**Session 1 9:10 AM- 10:00 AM**

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| Room: | **Running a School Maker Faire** |
| | Mariah Kramer, Wellsville Central School District |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | We will discuss the logistics, benefits and pit falls of setting up a School Maker Faire in a district. |

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| Room: | **Mindfulness and Metacognition to Increase Engagement** |
| | Kirsten Smith, Lockport City School District |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | Getting students to become more aware of their thinking and tune into their environment is directly related to their level of engagement. We will discuss how to engage learners through introducing mindfulness practices, using imagery, breath, self-awareness, and self-affirmation.<br><br>The inspiration for this conference session came from my own practices in both a learning center (as a reading teacher with struggling readers) and in a third grade classroom. We are faced with a very overstimulating, far-reaching, always-accessible world. Learning how to turn our focus inward to receive information conscientiously, read with comprehension, or find words within ourselves to express our thoughts in writing can be difficult for a person of any age. Inspired by my background as a dancer and educator, along with scholarly research/articles such as the one below, I seek to engage as many learners as possible through movement and mindfulness.<br><br>https://ww2.kqed.org/mindshift/2013/09/12/why-teaching-mindfulness-benefits-students-learning/ |

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| Room: | **Music and Time** |
| | Deborah Greitzer, Buffalo Philharmonic Orchestra - Violinist |
| *Science, Art - All Grade Levels* | Explore the relationship between math, musical time and the emotional content of music. Using a variety of musical examples, BPO violinist Deborah Greitzer demonstrates how musical time relates to fractions (cutting up a whole into parts) and how that works in notating time signatures and keeping time. Discover the impact that different meters can have on expressing a musical statement and how you can incorporate music into your math lessons in a natural way. |

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| Room: | **Using Math for Social Justice CANCELLED** |
| | Sarah Wooten, Buffalo Seminary |
| *Math - All Grade Levels* | In this presentation, I demonstrate different ways to incorporate social justice conversations into mathematics. Through a systemic classism simulation, students learn about economic inequality while using quick math and budgeting skills. By using statistical data from different marginalized groups, students can both learn introductory statistics and how to have conversations around issues of diversity. Data can be mined from films like 13th to teach students about graphing and percentage increase, while eliciting conversations about inequality in the prison system. |

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| Room: | **Jumping into 3D Instruction** |
| | Marley Smith, Erie 1 BOCES |
| *Science, Engineering - All Grade Levels* | With the advent of the new NYS Science Learning Standards, teachers are curious to know what the new generation of science instruction "looks like". This session will give participants a taste of that instruction and a high-level overview of the new standards. Opportunities to link with other core curricula will be integral to our learning as well. |

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| Room: | **Future of Learning: Bring coding to your classroom** |
| | Emily Pricola, Microsoft |
| *Science, Technology -All Grade Levels* | Schools are challenged to teach computational literacy that students need for life and careers in today's world. Educators want to learn about coding and computational thinking to be able to meet that challenge. Learn what computational literacy means, why it is important for learners in today's world, and coding concepts you can easily add to your own classrooms. Explore free Microsoft resources you can use to bring coding to your students - from a single hour to a full semester, across grade levels and subject areas, regardless of your computer science background. |

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| Room: | **My Mark Matters** |
| | Fotini Galanes |
| *Art* | My Mark Matters is an interactive art project desingned to start a conversation about finding beauty without judgment, the importance of art in our |
| *-All Grade Levels* | lives and the profound impact that one mark can have. |
| | www.mymarkmatters.org. |
| | TEDx Buffalo 2016 |
| | https://m.youtube.com/watch?v=e6vvrOHuDH8 |

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| Room: | **Teacher Professional Development** |
| | Evelyn Sabina, Dream It. Do It. |
| *Science,* | In collaboration with CA-BOCES, Dream It. Do It. WNY, Cattaraugus county provides a Summer Teacher STEM Experience as well as school-wide |
| *Technology,* | professional development days for teachers of all levels and disciplines from twenty-two area school districts. Numerous local manufacturers |
| *Engineering, Art,* | participate in the event, offering tours, presentations and insight into the area's manufacturing industry. Teachers gain an appreciation of careers |
| *Math* | available in the area, skills required in the workforce and authentic applications for the core curriculum. Many teachers are also parents, adding |
| *- All Grade Levels* | another essential constituent to the event. This program has grown each year and also inspired other organizations to provide professional development for teachers in the areas of STEAM. Both programs have been recognized by the Manufacturing Institute in DC as National Best Practices. |

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| Room: | **Full STEAM Ahead!** |
| | Renee Sossong-Brady (MS), Carrie Oliver (K-2) & Kimberly Honeck (3-5), Mary Beth Scullion, Tonawanda City School District |
| *Science,* | Our district has a STEAM initiative that uses a Coaching model to help teachers look at lessons they are already teaching and teach them through a |
| *Technology,* | STEAM Lens. We have three coaches that support teachers in this endeavor. In our second year, we opened four STEAM Labs as part of the |
| *Engineering, Art,* | initiative. Our goal is that by 2020, all of our teachers will be fully supported to be teaching through a STEAM Lens and our schools will be considered |
| *Math* | STEAM Schools. STEAM is not an addition to education, is the way that we are educating our students. |
| *- All Grade Levels* | |

## Session 2 10:40 AM- 11:30 AM

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| Room: | **3D+AR+VR=STEAM** |
| | Alex Fernandez, Bak USA |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | We will discuss emerging technology in education, hands on demo, differentiated instruction through the lens of STEAM |

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| Room: | **Skype in the Classroom** |
| | Emily Pricola, Microsoft |
| *Technology - All Grade Levels* | Powerful learning happens when students engage with the real world and learn from each other. Using Skype in the classroom enables you to bring the world into school, and take your students out into the world. By learning together, beyond walls and across borders, you can help your students become global citizens who make positive contributions to our interconnected society.<br><br>In this workshop, you will experience the ease and excitement of using Skype for learning. You'll enjoy a first-hand student experience of a Skype lesson, explore a rich array of Skype classroom resources, and leave with guidance for the next steps you can take to bring Skype into your own classroom. |

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| Room: | **How teaching coding improves your test scores** |
| | Rick Weinberg, Cattaraugus Little Valley Central School |
| *Technology - Elementary - Intermediate Grade Levels* | For 5 years I taught 2nd graders simple computer programming skills. We used an app called Hopscotch. The app is now a pay app on an iPad. Students were taught in small groups during center time. They learned to do everything from draw a square, make a piece on digital art to create their own video game. After looking at the 3rd grade math testing data a possible correlation was found. It is possible that students who were exposed to coding in second grade outperformed other students between 17-20 percent. In my session we will look at this data, learn how you too |

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| Room: | **Switching to Wholistic Grading Schemes in STEM Classrooms** |
| | Larry Hiller, Nichols School |
| *Science, Technology, Engineering, Math - All Grade Levels* | Over the past 19 years of teaching, my classroom has become more and more student-centered, in terms of how material is presented and in terms of the activities I use. However, my grading was always rigidly determined just by the number of questions students got correct on tests. I've always been skeptical of more subjective grading schemes that include participation and effort. I have come to believe that a student-centered classroom does need a more subjective scheme. My colleagues and I have come up with a good rubric that worked for us this year. We can talk about the process of creating such a rubric and the different ways to use it in your classrooms. I will give everyone a copy of the rubric we are currently using and the handout explaining the rubric to students and parents. |

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| Room: | **Relentless Arts Education** |
| | Karen Saxon, Buffalo Academy for Visual and Performing Arts |
| *Technology, Art -All Grade Levels* | This presentation is designed to energize teachers to succeed in arts education regardless of obstacles. We will discuss setting rigorous standards for curriculum. We will discuss meeting students where they are while building curricular structures to where we want them to be. |

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| Room: | **It's a Beautiful Day in the Neighborhood; STEAM Community Partnerships for your Classroom/School** |
| | Jean Comer, Diocese of Buffalo |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | Make learning relevant! Elevate student classroom experiences with STEAM partnerships. Many are just an email away, and can be free! Learn the ten types of partnerships to go after this month to make for a great year of connected learning. All shared examples are tried and true! |

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| Room: | **Microscopic Communities: Bringing Microbiome Science into Second Grade Classrooms** |
| | Jennifer Surtees, University at Buffalo |
| *Science, Art -Elementary* | This is a three session unit to teach second graders about their microbiome - the collection of microbes that live all around our world and on our bodies - and how they help us and our world. The unit emphasizes the themes of community and habitats in the context of microbiota. Using sterile swabs, students have the opportunity to take samples of the microbes from their own bodies and plate them to see the larger colonies that grow up. The students observe the plates after they have grown up and complete a lab report of observations and drawings. Finally, the students create an art project representing their own microbes - to create a class microbiome. |

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| Room: | **STEM Cafe 101** |
| | Elizabeth Sinski, Wellsville Secondary School |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | Wellsville Secondary School has run two successful consecutive years of STEM Café events- over 225 students have had been involved in the STEM Café experience. The purpose of these Café events is to provide an opportunity for student to learn about various STEM Careers and learn firsthand from those already attending college or employed with a field of STEM. The café provides an opportunity for college students or professionals to talk with groups of students during their lunch periods. This workshop will address how WNY STEM has supported the STEM Café initiative, set up a Café at your school, find presenters, advertise your Stem Café event within your school and engage students. |

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| Room: | **Technology Makes Recycling Possible** |
| | Cynthia Frame-Endres, Coalition of Positively Charged People |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | Alkaline battery recycling is possible, but in some companies, the final output is slag or fertilizer supplements, in others, they break it down to mineral components that can make more batteries, or strengthen steel. It is important in the recycling field to follow through to the end product - if it doesn't make good enough sense to the environment, the processing should be reconsidered. Although this talk features battery recycling, the concepts are similar for other products. |

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| Room: | **Kids have a stake in keeping our planet and community clean, green, and healthy.** |
| | Kristen Guadagna, Environmental Compliance Specialist Erie County Environment & Planning & Tiffany Vanderwerf Curator of Education, Buffalo Zoo |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | Kids have a stake in keeping our planet and community clean, green, and healthy. The Erie County Department of Environment and Planning, Division of Environmental Compliance Services (with key stakeholders) has three key programs that address pollution prevention, river clean up and urban park beautification, and recycling rainwater in custom painted rain barrels. Kristen Guadagna, Environmental Compliance Specialist for Erie County, and Tiffany Vanderwef, Curator of Education at the Buffalo Zoo will describe these programs and how they can be integrated into the classroom for unique STEM and STEAM learning. |

**Session 3 12:40 PM- 1:30 PM**

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| Room: | **Making Space for Making** |
| | Marley Smith, Erie 1 BOCES |
| *Engineering, Art - All Grade Levels* | Maker Spaces are becoming more and more popular in schools today. This session will engage participants in a maker challenge, discuss the design process, explore connections to the ISTE standards, connect like-minded educators, and explore some resources to help get a classroom or school maker space up and running. |

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| Room: | **Literacy + STEAM = Learning Across Content Areas!** |
| | Kirsten Smith, Lockport City School District |
| *Science, Technology, Engineering, Art, Math - Early childhood - Intermediate* | There is only so much time in a day to fit instruction in, but there are so many opportunities for educators to engage students and "kill two birds with one stone." Come learn new ideas and share what you use to integrate content into your ELA instruction. We will mainly focus on ways to get students invested in STEAM, as well as social studies curricula.<br><br>There is only so much time in a day to fit instruction in, but there are so many opportunities for educators to engage students and satisfy more Common Core goals efficiently and effectively. Presentation attendees will learn new ideas and share what they use to integrate STEAM/social studies content into ELA instruction. We will mainly focus on ways to get elementary students invested in STEAM curricula. A PBS Digital Innovator, Ms. Smith will also share ways to incorporate educational technology, and highlight some free online resources from PBS LearningMedia to help attendees plan high-quality, engaging elementary instruction. |

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| Room: | **Using DESMOS in your Classroom** |
| | Larry Hiller, Nichols School |
| *Science, Technology, Engineering, Math - All Grade Levels* | DESMOS is a free on-line graphing calculator that can be used on any platform, including phones. It is very easy to use, but exceptionally powerful.<br><br>In this session we will create DESMOS accounts, and learn how to use its basic functions. We will also see examples of advanced applications and learn how to access the library of user-generated content that you can use with your classes. |

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| Room: | **How I BUILD upon learning using the Visual Art** |
| | Marissa Bannister, Young Audiences of WNY |
| *Science, Technology, Engineering, Art, Math -All Grade Levels* | As a teaching visual artist with Young Audiences of WNY, I am asked to work with a wide variety of age groups and educational settings. I have designed my Young Audiences workshop titled "BUILD: Bringing Learning to Life Through the Arts" to be tailored for each booking, with the premise that a deeper understanding can be achieved through creating art. I draw upon real-life problems, then prompt students to engage through using their creativity, knowledge, and sculptural skills. I will share how I design a BUILD lesson and give examples of past projects. |

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| Room: | **Let's get Creative with Google Drawing** |
| | Missy Lindner, Saints Peter and Paul, Williamsville |
| *Science, Technology, Engineering, Art, Math - Elementary - Intermediate* | Do you know what Google Drawing is? Google drawing is a fun way to be able to have students create, design and present their ideas within the cloud. Come and learn fun ideas to potentially use Google Drawing with other G Suite apps within your classroom for collaboration. |

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| Room: | **Microsoft Classroom and OneNote Class Notebooks \| Transform your Classroom** |
| | Jeff Poblocki, The Gow School |
| *Technology -All Grade Levels* | Explore Microsoft Classroom and OneNote Class Notebooks from the perspective of someone who has deployed it school wide. Discover the resources needed to deploy these tools as well as examples of how it is used in the classroom. |

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| Room: | **Adopting an Earth SySTEM Approach** |
| | Michael Jabot, SUNY Fredonia |
| *Science, Technology, Engineering, Math -All Grade Levels* | This session will share how teachers can incorporate the Earth SySTEM approach into their classrooms to help address the New York State Science Learning Standards (NYSSLS). The Earth SySTEM approach incorporates remotely sensed data and student driven ground truthing to develop understanding on the earth as a system. Classroom examples and information about how teachers and their school districts can partner with Earth SySTEM will be shared. |

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| Room: | **Niagara Falls City School District Inventing Tomorrow STEM initiative pK-12** |
| | Lynne Tompkins, Niagara Falls City School District |
| *Science, Technology, Engineering, Art, Math -All Grade Levels* | The NFCSD has developed a meaningful and relevant STEM/STEAM curriculum with 12 newly constructed STEM classrooms dedicated to integration throughout the District. Students, pK-12 benefit from a vertically aligned focus on STEM/STEAM integration and project -based learning that is supported by instructional coaches at each level. We are committed to providing our students the opportunity to explore the world through a STEM lens. At the High School level; our BioScience Interactions and Applied Innovations STEM courses allow students to see the interconnectedness of the world around them while participating in career exposure/pathways and earning college credit. |

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| Room: | **Creating a Mobile Makerspace Lab!** |
| | Doug Borzynski, The Buffalo Academy of Science |
| *Science, Technology, Engineering, Art, Math -All Grade Levels* | The Buffalo Academy of Science (Buff Sci) has embraced making in Buffalo by creating a Makerspace for its students. Starting this summer, we have gone mobile. We invite participants to engage in hands on activities and a discussion about the process of creating a mobile STEM/STEAM lab. Some of the low-cost activities you will experience in the mobile lab that can be used in any classroom are: foam cars, paper rockets and more. |

**Session 4 2:10 PM- 3:00 PM**

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| Room: | **Using STEAM to Help Students in Trauma** |
| | Kirsten Smith, Lockport City School District |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | "In recent years, there has been a significant emphasis on Common Core proficiency while teacher training has often lost sight of the impact of understanding brain development in students." This quote from Dr. Lori Desautels's work around students facing trauma is one of several current academic discussions on the topic.<br><br>Teachers often face unexpected events in their students' lives. How we respond to those events can have a tremendous impact on student learning and long-term success.<br><br>How can we use movement, creativity, and other strategies to de-escalate students facing trauma? How can our own understanding of the brain help us in our teaching? We will use science, technology, and the arts to explore these essential questions.<br><br>Inspiration Piece: https://www.edutopia.org/blog/brains-in-pain-cannot-learn-lori-desautels |

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| Room: | **Use of Ab-Initio Philosophy in Solving Math and Science Problems and the Application of Computer Aids Like DefragEx** |
| | Shawn Zadeh, Ventovate, LLC |
| *Science, Technology, Engineering, Math - All Grade Levels* | In the teaching of math and science subjects to students, the use of technological and engineering philosophies can be an important step in propelling them in applying the knowledge in her or his adult life. This presentation will focus on the ab-initio, or from first principles, philosophy that take broad concepts like conservation of mass/energy or law of sines and applying them to find extents of reactions or the side length of a particular triangle. In turn, this presentation will explore the philosophy in terms of a multitude of STEM examples and how computer tools or approaches can help in affirm the philosophy. |

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| Room: | **Arts on Demand: Educational Concerts on your Smart Board** |
| | Dave Ruch, Teaching Artist |
| *Technology, Art -Elementary & Intermediate Levels* | Teaching artist Dave Ruch is a leader in the field of online cultural arts programming for K-12 schools. In this interactive (and musical!) session, educators will experience a live "Smart Board concert" and explore the range of possibilities for bringing arts-based learning programs into the classroom in an on-demand format. |

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| Room: | **"Inklings and Renaissance Women"** |
| | Emma Eddy & Linda Biondi, Nardin Academy High School |
| Science, Technology, Art -All Grade Levels | This presentation and hands-on workshop will share a Chemistry Lab and English Literature collaboration, which offered students the opportunity to make ink in the same way that it was made during the Renaissance. We will also examine the four step approach that students took to make their ink, write out sonnets and letters using fashioned quills, "lock" their letters, and attempt to X-Ray them. This lesson was inspired by the international Letterlocking and Signed, Sealed, and Undelivered Team. Credit and more information will be provided within the presentation. Students were able to make connections between Science, History, and Literature across the ages for a truly meaningful experience. |

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| Room: | **Inquiry: a Foundation for STEAM Teaching and Learning** |
| | Sarah Chesney and Stephanie Radkowsk, ASSET STEM Education |
| *Science, Technology, Engineering, Art, Math - All Grade Levels* | Learn the fundamentals for understanding and implementing the essential features of inquiry-based teaching and learning. Participants will investigate and identify the benefits of engaging students in hands-on, minds-on activities. Participants will engage in a hands-on activity to explore skills and key misconceptions of the inquiry process. |

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| Room: | **Re-imagining Group Work with Storillo: Leveraging Technology to Help Teach Collaboration** |
| | Thomas Wilkie and Tim Adowski, Storillo |
| *Technology -All Grade Levels* | Can't get your students to contribute equally during group projects? Not sure who did what? Having trouble evaluating what they learned? Come see Storillo, an online collaboration platform for education. Storillo addresses these challenges by giving teachers the ability to create collaborative structures that emphasize an equitable process and provide data on the students' activity. |

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| Room:<br><br>*Science, Technology, Engineering, Art, Math*<br>*- All Grade Levels* | **STEAM for all in Lockport**<br>Michael Lieber and Noah Raymond, Lockport Schools<br>Robotics in Lockport<br>In Lockport we have developed a Robotics Program that goes from Elementary through Senior High School. Every Student in the district has multiple opportunities to get their hands and minds on robots of different makes and models. Learning experiences and competition increase the challenges of the missions for these students as they progress.<br><br>The program has been many years in the making and continues to grow. The program is the central core of the district STEAM movement. Join us for a description and breakdown of how our program evolved. Get your hands and minds around various Lego EV3 robots and software. Write and troubleshoot some code to make the robot perform a task. Our presentation will be 15 minutes, the rest of the time will be spent on hands-on experience question and answer session. |

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| Room:<br><br>*Science, Technology, Engineering, Art, Math*<br>*- Intermediate and up* | **Fun Experiences with WeVideo in Middle School**<br>Missy Lindner, Saints Peter and Paul, Williamsville<br>WeVideo is a presentation tool that allows students to create videos that promote collaboration. This presentation allows teachers to see the various ways it can be used in the classrooms in subjects they would never expect. This tool is very user friendly and easy to use. Come checkout all the ways integration can occur! |

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| Room:<br><br>*Science, Technology, Engineering, Art, Math*<br>*- All Grade Levels* | **Teaching Technology Integration to STEAM Teacher Ed Students**<br>Leah MacVie, Canisius College<br>In this presentation, you will learn about how the topic of technology integration is approached in the EDU122 Technology in Education Teacher Ed course at Canisius College. Every teacher ed student takes this class, and the approach to teaching technology integration must be interdisciplinary. Learn about the challenges faced in teaching technology to students at the college level. Walk away with a list of the tools and skills we are teaching right now, and share a few new ones to add to our list! |