Schedule of Events—Monday, August 6
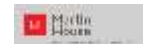
Time	Event
8:00 am—8:30 am	Registration *Charles J. Wick Campus Center*
8:30 am—9:00 am	Conference Welcome *Charles J. Wick Campus Center*
9:10 am—10:00 am	Session 1 *Duns Scotus Hall*
10:00 am—10:30 am	Coffee with the Vendors *Charles J. Wick Campus Center*
10:40 am—11:30 am	Session 2 *Duns Scotus Hall*
11:40 am—12:30 pm	Lunch and Keynote Speaker *Charles J. Wick Campus Center*
12:40 pm—1:30 pm	Session 3 *Duns Scotus Hall*
1:30 pm—2:00 pm	Break - *Charles J. Wick Campus Center*
2:10 pm—3:00 pm	Session 4 *Duns Scotus Hall*
3:10 pm	Raffle Drawings *Charles J. Wick Campus Center*

Remember to sign up for your choice of Immersive Experiences
scheduled on Tuesday, August 7

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ENTOURAGE YEARBOOKS

THE FOUNDRY   explore & more children's museum   THE LAUNCH PAD   LIBRARY   Martin House   NORTHLAND

Using Local Contests as the Focus   ROOM 221
of an Engineering Class

Larry Hiller, Nichols School

In this session we will discuss how to design a curriculum for an Introduction to Engineering Class that is based on events such as Tech Wars and First Robotics. I will bring sample devices and share my syllabi, timelines and grading rubrics.

Science, Technology, Engineering
Grades 9-12

No Two Alike: ROOM 218
3D Flake Design with Snowflake Bentley

Lisa Carlson, Sherman Central School Library
Susan Bartle, School Library Systen – E2CC BOCES

Learn how to introduce students ot the concept of snowflakes, using the awarding winning book *Snowflake Bentley, by Jacqueline Briggs Martin*
- Discuss weather conditions needed for snowflakes to form
- Learn all about Snowflake Bentley, one of first known photographers of snowflakes
- Share modern ways that snowflakes are photographed
- Introduce students to the 3D snowflake generator web site so students can try to create their own snowflakes.
- This project can be part of a unit on Weather, Technology and the Arts.

Science, Technology, Engineering, Art, Math
(Grades K-12)

Building Literacy with STEAM   ROOM 324

Kirsten Smith, Lockport City School District

In the primary grades, much of the emphasis is on foundational literacy development. As a student progresses beyond those years, there is much more content-specific material and informational text. Our session will focus on planning and instruction with STEAM topics to foster strong overall literacy skills (speaking, listening, reading, and writing).

Science, Technology, Engineering, Art, Math
(Grades K-5, Grades 6-8)

Organizing a STEM Fair   ROOM 348
in Your Classroom or School

Diane Vigrass, WNY Science Congress, Inc.

A STEM Fair encourages students to develop interests and careers in science, technology, engineering, and math. It promotes inquiry, engagement, and communication of learning. Participants will acquire these understandings: What is the scientific method? What does a successful project look/sound like? What resources are available to a Fair organizer?

Science, Technology, Engineering, Art, Math
Grades K-12)

Conference Notes . . . .

Teaching DNA in our life from K through 12   ROOM 219
Xiao-Ning Zhang, St. Bonaventure University

The concept of DNA is difficult to teach since a DNA molecule is invisible to the naked eye. This presentation provides hands-on activities to show examples of how to use materials from everyday life to unpack this concept with classroom activities at elementary, middle and high school levels.
Science, Art (*Grades K-12*)

Buffalo and Erie County Public Library Launch Pad

Technology Explosion   ROOM 222
Sara Fuller, Buffalo and Erie County Public Library
John Gaff, Buffalo and Erie County Public Library

Gain hands-on experience using cutting edge makerspace technology. Learn about pricing and lesson plans that may be useful in your classroom.
Science, Technology, Engineering(*Grades K-12)*

STEAM Up Your School!   ROOM 324a
Joseph D'Amato, Depew Union Free School district
Become the STEAM Hub of your school as you advocate for STEAM, create valuable collaborations, and design awesome STEAM projects. STEAM Up Your School not only presents ways to assist you with STEAM in your school but also provides resources and project examples to help you get started.
Science, Technology, Engineering, Art (Grades K-12)

Design and Develop Your 3D Art Studio   ROOM 244
Susan Bartle, School Library System - E2CC BOCES

You have a 3D printer; your students design and print something but how can you really utilize these printed artifacts? Learn how to elevate these artifacts to an art form. Turn your ordinary 3D printed objects into extraordinary artifacts. Create objects that strengthen your instruction. Tactual design experience can provide students with valuable skills. Learn how a BOCES Media Center set-up and developed a 3D Art Studio for printing artifacts on demand for utilization in strengthening instruction across the curriculum.
Science, Technology, Engineering, Art, Math
(*Grades K-5, Grades 6-8, Grades 9-12, Grades K-12, Higher Ed)*

Conference Notes . . .

Charles J. Wick
Campus Center

WNY STEAM Conference

August 6, 2018   Daemen College

KEYNOTE
LUNCH SPEAKER

Andrew Franz of Buffalo's Hamlin Park Claude and Ouida Clapp Academy, was recognized in 2017 by the New York State Board of Regents as one of two recipients of the prestigious Milken Award in New York. This award is known to educators as the "Oscars of Teaching".

For 30 years, the Milken Educator Awards, an initiative of the [Milken Family Foundation](), have rewarded and inspired excellence in the world of education by honoring top educators around the country with $25,000 unrestricted awards. The Milken Educator Awards targets early-to-mid career education professionals for their already impressive achievements and, more significantly, for the promise of what they will accomplish in the future.

Franz was selected for this honor for his entire body of work, but he is most recognized nationally for his work with the **Student Spaceflight Experiments Project,** offered locally through the WNY STEM Hub. As the lead educator on this project, Franz fired up his 7th and 8th graders about growing potatoes in space, and enlisted biologists at the University of Buffalo and Cornell to serve as outside advisers; he also raised funds to get the students to a STEM Conference in Washington, D.C., and to Cape Canaveral in Florida to observe the Falcon 9 rocket launch that put their tubers into orbit on the International Space Station. Franz gave a presentation about the *SpudLaunchers* project to the 5,000 people who attended the Falcon 9 launch.

The experiment, which continued at the University of Buffalo even after the students moved on to high school, earned these *SpudLaunchers* widespread recognition and cemented Franz's reputation as an innovative educator dedicated to increasing interest in STEM education in his high-needs, largely minority school.

Franz, who regularly attends and presents at WNY STEM Hub meetings, teaches in a special education 6:1:1 setting and covers all core subject areas in his classroom: students dissect live hydra, observe animals, care for the class pets (a beta fish and an African walking frog), produce documentaries about animals, learn about imperialism and westward expansion through online gaming, read graphic novels to supplement classic texts, play Minecraft to understand scale factor, and illustrate math concepts with creative drawings.

Franz pushes his students to improve their performance and goes to great lengths to get them out of the classroom. He leads an annual fishing excursion on Lake Erie, as well as a visit to the Tifft Nature Preserve, where students encounter water fowl, deer and insects while learning about the history of Buffalo's waterfront. He has supervised field trips to Delaware Park and the Penn Dixie Fossil Dig, Sky High Adventures Ropes Course, Buffalo Zoo and Buffalo History Museum. Under Franz, students have learned about harvesting mushrooms and aquatic life in Cazenovia Park, attended the Western New York Science Fair and Tech Savvy, toured the University of Buffalo, and participated in the Minecraft Build Challenge at the Microsoft Store.

Franz serves on Hamlin Park's school leadership team and is currently organizing school recycling initiatives as the Sustainability Coordinator. He is on the Positive Behavior Intervention Support (PBIS) team, math team and extracurricular committee. He has facilitated weekly meetings for the school's seventh- and eighth-graders, led the expansion of the science lab, and works with parents and students during Saturday School.

Franz earned a bachelor's in English education in 2006 and a master's in secondary special education in 2010 from Buffalo State College

My Mark Matters ~Planet Earth   ROOM 227
Fotini Galanes, Teaching Artist /My Mark Matters

My Mark Matters is a global multi-faceted story-telling project by way of the creative process. Observe, touch and respond to familiar objects. Record what you see that brings to mind a story. Learn visual literacy and with mark making discover our stories are not our exteriors.

Art
Grades K-5, Grades 6-8, Grades 9-12, Grades K-12, Higher Ed

Using Local Contests as the Focus   ROOM 221
   of an Engineering Class
Larry Hiller, Nichols School

In this session we will discuss how to design a curriculum for an Introduction to Engineering Class that is based on events such as Tech Wars and First Robotics.   I will bring sample devices and share my syllabi, timelines and grading rubrics.

Science, Technology, Engineering
Grades 9-12

Creating the Paperless Classroom   ROOM 348
   Using Office 365
Nathan Thoma, Canisteo-Greenwood CSD

Go paperless! This session will focus on a realistic transition to a paperless classroom using Microsoft Office 365 in a 1:1 device environment. Microsoft OneNote is the main delivery source and tool for content creation and collaboration, in conjunction with the Office 365 Suite of Apps.

Technology (*Grades 6-8, Grades 9-12*)

Alice 2.4, Building Coders 0ne Block at a Time   ROOM 324
Adam Ziccardi, Orchard Park HS

Alice 2.4 is a drag and drop programming (coding) interface developed at CMU to teach computer science to students of any and all backgrounds and capabilities. This brief introduction will show some sample projects illustrating the ease of use, simple and complex control structures, object first development, and sample syllabi.

Science, Technology, Engineering, Math,
Grades 6-8, Grades 9-12, Higher Ed

Becoming a ConTEXT Expert vs. a conTENT Expert   ROOM 218
Cliff Quinn, WozU Education

How do we create experiences for our students in content areas outside of our teachers' comfort zones? Technology continues to play an increasing role in our lives and careers. How do we prepare students for success when we aren't sure how it works ourselves? It's all about the delivery! A class doesn't need to be taught by a computer scientist or an engineer to produce computer scientists and engineers. The most important factor in these courses is the context and the student experience provided, not the content that is delivered. Encouraging teachers to embrace a role as the conTEXT expert in the classroom allows them to create situations and opportunities for students to explore these fields without knowing all the answers themselves!

Science, Technology, Engineering
Grades K-12

Building By Design: Virtual World Architecture   ROOM 219

Andrew Wheelock, Erie 1 BOCES/ WNYRIC

Mary Howard, Grand Island Middle School

We will highlight our Architecture by Design Project by showcasing student created works within our Virtual Worlds known as the Islands of Enlightenment. Students will show their works via video or in person showcase.

Technology, Engineering, Art (*Grades 6-8, Grades 9-12*)

Re-Imagining Group Work with Storillo: ROOM 222

The Group Work Management Platform for Education

Thomas Wilkie, Storillo

Christina Evans, Amherst High School

Amanda Walter, Amherst Central School District

Group projects are a great way of teaching essential 21st century skills, but too often they turn into one student doing everything, one student doing nothing, and everyone else try-**ing to make it look like they've done something. Come check out Storillo to see how we** can help put the "group" back into group work and hear from local teachers about their experiences using Storillo!

Technology (*Grades 6-8, Grades 9-12*)

Conference Notes . . . .

Real World Project Learning Changes Lives   ROOM 324a

Michelle Kavanaugh, Cherie Messore, Joe Zawicki for WNY STEM Hub

WNY STEM Hub convenes partners to deliver real-world youth experiences integrating STEAM. This session will engage participants in overviews and outcomes from five youth projects:

- Student Spaceflight Experiments Program
- FIRST Robotics
- The Girls Coding Project
- Hand in Hand
- Progressive Career Exploration Partnership

Each project engages community and funding partners that provide resources and mentors to youth. Integrated STEAM career pathway opportunities lead to increased self-efficacy and career engagement. Barriers to high-need populations are addressed in the project design.

This session will communicate through words, pictures, data and dialogue, the important connection between authentic learning experiences and youth engagement in STEAM Careers. Each project will describe how the STEAM content areas are integrated. Artifacts and one-page project summaries will be available.

Inquiry-Based Math, Music, & Engineering   ROOM 240
to integrate STEAM Concepts

Dan Lujetic, ASSET STEM Education

Participants will explore engineering simple musical instruments using inquiry. Math and music connections will be explored, with strategies to integrate them in the classroom. There is no limit to unlocking creativity!
Science, Engineering, Art, Math (Grades K-12)

9-11 AM
Northland Workforce Training Center
683 Northland Ave., Buffalo, NY 14211
(Max 50 attendees)
Learn about Buffalo's newest workforce training super center! The approximately 80,000 square-foot- facility houses administrative space, classrooms, and industrial shops/labs designed to train and turn out highly-skilled members of the local workforce to meet the requirements of the 21st century advanced manufacturing and electric utility industries. This industry-driven training facility is focused on closing the skills gap of the local labor pool while also creating on-ramps to training, co-ops, internships, apprenticeships, and permanent employment for Western New Yorkers seeking advanced manufacturing and energy careers. Our tour will take us to the areas that are complete and open for visitors and give us a glimpse at the progress on classrooms and labs set to open in the fall.

9-11 AM
Martin House
125 Jewett Parkway, Buffalo, NY 14214
(Max 30 attendees)
Join this special "Educator's Tour" at this unique Frank Lloyd Wright designed residential complex built in 1905. This house, which achieved National Historic Landmark **status in 1986, is considered one of Wright's finest achievements. Our tour will focus on** the educational elements that are covered with school groups, followed by a showcase of several different programs that are done on site. Participants will have a chance to make their own geometric window.

9-11 AM
Buffalo Central Library, The Launch Pad MakerSpace
1 Lafayette Square, Buffalo, NY 14203
(Max 20 attendees)
You must see this to believe it! This STEAM-inspired space hosts a 3-D printer, recording studio, craft area, and other activities using the latest technology. This is a place for young and old to gather, learn new skills, create virtual or physical projects, and collaborate with others. Explore 3-D designs, make a robot, experiment with circuits, experiment with various crafts. This visit will include a complete tour of the space along with suggestions on how you can incorporate this tremendous resource into your school year.

12-2 PM
Explore and More Children's Museum
Canalside—VIP Tent
44 Prime Street, Buffalo, NY 14202
(Max 60 attendees)
On this Immersive experience you will learn all about the new building, future exhibits, and enjoy some hands-on activities to whet your appetite for the feature attraction set to open later this year. Construction on the new Explore and More at Canalside has been underway for a year. When complete, this 43,000 square foot museum in the South Aud Block of Canalside will house seven educational play zones, a **café' overlooking the canal towpath, gift shop, private party rooms, and a rooftop terrace.** The attraction will bring over a quarter of a million visitors to the waterfront annually.

12-2 PM
The Foundry
298 Northhampton Street, Buffalo, NY 14208
(Max 20 attendees)
The Foundry, on the East Side of Buffalo, is home to 27 small businesses and four makerspaces. The not-for-profit organization helps community members incubate small businesses and they offer classes and workshops in their TechLab, TextileLab, Metal Shop and Wood Shop. Short sessions for adults and longer programs for school-aged students range from learning to use 3D printers and laser cutters to learning to weld. Participants have made wooden tables, sewed classic bags, upholstered a chair, and blown a **glass in the Glass studio. The Foundry's offerings work to support the** *maker* in each of us. During our Immersive Experience tour of The Foundry, you will get a sense of the businesses on site, visit the four makerspaces, and stop in the Tech Lab for a short activity. Everyone will design a small object and we will make one personalized lasercut keyfob .

Your choice of Immersive Experiences are included in your conference fee.

For more details, and to sign up, visit our website at
https://www.edcowny.org/steam-conference-immersive-exp-2018

*Conference participant responsible for their own transportation