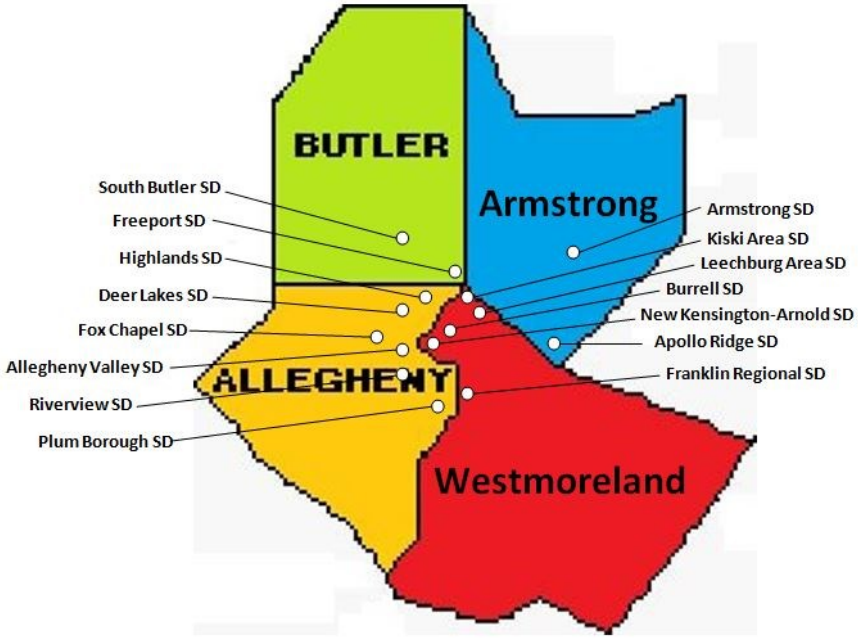
CREATE Lab - Satellite Network Hub

Develop, Validate, and Share Creative Technology Best Practices in Education

Participating Districts



In partnership with:

THE GRABLE FOUNDATION
dedicated to improving the lives of children

CREATE Lab
Community Robotics, Education and Technology Empowerment

PennState
New Kensington

STREAM Showcase

2017

Website: www.abccreate.org

@abc_create
#abccreate

March 7, 2017
Penn State New Kensington Campus

THE GRABLE FOUNDATION
dedicated to improving the lives of children

STREAM Conference
Schedule of Events

Time	Event	Location
8:00am - 8:15am	Registration	Administration Building Entrance
8:15am - 9:20am	Introduction/Keynote	Theater
9:30am - 10:15am	Breakout Session 1	Various Classrooms
10:15am - 11:00am	Breakout Session 2	Various Classrooms
11:00am - 11:45am	Breakout Session 3	Various Classrooms
11:45am - 12:30pm	Lunch	Café 780
12:30pm - 1:15pm	Breakout Session 4	Various Classrooms
1:15pm - 2:00pm	Breakout Session 5	Various Classrooms
2:00pm - 2:45pm	Panel	Theater
2:45pm - 3:00pm	Conference Evaluation	Theater

See pages 8-11 for a map of PSNK Campus

Connecting to PSNK Wireless:

1. Connect to "attwifi"
2. Launch a web browser and attempt to connect to a website.
3. Click "Get Connected" to agree to Terms of Service on the AT&T Wi-Fi connection page.

Please be advised that you may be required to agree to the Terms of Service each time you return to the Campus

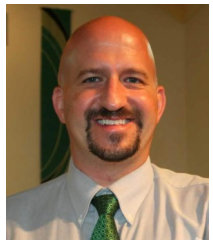
Do I really have to stay for this panel?
Yes, we promise it will be relevant!

Leighton Cooper: Senior Manager, Industrial and Commercial Transportation Products; Arconic Inc.

Leighton is responsible for leading the development and commercialization of new products and leading edge technologies for the Industrial and Commercial Transportation markets within Arconic's Global Rolled Products business unit. Leighton has a Bachelor of Science degree in Metallurgical Engineering from Iowa State University and a Master of Business Administration from the University of Iowa. He is the recipient of four Alcoa Patents and publisher of several technical articles from Alcoa.

Amy Barley: Science Teacher, Leechburg Area School District

As a graduate of Susquehanna University in Selinsgrove, PA with a Bachelor's of Science Degree in Physics and a minor in math, Amy Barley began her teaching career in the university lab setting. She obtained her education certification through the Pennsylvania Teachers Intern Program in the areas of Physics and General Science. She has taught Physics I and II, Conceptual Physics, Principals of Technology, Intro to Ecology, General Science, Physical Science, Science in the Community and Materials and Design at Leechburg Area School District for grades 8-12 for the past 19 years. She and her husband, Kevin, reside in Hampton Township along with their two boys, Jack (8) and Ethan (4), and their German Wirehaired Pointer, Gretta (12). Amy has been actively involved with ABC Create since 2015 and has served as a member of the Advisory Board as well as a Teacher Advocate for the Explorables Group.



Eric Hewitt: Principal, Riverview Jr-Sr High School

Before I became the principal this year, I was the Assistant Principal and a Social Studies Teacher at Riverview. I have been in education for 19 years and have also work at Burrell High School, Thomas Stone High School in Waldorf MD, and Eugene Burroughs Middle School in Accokeek MD. Innovation in the classroom has always been a passion of mine, whether that is self-paced, student centered lessons, the use of technology, or infusing STEAM across the curriculum, I love to see and try new things.

Session Descriptions (listed alphabetically)

Speck/Explorables: Indoor Air Pollution (6-8)
Suzie Everett & Rachelle Poth
Riverview School District

8th grade Science classes took part in a cross-curricular, Challenge-Based Learning (CBL) project. Their challenge was "Reduce indoor air pollution to improve air quality". Students researched air pollution, collected and analyzed data using the Speck indoor air quality monitor, and designed a solution to the challenge. Students published their work using digital tools as part of their Emerging Technologies STEAM course, using apps such as Buncee.

Speck: Student Driven Investigations (3-8)
Kevin Hengelbrok, Sarah Chesney, Amy Barley, Eve Hebrank
ASSET STEM Education

With nature of science as the vehicle, ASSET STEM Education engaged educators in professional development around the Speck air quality monitor. Our focus was to move beyond a basic technical training. The session provided educators with the tools for teaching controversial topics and guiding student driven investigations that can enact change. In this presentation we will share one school's cross-curricular approach to investigating air quality concepts and technology. We will be highlighting the success of Amy Barley and her colleagues at Leechburg Area School District in their implementation of the Nature of Science through Air Quality pilot program.

Speckle: Customizable Air Quality Monitoring (K-12)
Michael Taylor
CMU CREATE Lab

Air quality significantly effects everyone's health but is difficult to understand and expensive to measure. We introduce new low-cost tools that allow students to explore their air quality and express their findings through art, technology, and storytelling.

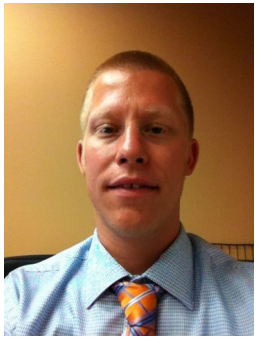
Tower Gardens: Hydroponics Aquaponics (K-2)
Ron Nichols & Sandi Hazlett
Deer Lakes School District

Deer Lakes School District will present agricultural technology with hydroponic gardening. Join us to see how our mobile and efficient units do more than just grow healthy foods. We will share cross-curricular ideas in hydroponic gardening in: science, literacy, math, record keeping, data, prediction, and analysis. Gardening in the classroom is more than growing healthy food. When you expand your students' palate, you expand their vocabulary. When you expand their vocabulary, you expand their minds.

Transforming Math With Coding (9-12)
Tamar McPherson & Stephanie Reilly
Plum Borough School District

Python, Bootstrap, Code.org- Come experience how two teachers discovered the power of coding and see how it transformed our math classrooms. We will take you on our journey from conceptualization to reality by sharing what we've done with support and regular ed students. You'll receive an overview of the three programs we've used in our classrooms, resources to get started in your own classroom, and even a chance to learn and try some coding...today.

About Our Keynote Speaker



Judd R. Pittman
Special Consultant to the Secretary of Education for STEM
Keynote: STEM Education: A Pathway to the Future

Judd R. Pittman is an advocate for public education. He has 10 years of urban education experience between middle school teaching science in Harrisburg City School District and serving on the elected school board as academic and student services chair. Judd was an educational consultant at the Pennsylvania Training and Technical Assistance Network (PaTTAN) where he focused on professional development and technical assistance for educators and administrators in science, math, culturally responsive PBIS, formative assessment, and classroom management. Currently, Judd is a Special Consultant to the Secretary of Education for STEM. Judd has a diverse educational background with a degree in Ecology from Juniata College, a Master's in Forest Ecology from Virginia Tech University, and a Master's in Multi-Cultural Education from Eastern University.

Detailed Schedule

Time	Event/Location
8:00am-8:15am	**Registration** Penn State New Kensington Administrative Administration Building Entrance
8:15am-9:20am	**Welcome and Keynote Speaker** *STEM Education: A Pathway to the Future* Judd Pittman, PA Department of Education, **Special Consultant to the Secretary of Education for STEM** *Theater*
9:30am	**Collaboration for National History Day (6-8)** R. Saddler, A. Tressler, B. Aganad, C. Smith Franklin Regional SCI 138
	Arts & Bots: (9-12) K. Rowe & L. Sciullo Plum ITC 032
10:15am	**Tower Gardens (K-2)** R. Nichols & S. Hazlett Deer Lakes SCI 140
	Speck/ Explorables (6-8) S. Everett & R. Poth Riverview ITC 030
11:00am	**Transforming Math With Coding (9-12)** T. McPherson & S. Reilly Plum SCI 140
	Speck: Student Driven Investigations (3-8) K. Hengelbrok & S. Chesney, A. Barley, E. Hebrank ASSET STEM Education SCI 138
11:45am	**Lunch** Café 780

See pages 8-11 for a

Session Descriptions (listed alphabetically)

GigaPan in Historical Research (6-8)
Hal Biehl
Riverview School District

Riverview's 8th grade Pennsylvania Historical Research class is a 45-day rotation class that focuses on local history while developing research skills. The students visited and toured the Kerr Memorial Museum located in Oakmont. They had to choose a historical artifact from the Transportation Room to research and then they wrote a paper about their chosen artifact. The research papers were uploaded to a webpage that included an image taken by the GigaPan.

Preparing Pre-Service Teachers for STEAM (K-12)
Keely Camden and Lou Karas
West Liberty University

The College of Education at West Liberty University has incorporated the use of CREATE tools and other educational technologies into its Teacher Education Program. At this session, we'll discuss the ways STEAM has been introduced to the pre-service teachers and the role that teachers and school administrators have in the students' hands-on experiences.

Real World Research/ Professional Development Opportunities (K-12)
Amanda J. Smith, STEM Outreach & Engagement Liaison
Penn State Center for Science and the Schools (CSATS)

CSATS works collaboratively with scientists and engineers at Penn State and in industries to provide learning experiences that engage teachers and students in the practices and thinking used by scientists and engineers. Learn more about summer professional development opportunities, such as the Research Experiences for Teacher Program, that immerse teachers in STEM industries throughout Pittsburgh for 6 weeks. CSATS's support guides teachers through a classroom research project to help translate industry experience to the classroom and also to imbed best science and engineering practices, Next Generation Science Standards and PA standards.

How can we Remake Learning together?
Ryan Coon, Remake Learning Council Member,
Program Officer, The Sprout Fund

Have you heard the phrase 'Remake Learning' and wondering exactly what that means? Well you're in luck: this breakout session will introduce you to the Remake Learning movement, what it is, how it operates, its goals, its reach, and its impact. Plus, you'll learn how your work is a part of the movement to #RemakeLearning in the greater Pittsburgh region!

SocialVR (K-12)
Aparna Wilder
CMU CREATE Lab Partner

SocialVR, an easy-to-use browser-based tool to create virtual reality (VR) stories using 360-photos, videos, and interactive media hotspots. During this workshop we will introduce 360 cameras and demo SocialVR. Teachers from all disciplines interested in new storytelling methods and presentation tools are invited to see the VR experiences we have built using SocialVR and have an opportunity to play with the browser tool during the workshop.

Session Descriptions (listed alphabetically)

Afterschool STEAM Club (3-5)
Martha Freese & Lindsey Lamm
Plum Borough School District

iMovie, Circuitry Vinyl Cutters- We'll show you how we started an after school STEAM Club that led into our TV Production Studio. At this session, we'll share: after school topics, incorporated technology, give ideas for grant proposals, and share our student created and produced infomercials. This Club has become so popular that we are now in the process of creating a Maker Space in our school.

Arts & Bots: Cross Curricular Collaboration (9-12)
Kristen Rowe & Lindsay Sciullo
Plum Borough School District

STEAM throughout the school is less daunting for teachers if they have a partner: the librarian! Librarians are technology specialists accustomed to co-teaching. The classroom teacher becomes the content expert; the librarian facilitates tech training and logistics. See examples of STEAM projects from an English teacher and library media specialist, who will share tips for kick-starting cross-curricular collaborations.

Community Outreach With GigaPan (9-12)
Jim Christie, Kelsey Sofaly, Kylie Zaffina
Kiski Area School District

First presented at the Spring 2016 Conference, this session will provide a follow up to the Kiski Area Veteran's Website including updates on how this project has been implemented into the curriculum for Social Studies and English and the district's use of the site as a Community Outreach Opportunity.

Cross Curricular Collaboration: National History Day (6-8)
Robert Saddler, Andrew Tressler, Brandon Aganad, Christa Smith
Franklin Regional School District

This year, all 7th grade students at Franklin Regional Middle School chose a topic around the theme of Taking a Stand in History; using 21st century skills such as critical thinking, students then conducted research before presenting their topics through a website, an exhibit, a paper, a documentary, or a performance. This project was a collaborative effort between the social studies and English departments which allowed this rigorous and engaging learning experience truly worthwhile for all students.

Edible Classroom: Hydroponics Aquaponics (K-2)
Martha Freese & Jeff Pilyih
Plum Borough School District

Just imagine if every child was exposed to the fundamental concepts of hydroponics and the aquaponics systems at an early age. We believe hydroponics and aquaponics can be cornerstones of future food systems, reducing waste and enabling people everywhere to produce clean, healthy food for themselves and their communities. At this session we'll share ideas of how we began with classroom hydroponic kits, introduced aquaponics, and grew into an Edible Classroom.

GABE (Geographic Annotations By Everyone) (K-12)
Presenters: Gabriel O'Donnel & Alexander Woodring
CMU CREATE Lab

Presenting the CREATE Lab's new tool, GABE (Geographic Annotations By Everyone), this hands on workshop will explore mapping and annotating for use in any curriculum.

# of Events (Morning)

Event/Location	Time
Registration Penn State New Kensington Administration Building Entrance	8:00am- 8:15am
Welcome and Keynote Speaker *STEM Education: A Pathway to the Future* Judd Pittman, PA Department of Education, **Special Consultant to the Secretary of Education for STEM** *Theater*	8:15am- 9:20am
Speckle: Customizable Air Quality Monitoring (K-12) M. Taylor CREATE Lab SCI 140	9:30am
Preparing Pre-Service Teachers for STEAM (K-12) K. Camden and L. Karas West Liberty University ITC 032	10:15am
GABE (K-12) G. O'Donnel & A. Woodring CREATE Lab ITC 032	11:00am
Lunch Café 780	11:45am

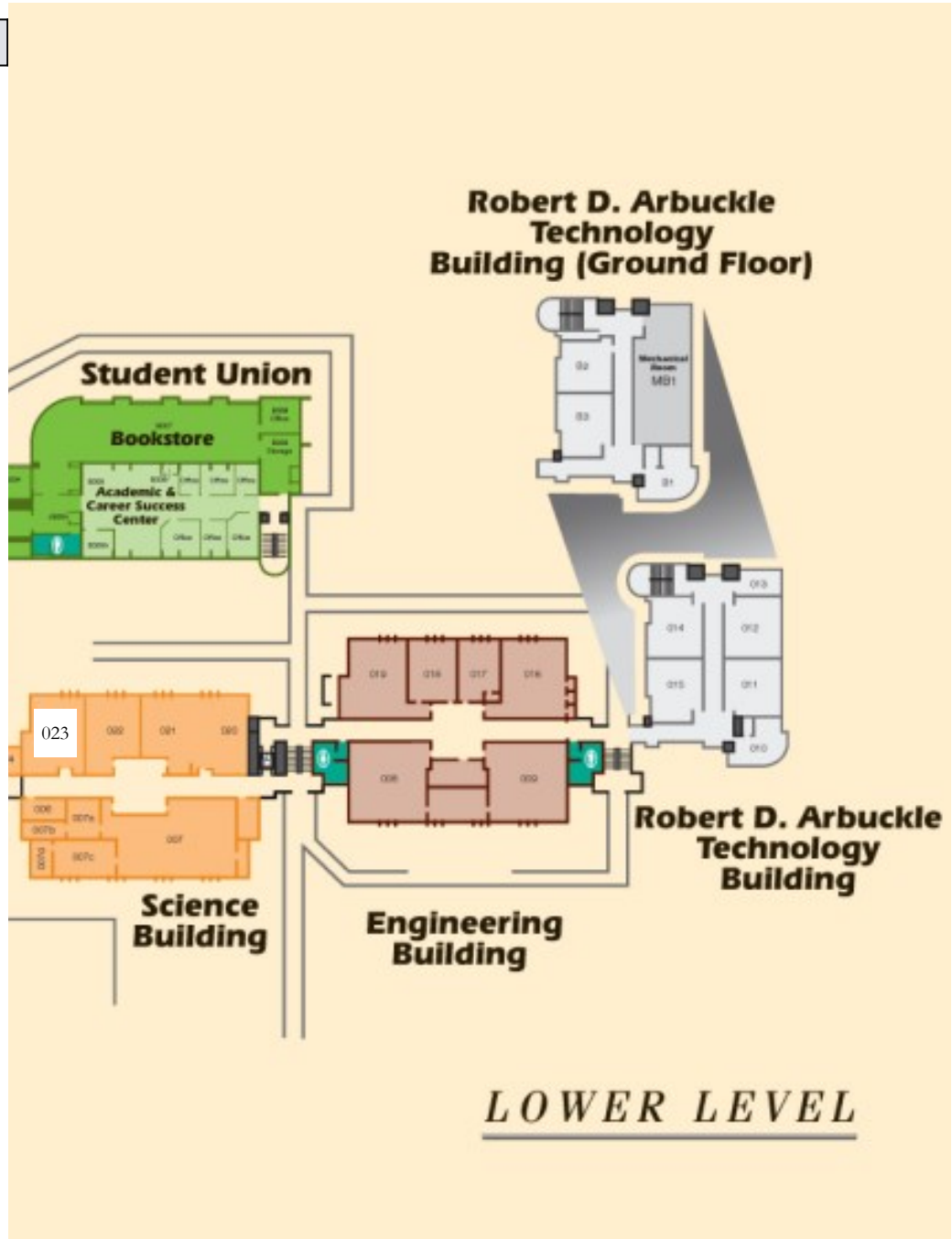
map of PSNK Campus

Detailed Schedule

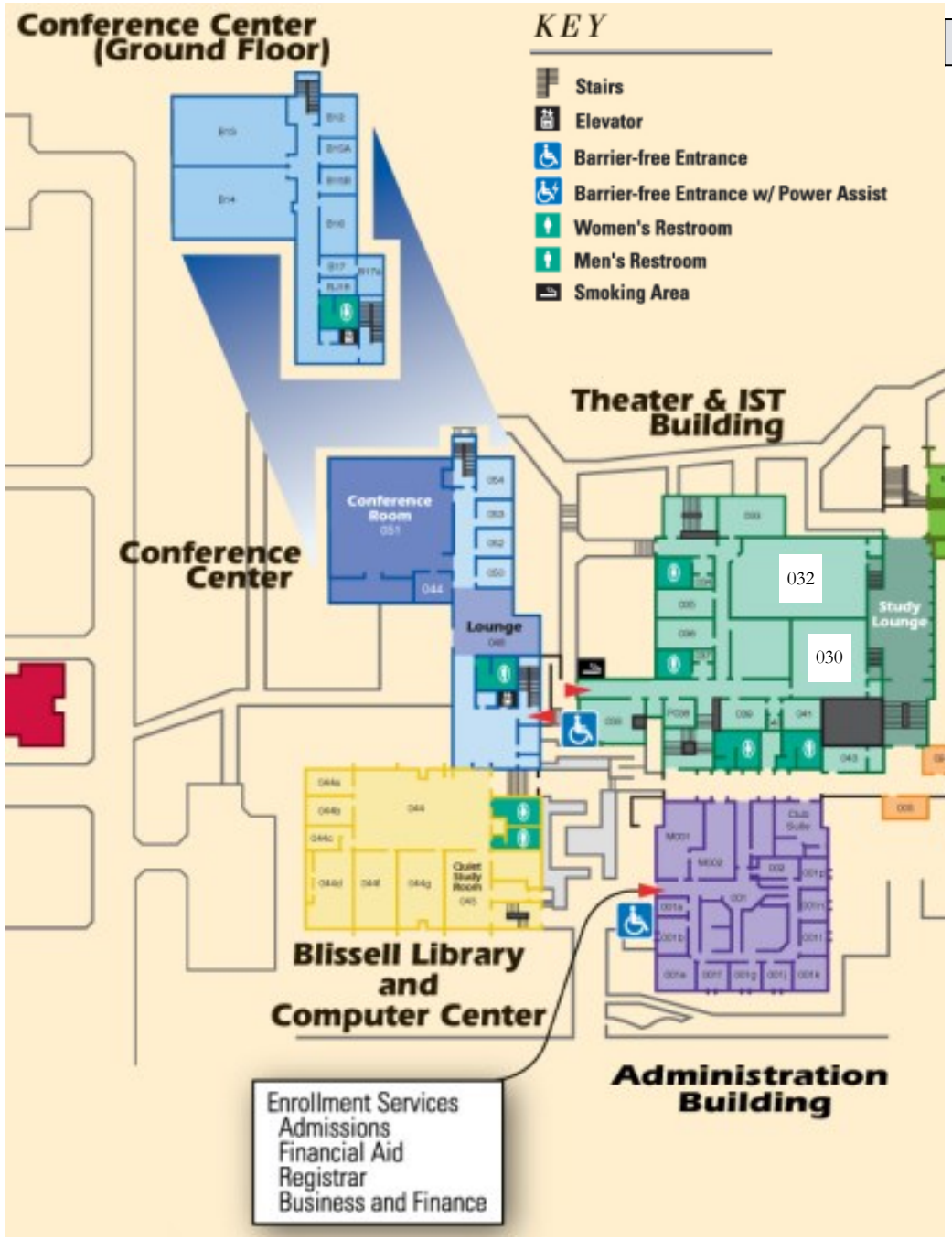
Time	Event/Location
12:30pm	**GigaPan in Historical Research (6-8)** H. Biehl Riverview ITC 030 **After School STEAM Club (3-5)** M. Freese & L. Lamm Plum ITC 032
1:15pm	**Edible Classroom: Hydroponics Aquaponics (K-2)** M. Freese & J. Pilyih Plum SCI 138 **Community Outreach with GigaPan (9-12)** J. Christie, K. Sofaly, K. Zaffina Kiski Area ITC 030
2:00pm	**The "Do I Really Have to Stay for this?" Panel** Theater
2:45pm	**Conference Evaluation** Complete at bit.ly/STREAMshowcase

See pages 8-11 for a

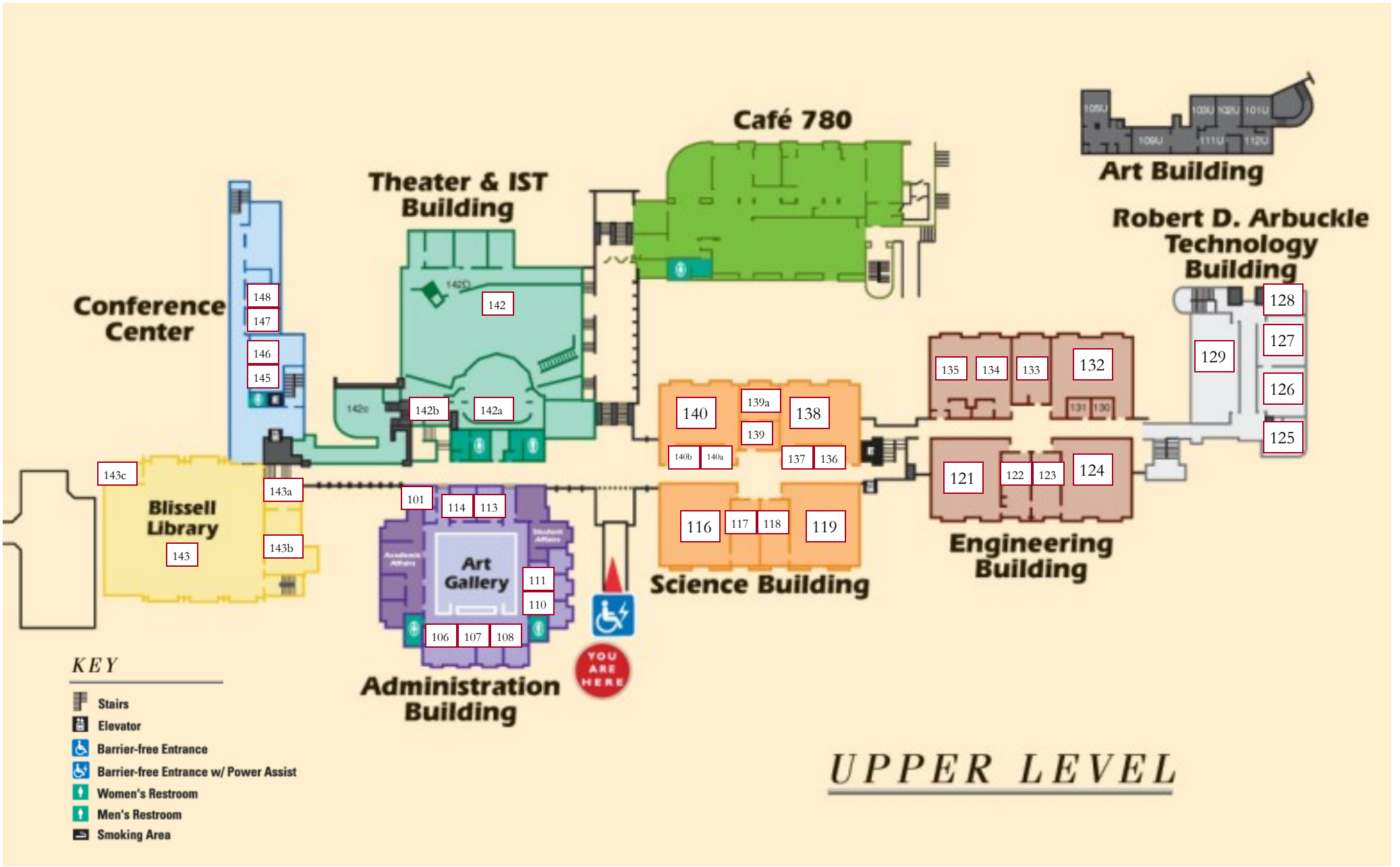
Campus Map (Lower Level)



Penn State New Kensington of Events (Afternoon)



Event/Location	Time
Research/Industry STEM Professional Development (K-12) A. Smith Penn State CSATS SCI 138	**12:30pm**
Remake Learning (K-12) R. Coon Remake Learning Council/ The Sprout Fund SCI 140	
SocialVR (K-12) A. Wilder CMU CREATE Lab Partner ITC 032	**1:15pm**
The "Do I Really Have to Stay for this?" Panel Theater	**2:00pm**
Conference Evaluation Complete at bit.ly/STREAMshowcase	**2:45pm**

map of PSNK Campus

Penn State New Kensington — Campus Map (Upper Level)