211 and was a graduate assistant in environmental education at NIU.

**Rebecca Wattleworth** is a graduate of Millikin University and began by studying aerospace engineering, but her mother had always told her she was born to be a teacher. While at Millikin, Wattleworth realized that aerospace engineering was not for her and switched her major to education. She holds a master's degree in administration but has no desire to leave the classroom. Wattleworth has been actively involved in improving education by writing multiple grants to purchase technology to enhance her district's Chemistry curriculum. She has also created a professional development resource library for the Math Department, hosted a Math/Science Family Night, and purchased materials to create a forensic course. She has received multiple awards, including the National City Teacher of the Year Award, the National Radio Shack Teacher of the Year, the Piatt County Farm Bureau Teacher of the Year, and was a 2011 finalist for Illinois' Teacher of the Year Award.

# Research Park

## RESEARCHPARK@UI

Located on campus, the Research Park at the University of Illinois at Urbana-Champaign is a technology hub for corporate research and development operations, and startup companies. Within the Research Park there are more than 90 companies employing students and full-time technology professionals.

## AT A GLANCE

- 2013 / **Inc. magazine** College-Town Incubator Worth Watching
- 2011 / **ASSOCIATION OF UNIVERSITY RESEARCH PARKS** Outstanding Research Park of the Year
- Inc.com** Top 10 Start-Up Incubator to Watch
- 2010 / **Forbes** Top 10 Incubator that is Changing the World

## CORPORATE PARTNERSHIPS

in Innovation with the University Of Illinois



45% Licensed from the University of Illinois

18% Pending Licensing

## TECHNOLOGY INNOVATION

Addressing Challenges with Transformative Outcomes

## STUDENT RESEARCH

An Invaluable Resource Producing Innovative Results

\$18.19/hour  
Average student wage

**Employment examples:** Mobile app development  
Modeling and Simulation Technology research  
Business intelligence Software development

"Starting our company at EnterpriseWorks was a no-brainer. It is a great environment with excellent support and resources to get a company quickly off the ground. The EnterpriseWorks staff are additional players on your team."  
— Personify founder and CEO Sanjay Patel

## ENTREPRENEURIAL SUPPORT

Advancing the Startup Commercialization Process

## EnterpriseWorks Incubator

EnterpriseWorks is an award-winning incubator that focuses on science and research-based startups commercializing technology from the University of Illinois.

### What we offer:

- » Free Counseling for Tech Entrepreneurs
- » Entrepreneur-in-Residence Program: Six experienced tech entrepreneurs providing free consulting services
- » Entrepreneur Education and Networking
- » Hands-on Workshops, Timely Lectures, Peer-to-Peer Learning at Startup Café, Daylong Conferences
- » Facilities and Work Space: Labs, Offices, Co-Working Space, Conference Rooms, Co-Location Data Center
- » Shared Equipment: Lab Equipment and 3D Printing Services
- » Range of office sizes: 130-600 sq ft; labs are 500 sq ft

## Incubator Companies

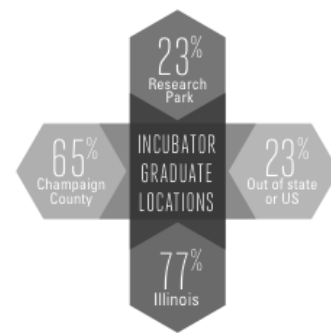


**BUSINESS SECTORS:**  
26% Biotech  
12% Engineering/Devices  
42% IT/Software/Hardware  
6% Materials  
12% Service



**STARTED BY:**  
58% UI Faculty  
20% UI Students / Alumni  
9% UI staff  
11% Others

90% Incubator clients affiliated with the university



The incubator graduates approximately 1/3 of its tenants annually

11 graduates from the incubator are currently located in the Research Park

Companies stay at EnterpriseWorks for 3-5 years (average)

RESEARCH PARK  
UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN  
RESEARCHPARK.ILLINOIS.EDU





## **Video and/or Audio Recording Policy**

The Illinois New Teacher Collaborative does not have University of Illinois Institutional Review Board approval for participants to make video and/or audio recordings or take photographs of conference activities unless said recordings and photographs will not be used for public dissemination.

Additionally, conference participants do not have authorization to record or photograph the keynote or featured speaker.

We regret any inconvenience this may cause. Thank you for your understanding.

Illinois New Teacher Collaborative

# 10th Annual Induction and Mentoring Conference

February 24 & 25, 2015

Hilton Springfield, 700 East Adams Street, Springfield, IL 62701



In February 2015 INTC will present its 10<sup>th</sup> annual induction conference! The conference will feature time to network, dedicated work time for programs, and breakout sessions that provide insight into the various aspects of induction and mentoring. Targeted attendees include induction and mentoring program coordinators, mentors, administrators, higher education faculty, professional development providers, and other stakeholders. District teams or single representatives are welcome as well as those from other states. Pass this information on to your induction program coordinator or administrator!

## Highlights from the 2014 conference:

- Focus on new teacher induction programs
- Dedicated networking time
- Team work time
- Keynote
- Vendor displays
- Separate meetings for Higher Education
- CPDU's
- Drawing for prizes including \$1000 award to district & iPad mini
- Highly rated conference throughout its nine year history
- Affordability: 2014 saw a \$75 registration, state rate hotel rooms (\$70 single, \$85 double plus tax)
- Complimentary full breakfasts & lunches
- Evening reception with hearty hors d'oeuvres
- Additional breakout sessions (50 or more)
- Introduction to the Illinois Induction Guide

To find more information about INTC's annual conference, visit:

**<http://intc.education.illinois.edu/conference>**

Or contact Nancy Johnson at [nljohnsn@illinois.edu](mailto:nljohnsn@illinois.edu)



# Stay Informed

## Get INTC Updates

Joining our listserv will keep you apprised of INTC's professional development offerings, conferences, and induction and mentoring news, including the INTC Newsletter.

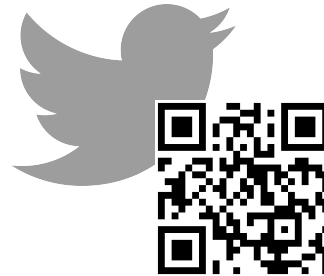
Visit <http://intc.education.illinois.edu/signup>



## Look for us on...



**Illinois New Teacher Collaborative**



**@InductionIL**

## Conference Document Archive

Would you like to access some conference documents electronically?

Visit the Conference Archive Page at:

<http://intc.education.illinois.edu/events/stem2014/archive>



## An Invitation to Join the INTC Partnership Board

Partnership Board membership is open to individuals and institutions who want to help direct and actively participate in INTC activities. The Board meets twice a year, typically in Champaign, IL; additionally, members can volunteer to serve as part of temporary task-based committees. If you would like to participate, please complete this form and return it to Nancy Johnson, INTC Assistant Director, via mail (INTC, CRC Rm 196, 51 Gerty Drive, Champaign, IL 61820) or FAX (217-244-7696). You can also send an email to [nljohnsn@illinois.edu](mailto:nljohnsn@illinois.edu) with the below information.

Name \_\_\_\_\_ Title/Position \_\_\_\_\_

Institutional Affiliation \_\_\_\_\_

Address \_\_\_\_\_

E-mail \_\_\_\_\_ Telephone Number \_\_\_\_\_

Please provide a few details on your background and expertise regarding induction and beginning teacher support:

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Below is a list of our current working groups. Please check those of which you would like to be a part.

\_\_\_\_ Beginning Teacher Conference Planning

\_\_\_\_ Annual Induction and Mentoring Conference

\_\_\_\_ Other (Please explain.) \_\_\_\_\_

This form is also available online at:

<http://intc.education.illinois.edu/page/invitation-join-intc-partnership-board>



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# List of Participants

(as of July 14, 2014)

**Erin Alexander**

Lowpoint-Washburn Jr Sr High School

**Emily Arnold**

Lanphier High School

**Keri Barbour**

Bloomington Cedar Ridge Elementary School

**Christine Beckman**

Limestone Middle School

**Elizabeth Bern**

Calumet Park Burr Oak Elementary School

**Faith Bern**

Chicago Heights Lincoln Elementary School

**Indalia Berner**

West Town Academy

**Tamara Berrian**

W Harvey-Dixmoor PSD 147

**Jayne Biagi**

Champaign Garden Hills Elementary School

**Rosalyn Blaylock**

Caldwell Math & Science Academy

**Thomas Boczar**

Elk Grove High School

**Andi Bonner**

Urbana Middle School

**Brenda Boykins-Montgomery**

Harvey Holmes Elementary School - Dist 152

**Ashley Bozue**

Limestone Middle School

**Ashley Breitweiser**

Palmyra Northwestern Jr High School

**Jeri Lynn Brown**

Greenfield CUSD 10

**Rebecca Brown**

East Moline Glenview Middle School

**MaryAnn Brown**

Peoria Trewyn K-8 School

**Marie Brown**

Lincoln Gavin

**Joe Butler**

Park Forest SD 163

**Jennifer Cagney**

West Town Academy

**Kristina Campbell**

Alton Middle School

**Kate Carr**

Decatur Dennis Elem School

**Charles Chadwell**

Riverdale Washington Junior High

**Leta Chesser**

Ford Heights SD 169

**Ashley Chinderle**

Normal Kingsley Jr High School

**Kara Cioni**

Limestone Middle School

**Jonathan Clark**

Harvey Bryant Elementary School

**Mandi Clemente**

Chicago Plamondon Elementary School

**Kimberly Clinard**

Bloomington Cedar Ridge Elementary School

**Kelly Cummins**

Calumet Park Burr Oak Elementary School

**Karen D'Arcy**

Governors State University

**Lisa Davis**

Springfield SD 186

**Michele Davis**

Washington Elementary

**Samantha Day**

Downs Tri Valley CUSD 3

**Meghan DeGroot**  
Sister Thea Bowman Catholic School

**Sarah Dexter**  
Limestone Middle School

**Barbara Dixon**  
Chicago Marshall Metropolitan High School

**Veronica Dixon**  
Urbana Middle School

**Angela Dixon**  
Dolton Franklin Elementary School

**Maria Dongo**  
Hanover Countryside Elementary

**Jackie Doyle**  
Plamondon

**Allycia Drummond**  
Waterloo CUSD 5

**Amy Duhig**  
Washington Elementary School

**Tabitha Dunn**  
Booker T. Washington STEM Academy

**Natalie Durham**  
Midwest Central Middle School

**Amanda Dykstra**  
Bolingbrook Pioneer Elementary School

**Melinda Elliott**  
Governors State University

**Katie Endre**  
Chicago Heights Washington-McKinley Elementary School

**Matrina Eno**  
Ford Heights SD 169

**Aura Estrada-Jordan**  
Belvidere Lincoln Elementary School

**Margo Etheridge**  
Monticello High School

**Latryce Fields**  
Calumet Park Calumet Public SD 132

**Shannon Fraley**  
Jerseyville St Francis/Holy Ghost School

**Dianna Galante**  
Governors State University

**Thomas Galla**  
Wheaton St Francis High School

**Katrina Garrett**  
Washington Elementary School District #148

**Lynette Gayden**  
Chicago West Town Academy

**Ashley Gentner**  
Urbana Middle School

**Sandra Gibbs**  
Park Forest Algonquin Primary Center

**Anthony Glorioso**  
Normal Community High School

**Joyce Glover**  
Julian

**Sean Golden**  
Fox Lake Grant Community High School

**Elizabeth Gomez**  
Washington-McKinley

**Johnetta Gordon**  
Medgar Evers Primary Academic Center Ford Heights #169

**Jeff Grabowski**  
Calumet Park Calumet Public SD 132

**Paul Graham**  
Unity High School

**Carol Grant**  
Peotone High School

**Delunda Greene**  
Governors State University

**Pamela Guimond**  
Governors State University

**Cristina Hackett**  
Harvey Maya Angelou Elementary School

**Bill Hall**

La Moille CUSD 303

**Delaney Hansen**

Oregon CUSD 220

**Emilie Heald**

East Moline Glenview Middle School

**Kelly Henderson**

Harvey Holmes Elementary School

**Nancy Herschberger**

Ford Heights Cottage Grove Upper Grade Center

**Marquette Howard**

West Town Academy

**Cari Ingle**

Brimfield Grade School

**Brenda Jimenez**

Chicago Belmont-Cragin Elementary School

**Shemeca Johnson**

Bloom Trail High School

**Heather Johnson**

Harvey Washington Elementary School

**Heather Jones**

Bloomington Cedar Ridge Elementary School

**Davina Jozwiak**

Mchenry Valley View Elementary School

**Bradford Keeler**

George Evans Junior High

**Karen Kenney**

Normal Community West High School

**Alex King**

Limestone Middle School

**Josh Klokkenga**

Stanford Olympia CUSD 16

**Caitlyn Kopec**

Pawnee CUSD 11

**Rebecca Kornack**

Chicago Mozart Elementary School

**Jamie Kovacic**

Moline Jane Addams Elementary School

**Michelle Kuehnle**

Danville South View Middle School

**Kevin Kuzanek**

Oak Lawn Simmons Middle School

**Eva Lawrence**

Chicago Belmont-Cragin Elementary School

**Lori Lev**

Fox Lake Grant Community High School

**David Linde**

Chicago Heights Jefferson Elementary School

**Amy Lindgren**

Center For Talent Development, NU

**Quinn Loch**

Elk Grove High School

**Christine Lopez**

Cicero J Sterling Morton East High School

**Paige Lovejoy**

District 148 Washington Jr. High

**Rachel Lyons**

Harvey Bryant Elem School

**Elizabeth Maass**

Calumet Park Burr Oak Elem School

**Anthony Marinello**

Calumet Park Calumet Public SD 132

**Tonya Marzette-Love**

Dolton Roosevelt Elementary

**Peggy Mason**

J. Sterling Morton District 201

**Caresse Mathews**

Wadsworth

**Megan Mau**

Glen Ellyn CCSD 89

**James McCarthy**

Riverdale Washington Junior High

**Claire McGraw**

Oak Lawn Simmons Middle School

**Nicole McMorris**

Richton Park Rich South Campus High School



**Teresa Mezzich**  
Holmes

**Sarah Mohrfeld**  
Gurnee Warren Township High School

**William Moore**  
Murphysboro CUSD 186

**Brian Nagurski**  
Aurora Rosary High School

**Tamra Neal**  
Decatur Hope Academy

**Lien Nguyen**  
Chicago Mather High School

**Steve Parrott**  
ISBE

**Karen Peterson**  
Governors State University

**Ronald Pierre Pierre**  
Ambrose Plamondon

**Deidra Porter**  
Ford Heights Medgar Evers Primary Academic  
Center

**Keerie Prasopoulos**  
Chicago Heights Beacon Hill Primary Center

**Barbie Price**  
Urbana SD 116

**Christina Ray**  
Urbana Middle School

**Jenny Reed**  
Petersburg Porta CUSD 202

**Kimberly Repking**  
Midwest Central Middle School

**Colin Rice**  
Elk Grove High School

**Jennifer Roberts**  
Medgar Evers

**Heather Rogers**  
Bloomington Cedar Ridge Elementary School

**John Rossi**  
Cicero J Sterling Morton East High School

**Christelle Saintis**  
Marshall High School

**Rosa Saldivar**  
Bridgeview George W Lieb Elementary School

**Ricardo Saldivar**  
Calumet Park Burr Oak Elementary School

**Susana Salinas**  
Chicago Heights Washington-McKinley Elementary  
School

**Jessica Schmidly**  
Crystal Lake South High School

**Teyona Seaton**  
Harvey Bryant Elem School

**Aslam Shahid**  
Governors State University

**Samantha Shores**  
Monticello CUSD 25

**Jeff Simak**  
Cary-Grove Community High School

**Melissa Sinclair**  
Harvey Bryant Elementary School

**Lauren Slanker**  
Berwyn Freedom Middle School

**Corina Stanley**  
Springfield U S Grant Middle School

**Heather Starr**  
Stephen Decatur Middle

**Amanda Steegmueller**  
Mt Prospect Westbrook Early Learning Center

**Sherri Storey**  
Robbins Kellar School

**Sara Sullivan**  
Springfield Lanphier High School

**Zakiya Sutton**  
Washington Elementary School

**Victoria Taylor**  
Lincoln Middle School

**Fredi Taylor**  
Harvey Maya Angelou Elem School

**Alice Thode**  
Joliet Washington Jr High & Academy Program

**Benjamin Torrasi**  
Mt Prospect Prospect High School

**Kristie Tyler**  
Crystal Lake Prairie Ridge High School

**Susan Ucki**  
Riverdale Washington Elementary School

**Rene Valdez**  
Blue Island DD Eisenhower High School

**Alex Valencic**  
Urbana Wiley Elementary School

**Patricia Valente**  
Bloomington Cedar Ridge Elementary School

**Cassandra VanHoutte**  
Silvis Eagle Ridge School

**Ken Villasenor**  
Calumet Park Calumet Public SD 132

**Irene Volpi**  
Algonquin Primary Center

**Irene Volpi-Tate**  
Algonquin Primary Center

**Sara Waller**  
Decatur Dennis Elementary School

**Kelly Werle**  
Mchenry Valley View Elementary School

**Tiffany White**  
Riverdale Dolton SD 148

**Mary Sarah Whitehouse**  
College of Dupage

**Tammy Whitfield**  
McHenry Chauncey H Duker Schoolchenry

**Kathryn Wicklander**  
Berwyn Freedom Middle School

**Kathleen Williams**  
Algonquin Primary

**Valerie Wright**  
Chicago Heights Bloom Twp HSD 206

**Jillian Wulff**  
Limestone Middle School

**Rima Zachariah**  
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**Alison Zeller**  
Warrenville Clifford Johnson School

