

# STEM NETWORK SCHOOLS

**Advancing Workshop**  
 National Youth Science Center  
 494 RiverStone Road, Davis, WV 26260  
 September 29-30, 2016



## Agenda

### Thursday, September 29

9:45 am	Registration Opens		
10:00 am	Welcome and Introductions <i>Dr. Amelia Courts, President/CEO, The Education Alliance</i>		Yellow Creek Conference Room
10:20 am	Greetings from the National Youth Science Foundation <i>Andrew N. Blackwood, National Youth Science Foundation</i>	■	
10:30am	Teaching Content through Game Design <i>Ian Zang, Carnegie Science Center</i>	■	
12:00 pm	Data Debrief and Lunch	■ ■ ■	Beaver Creek Conference Room
12:45 pm	Showcase Setup	■	
1:00 pm	Sponsor Recognition and STEM Network School Showcase	■ ■ ■	
1:40 pm	Breakout Sessions 1:		
	1. The Industry-based Design Challenge <i>Scott Dietz, Catalyst Connection</i> <i>Ruth Kiem, Sherrard Middle School</i>	■	Yellow Creek Conference Room
	2. CyberPatriot: The National Youth Cyber Education Program <i>Diane Miller, Global Cyber Education and Workforce Development Programs</i>	■	Devil's Run Computer Lab
	3. West Virginia Maker Network <i>Chip Lindsey, Children's Museum of Pittsburgh</i>	■	Beaver Creek Conference Room
2:25 pm	Breakout Sessions 2:		
	1. Ask and Answer: Subtle Shifts to Get your Kids Devising Questions and Generating Conclusions <i>Toni Stith, Carnegie Science Center</i>	■	Beaver Creek Conference Room
	2. Breakout! <i>Ian Zang, Carnegie Science Center</i>	■	Yellow Creek Conference Room
3:20 pm	Break		
3:30 pm	Data and Plan Debrief Role Specific Breakout Session:	■ ■ ■	
	• Administrators		Yellow Creek
	• Teachers		Beaver Creek
	• Volunteers in Service to America (VISTAs)		Weimer Run
4:00 pm	Life in the Stream: Outdoor Learning <i>Alyssa Hanna, Canaan Valley Institute</i>	■	Yellow Creek Conference Room
5:00 pm	Daily Wrap up		
6:00 pm	Dinner and Optional Campfire Networking		Bear Paw Plaza

Learning Objectives: ■ = student engagement; ■ = school-wide STEM instruction; ■ = meaningful partnerships

**Friday, September 30**

8:00 am	Breakfast Networking		Beaver Creek Conference Room
8:30 am	National Youth Science Center Tour <i>John Giroir, NYSCamp Director</i>		
9:00 am	Breakout Session 3:		
	1. Helping Us Help You: Partnerships between STEM Schools and Higher Education <i>Dr. Gay Stewart, Director of WVU Center for Excellence in STEM Education</i>	■	Yellow Creek Conference Room
	2. Enhancing Teaching and Learning in STEM <i>Apple Inc.</i>	■	Devil's Run Computer Lab
	3. STEM Education in Afterschool <i>Jen Honecker, WV Statewide Afterschool Network</i>	■	Beaver Creek Conference Room
9:45 am	Break		
10:00 am	Exploring Your Health: Outdoor Learning <i>Apple Inc.</i>	■	Front Entry
11:00 am	Next Steps and Role Specific Breakout Session:	■ ■ ■	
	<ul style="list-style-type: none"> <li>• Administrators</li> <li>• Teachers</li> <li>• Volunteers in Service to America (VISTAs)</li> </ul>		Yellow Creek Beaver Creek Weimer Run
11:30 am	Wrap up and Adjournment		

Learning Objectives: ■ = student engagement; ■ = school-wide STEM instruction; ■ = meaningful partnerships

STEM Network Schools is a program of The Education Alliance made possible by major funding from:



# Logistics

## Lodging

Canaan Valley Resort State Park  
230 Main Lodge Road, Davis, WV 26260  
P: 304-866-4121 ext. 9-2686

Each individual planning to attend the fall STEM Network Schools Training on September 29-30, 2016 should complete the [registration survey](#). The training will begin at 10 am on Thursday, September 29th and end by noon on Friday, September 30th. Registration will open at 9:45 am. The training will take place at the National Youth Science Center (494 RiverStone Road, Davis, WV 26260).

The Education Alliance will pay for lodging on Thursday night for up to 3 rooms (single or double) per school. The Education Alliance will provide lunch and dinner on Thursday, and breakfast on Friday. Schools are responsible for any additional costs including mileage reimbursement, lodging for more than 3 rooms and other meal costs.

Each team is responsible for reserving their own lodging arrangements based on the instructions below **by September 12<sup>th</sup>**. The Education Alliance has reserved a block of rooms for \$100 per night with the Canaan Valley Resort State Park (230 Main Lodge Rd, Davis, WV 26260).

To make room reservations:

Go to this link <https://secure.canaanresort.com/V1WebControls/Custom/GroupLogin.aspx>

Enter group id and password

Click "make a reservation"

Click on the actual calendar the dates of stay – room options will appear to the right, complete information for reservation. Do not use the drop down boxes to select dates.

Group ID: 16282

Passcode: 37001742

## Directions

### **To the National Youth Science Center (494 RiverStone Road, Davis, WV 26260) – Meeting Location**

#### **From Points North and West:**

- Take Interstate 68 to US Route 219 South toward Oakland, MD
- Follow 219 South through Accident, Deep Creek, McHenry, and Oakland
- Follow 219 South from Oakland to WV State Route 32 South in Thomas, WV
- Continue on State Route 32 South for approximately 2 miles
- Turn left onto WV State Route 93 and continue approximately 3 miles, RiverStone Road will be on right

#### **From Points South and East:**

- Take Interstate 79 to US Route 33 toward Elkins
- Follow Route 33 (Corridor H) to end at Kerens
- Turn right onto US Route 219 North
- Follow US Route 219 North to Parsons
- Make right at stoplight and continue to follow US Route 219 North
- Follow US Route 219 North to Thomas
- At the stop sign, turn right onto State Route 32
- Turn left onto WV State Route 93 and continue approximately 3 miles, RiverStone Road will be on right

**From Elkins through Canaan Valley:**

- From Elkins take Route 33/55 East to Harman
- At Harman, follow Route 32 North through Canaan Valley to Davis
- Turn right on WV State Route 93 and continue approximately 3 miles, RiverStone Road will be on right
- CVI's Research Support Building is the first building on the left at 139 RiverStone Road
- To reach CVI's Research and Education Center at 494 RiverStone road, continue on to the end of the road

**To Canaan Valley Resort State Park (230 Main Lodge Rd, Davis, WV 26260) – Lodging Location****From the National Youth Science Center to the Canaan Valley Resort State Park:**

- Head North on Riverstone Rd. for 0.5 miles toward Trails Rd.
- Turn Left onto WV State Route 93 West. Continue on 93 W for 2.6 miles.
- Turn left onto WV-32 South and follow this through Canaan Valley to Harman (10.7 miles).
- Then turn right onto Main Park Rd. and continue for 2 miles.
- Turn right at Cabin Dr. and take a slight right at Main Lodge Rd.
- The Resort will be on your right.

**From Canaan Valley Resort to Bear Paw Plaza - Dinner Location:**

- Turn onto highway (32)
- Make a right then,
- Immediate left at the ski mountain sign
- It is at the end of the road with the two major parking lots.

**Attire**

Please wear comfortable clothes that are appropriate for outside activities. Both days you should wear jeans or other outside appropriate pants and tennis shoes or boots that you don't mind getting wet. On day one, please wear a shirt that represents your school. You will be given a STEM Network Schools t-shirt to wear on day two.

# Session Descriptions

## Day 1: Thursday, September 29

### Teaching Content through Game Design – Ian Zang, Carnegie Science Center

10:30 am, Yellow Creek Conference Room

Learn how to create and implement board and card games into your curriculum. Game creation is a valuable tool for teachers but can be implemented as a student-driven activity as well. You will leave the workshop having created a content-focused game for use in your classrooms along with ideas about how to encourage students to create their own games.

---

### STEM Network School Showcase

12:45 pm, Beaver Creek Conference Room

Each STEM Network School will provide an exhibit displaying their STEM Plan and program accomplishments in year one. To allow all participants to visit the booths, the showcase will be conducted in two rounds. During the first round, half of the members of each team will start by presenting at the booth and the other half will visit the other booths. During the second round, members of each team will switch roles.

What is the purpose of your table?

- Introduction to your school's STEM Plan and implementation
- Collaboration with other STEM schools
- Networking with business and community leaders present

What should be on your table?

- Signage indicating who you are (table cover or paper banner)
- Signage promoting your STEM Plan (posters, tri-fold, easle)
- Handouts with information regarding your STEM Plan
- Promotional materials (pens, pins, candy, giveaways) (optional)
- Pictures of your STEM Leadership Team or past events
- Multi-media (laptop, iPad, video)

Who should be at your table?

- Members of your STEM Leadership Team
- No more than 2-3 people at a time

Other helpful tips:

- Wear clothes that are related to your organization.
- Develop talking points to highlight your STEM Plan and implementation stage.
- Be cautious when using music. If using it, keep it at a reasonable volume.
- Make eye-contact with passersby in your tabling area. SMILE!
- Don't force your information on people. Only reach out to those who seem interested.
- Make your table interactive...try a game or trivia.
- Be cautious of friends who stop by to chat – they are blocking your table from others.
- Try standing at your table instead of sitting. It makes you seem more engaged in the tabling experience.
- Tidy up the table as you work and replenish materials as they run low. The table should be aesthetically pleasing and interesting.

## **Breakout Session 1:**

### **1. Industry-based Design Challenge - Scott Dietz, Catalyst Connection/Ruth Kiem, Sherrard Middle School** *1:40 pm, Yellow Creek Conference Room*

The Industry-based Design Challenge Project, an initiative of The Education Alliance, is being developed collaboratively with the West Virginia Manufacturing Association (WVMA) and piloted at Sherrard Middle School to enhance West Virginia's workforce readiness for 21st century careers across the state. The project will match West Virginia companies with local schools to engage some of tomorrow's brightest young minds in hands-on improvement projects. By teaming students with local companies to solve real world problems, students will gain knowledge about industry materials, equipment, and processes. Perhaps most importantly, they will be challenged to utilize critical thinking, creativity, teamwork and communication skills to design, develop and test real-world solutions.

### **2. CyberPatriot: The National Youth Cyber Education Program - Diane Miller, Global Cyber Education and Workforce Development Programs** *1:40 pm, Devil's Run Computer Lab*

CyberPatriot – the National Youth Cyber Education Program – will be reviewed, including the program's background, objectives and results. Discussion will follow on the core component of the program, the CyberPatriot Cyber Defense Competition. This discussion will include the "mechanics" of the competition, such as how it works, the competition timeline, how to start a team, student participation and expectations, the computing environment requirements and resources. Participants will gain a good understanding of why and how to implement the program in their school.

### **3. West Virginia Maker Network – Chip Lindsey, Children's Museum of Pittsburgh** *1:40 pm, Beaver Creek Conference Room*

Making, tinkering and fab labs can be found in scores of museums and science centers across the US. The maker movement began twenty years ago. This workshop will share what making means for learning, best practices in making and how the Children's Museum of Pittsburgh partners with our schools and communities. The Education Alliance and the Children's Museum of Pittsburgh have partnered on a pilot initiative to develop a network of community-based makerspaces in West Virginia. Participants will learn how they can join the West Virginia Maker Network.

---

## **Breakout Session 2:**

### **1. Ask and Answer: Subtle Shifts to Get your Kids Devising Questions and Generating Conclusions – Toni Stith, Carnegie Science Center** *2:25 pm, Beaver Creek Conference Room*

Transitioning a traditional classroom to one that is more inquiry focused does not require a total curriculum rewrite or starting over from scratch. These simple classroom strategies turn traditional lessons and activities into ones driven by student questions and creativity and give kids the opportunity to practice and develop these skills.

### **2. Breakout! – Ian Zang, Carnegie Science Center** *2:25 pm, Yellow Creek Conference Room*

Breakout is a unique, engaging activity that places learners in a situation where they must work together, or face failure. A properly structured module for Breakout will engage not only the high achievers, but also bring those that struggle in their learning to the forefront, providing all participants with positive reinforcement and a sense that they achieved a goal. Afterwards, the experience will then serve as an excellent scaffold for future learning opportunities. In this professional development workshop, participants will take part in a Breakout experience, then learn how to create and facilitate the BreakoutEDU lock box experience for educational or professional development team-building.

## **Life in the Stream: Outdoor Learning - Alyssa Hanna, Canaan Valley Institute**

*4:00 pm, Yellow Creek Conference Room*

This hands-on, outdoor session will show you all about the world of benthic macroinvertebrates and life in the stream. These macroinvertebrates are a great way to increase student interest in a variety of topics, especially science, math, and the environment. Macroinvertebrates even have applications in art, reading, and creative writing. In this session, you will learn how to catch and identify macroinvertebrates with your students in streams, experts you can have visit your classroom, and ways to bring the stream to your classroom through hands-on simulations and online learning. A change of shoes that you can get wet is strongly suggested. The creek will not be very deep (typically less than knee high), but it could be a bit chilly.

---

## **Day 2: Friday, September 30**

### **Breakout Session 3:**

#### **1. Helping us help you: Partnerships between STEM Schools and Higher Education - Dr. Gay Stewart, Director of WVU Center for Excellence in STEM Education**

*9:00 am, Yellow Creek Conference Room*

The West Virginia University Center for Excellence in STEM Education wants to facilitate partnerships between interested schools and WVU faculty focused on improving STEM education. This dialog will help us build those partnerships. One example of a program that could be of benefit to our K-12 partners is WVUteach, WVU's preservice teacher preparation program. Inquiry-based science and math curricular materials and project-based instruction are key components in this program. Engaging with our preservice teachers by mentoring them in placements, and working with our Master Teachers (expert high school mathematics and science faculty who have joined our program to guide the development of our future teachers) on professional development opportunities can be of direct educational benefit. STEM majors beyond WVUteach students can engage with K-12 students in career discussions. The Center is new and focusing on developing coherent programs that reach across WVU and serve West Virginia. We look forward to your input!

#### **2. Enhancing Teaching and Learning in STEM – Apple, Inc.**

*9:00 am, Devil's Run Computer Lab*

Use Apple tools to learn, create, and deliver engaging STEM content for personalized learning that accommodates all learning styles and concepts. Explore a variety of Multi-Touch textbooks and learning materials available for iPad. Learn how educators are using iTunes U, an ever-growing collection of free educational resources, to deliver an amazing array of interactive STEM content.

#### **3. STEM Education in Afterschool – Jennifer Honecker, WV Statewide Afterschool Network**

*9:00 am, Beaver Creek Conference Room*

Research shows the connection to high-quality afterschool programs positively impact student learning and achievement. Participants will discuss meaningful STEM-education opportunities for afterschool and focus on making as specific technique. Maker activities have been a powerful learning instrument for West Virginia Out-of-School Time settings, including traditional afterschool programs and summer 4-H camps. Participants of this breakout session will learn the basic principles of the Maker Movement within a STEM framework and will “learn through making” while designing and building several FabLab creations including marshmallow catapults and slingshot rockets. Curriculum on these and additional FabLab activities will be shared.

## **Exploring Your Health: Outdoor Learning – Apple Inc.**

*10:00 am, Front Entry*

We will explore how to develop and maintain healthy lifestyles through the development of a fitness training course. You will design a circuit training course for a full body workout. We will measure heart rate, create a labeled map plot to show location, and provide video examples of each exercise. WV CSO:

- Middle: 21C.O.5-8.1.LS.3- Student presents thoughts, ideas, and conceptual understanding efficiently, accurately and in a compelling manner and enhances the oral or written presentation through the use of technology.
- High: 21C.O.9-12.2.TT.2- Student collaborates with peers, experts and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works.



## Biographies

**Ian Zang** is the Assistant Manager of Science and Education at Carnegie Science Center. Ian taught biology, chemistry, anatomy, and middle school science after earning his Master's degree in Education at Michigan State University. Ian also works professionally in game design and development, creating professional development games for international companies and working with hobby game publishers to improve their offerings.

**Toni Stith**, STEM Professional Development Coordinator at Carnegie Science Center, holds a bachelor's degree in elementary education from Purdue University and a master's degree in mathematics education from Ball State University. She has 16 years of teaching experience in five states. For the majority of her career, she served as a math instructional and data coach in a high-poverty elementary school. She has also advised math and technology clubs in elementary, middle, and high schools. In 2008, she received the Milken Educator Award and was a Fulbright Memorial Fellowship teacher-scholar for 3 weeks in Japan. Toni now provides professional development to teachers and schools, coaching many school districts in the Pittsburgh region to evaluate and improve their STEM education programs. After an initial needs survey, these school districts set goals for improvement via the Carnegie STEM Excellence Pathway. Toni guides them through this process and embeds professional learning opportunities during the implementation phase. She also helps districts identify resources that will help them reach their self-improvement goals.

**Scott Deitz** is responsible for the program development and delivery of Catalyst Connection's Explore the New Manufacturing programs (STEM initiatives). These include: an in-school project based program called the Manufacturing Innovation Challenge; a middle school student video contest; teacher professional development; collegiate internship programs; and a new women in manufacturing initiative. Scott is also responsible for all STEM outreach activities supporting programs such as BotsIQ, the Fluid Power Challenge, and other regional STEM initiatives in partnership with non-profits, school districts, colleges, and economic development organizations. He is a frequent speaker for school districts, industry consortiums, and conferences on the topics of STEM education, manufacturing, and workforce programs. To date, Scott has worked with more than 60 local school districts, 220 local companies, and over 3,000 regional students.

Scott has been involved in human resource and workforce education since 1999, with expertise in the manufacturing, retail, financial, and consulting industries. As a recruiter for Mellon Financial Corporation, Dick's Sporting Goods, and a small consulting firm, Scott has recruited technology and management talent, delivered training, developed internship programs, and conducted outreach with local nonprofit organizations and youth programs. He holds B.S.B.A. degree in Human Resource Management from Robert Morris University.

**Dr. Gay B. Stewart** received her BS in physics from the University of Arizona in 1988. In 1994, she earned a PhD in particle physics from the University of Illinois, Urbana-Champaign in 1994 and accepted a faculty position at University of Arkansas. Prior to accepting a position at WVU, where she serves as the director of the WVU Center for Excellence in STEM Education, her career focused on three primary interrelated issues, improving the introductory physics sequence to better prepare students to succeed in science and engineering degrees, preparation of physics majors for the variety of career options open to physicists, and preparation of future faculty, both for high school and the professoriate. The undergraduate program at UA had a 10-fold increase in number of graduates, many receiving prestigious awards. UA was one of six initial primary program institutions of the Physics Teacher Education Coalition (PhysTEC). In 2012, UA started a UTeach replication, UTeach. UA now produces approximately two percent of the high school physics teachers with physics degrees nationally. At West Virginia University, aside from serving as Director of the Center, she serves on the leadership team for the new PhysTEC program and Co-Director of WVUteach, a cohort 5 UTeach replication.

As a teaching assistant mentor, she developed a preparation program that grew into one of four sites for the NSF/AAPT "Shaping the Preparation of Future Science Faculty." She is a fellow of the American Physical Society and is the councilor representing the APS Forum on Education, a member of the Council Steering Committee and Board of Directors. She has also served on the APS Committee on Education. She serves on the editorial board of the Journal of Science Education and Technology and co-chairs the College Board AP Physics 2 Curriculum Development Committee. She chaired the College Board's Science Academic Advisory Committee, co-chaired the Advanced Placement Physics Redesign commission, and the AP Physics 2 Curriculum Development and

Assessment Committee. She was an author of the 6-12 College Board Science Standards for College Success. Stewart was chosen the 2002 CASE Arkansas Professor of the Year, both the Fulbright College Outstanding Adviser and Master Teacher, and the University of Arkansas Alumni Association 2007 Teacher of the Year, and received the University of Arkansas Advising Award, the Engineering Directors Award, and the Honors College Fellowship Advising Gold Medal.

**Diane Miller** is the director of InfoSec Operations and Identity Management at Northrop Grumman and director, Global Cyber Education and Workforce Development Programs for the company. As director, Infosec Operations and Identity Management, Ms. Miller ensures effective operational leadership of the Information Security function for Northrop Grumman's Global Network and leads all aspects of both assured identity and identity provisioning for the company's employees and business partners.

As director, Global Cyber Education and Workforce Development Programs, Ms. Miller is the focal point for the corporation's global cybersecurity education, outreach and workforce development initiatives. She leads the Northrop Grumman Foundation's role as presenting sponsor of CyberPatriot, the National Youth Cyber Education program created by the Air Force Association, and manages the company's role - in partnership with Cyber Security Challenge UK - to run CyberCenturion, the UK's first team-based cyber competition for 12 – 18-year olds. She also leads the company's role in CyberArabia, a cyber competition and training session for students across Saudi universities. Ms. Miller is a nationally recognized speaker on the need to educate and develop a diverse highly-talented cyber workforce. She is active in numerous federal and state/local boards, academic institutions and not-for-profit entities and participates in several public-private partnerships to advance global STEM and cyber workforce initiatives.

She graduated Magna Cum Laude with a bachelor of science degree in information systems from California State Polytechnic University, Pomona. She is a Certified Computing Professional (CCP), conferred by the Institute for the Certification of Computer Professionals, and is a Certified Six Sigma Green Belt.

**Alyssa Hanna** is Canaan Valley Institute's education specialist. She coordinates and implements education initiatives that support their mission of ensuring the region has healthy streams and watersheds. Alyssa has a Bachelor of Arts degree in Botany-Microbiology from Ohio Wesleyan University and performed her graduate work in invasive plant ecology. With experience that ranges from volunteering as a teen at a hands-on science museum to teaching as a college instructor, Alyssa's life-long love of nature helps her develop creative ways to conduct hands-on science education.

**Jen Robertson-Honecker** earned her Bachelors of Arts in Secondary Education from Fairmont State University and taught high school chemistry, physics, and astronomy in Virginia and West Virginia. She earned her doctorate in analytical chemistry from WVU in 2008 and joined the faculty in the C. Eugene Bennett Department of Chemistry as a Teaching Assistant Professor in the fall of that same year. In this role, she has taught introductory chemistry to over 4,000 students from a variety of majors including engineering, geology, biology/pre-med, nursing, animal nutritional sciences, and elementary education.

In addition to chemistry courses, Robertson-Honecker was involved in the development and assessment of new laboratory experiments and classroom exercises that incorporate real world problem solving to motivate students and support higher cognitive learning. In 2011, she developed an introductory chemistry course for elementary education majors with the goal of demonstrating how the material was tangible for young children. The course includes demonstrations and lab experiments that can be performed with elementary aged students in the classroom using safe and inexpensive materials from the grocery or hardware store.

In August of 2013, Robertson-Honecker joined the faculty in the WVU Extension Service as an assistant professor and the Science, Technology, Engineering, and Math (STEM) specialist for the 4-H Youth Development program. The WVU Extension Service's 4-H program reaches 1 in 4 state youth each year in a variety of event settings including summer camping programs, club meetings, in school and after school activities. This position allows Dr. Robertson-Honecker to bring science programming to children in rural communities and to a statewide youth audience of more than 77,000 children. Some of the programs she has helped to organize since taking the position include: the West Virginia State Science Bowl, 4-H First Lego League Robotics competitions, the 4-H National Youth Science Day experiment, and the STEM Ambassador program.

**Ruth Keim** is the mother of three children and has been in the education setting for over 20 years. She received 2nd place nationally for the Henry Ford Innovators and has attended training sessions for STEAM through Carnegie Institute and IU1, also attending the STEMCON conference in Cleveland, Ohio. She began working at Sherrard Middle School last year (2015-2016). Before entering the middle school level she was an elementary art teacher, K-5. Her duties at Sherrard Middle include teaching general art, clay, and STEAM classes to 7th and 8th grade students.

**"Chip" Lindsey** became the Director of Education at the Pittsburgh Children's Museum in Pittsburgh PA in July. Chip began his career at the Fort Worth Museum of Science and History. Over 23 years in Fort Worth, he held a number of positions in curatorial, education, and program departments to become the Vice President of Creative Development. He has a B.S. in Biology from Texas A&M and M.Ed in Education Collaboration and Research from Texas Christian University. Lindsey holds a certificate in informal learning from the Exploratorium Center for Informal Learning and Schools. He was the principle investigator for two NSF funded grants, DesignIT Studios and CSI: Crime Science and Inquiry.

DesignIT Studios was a technology initiative for middle school students who are typically underrepresented in (IT) professions. The three year, NSF project engaged one hundred and twenty students in real world IT projects and challenges that combined digital technology with traditional arts and crafts media to demystify computer programming, digital media, and IT development for all types of students.

CSI: Crime Science and Inquiry exhibit premiered nationally in 2007 as part of the Science Museum Exhibit Collaborative submission by the Fort Worth Museum of Science and History Close collaboration among the project's designers, world-renown forensic experts, and creators of arguably the most popular forensics-based TV show, the exhibit created a new standard for combining science and popular culture in a traveling exhibition.

In 2007, Lindsey took the position of Associate Director of the Don Harrington Discovery Center in Amarillo, Texas to revitalize the local science center to become a regional destination. Over the next four years, new traveling exhibits and permanent exhibit renovations doubled attendance and membership. Summer camps and school programs made the museum a leader in informal/formal science education.

In 2011 Lindsey became the Executive Director of ScienceWorks Hands-on Museum in Ashland Oregon, successfully leading the organization through its first capital fundraising effort. Over the next five years ScienceWorks became the premier science resource for schools, and families.

Lindsey is an active member of the Association of Science and Technology Centers. He has been as advisor to the Smithsonian Institution Lemelson Center for the Study of Invention & Innovation as well as their Places of Invention exhibit project. He is past board president of the Informal Science Education Association of Texas (ISEA.) and has lead numerous initiatives to bridge the work of schools and museums through innovative family learning.

**Andrew Blackwood** was an invited, visiting presenter at the National Youth Science Camp throughout the 1990s. In 2001 he joined the NYSC staff and has served as director of the program from 2002 to 2011. He has also directed the 2006 Youth Science Leadership Institute and served as Dean of the WV Governor's School for Mathematics and Science from 2005 to 2011. For 13 years prior to becoming the NYSF's full-time executive director in July 2004, Dr. Blackwood was a tenured mathematics professor at West Virginia University Institute of Technology, a regional campus of West Virginia University.

Dr. Blackwood holds a Doctorate of Education (Ed.D.) in Educational Leadership Studies with a minor in Curriculum and Instruction from West Virginia University; a Master of Science in mathematics from Virginia Polytechnic Institute and State University; and a Bachelor of Science in mathematics and Bachelor of Arts in psychology from the University of Charleston.

# Building Layout

