BOARD OF DIRECTORS AND OFFICERS

OFFICERS
President & Acting Executive Director
Dr. Michelle Kavanaugh
Retired Superintendent of Schools
President Term Expires December 31, 2017

Vice President
Ms. Joanne Colmerauer
Project Director for the Transitions Program, Erie Community College
Term Expires December 31, 2018

Secretary
Ms. Cherie Messore
Bids & Proposals Coordinator, Ecology & Environment, Inc.
Term Expires December 31, 2017

Treasurer
Mr. James Guido
Retired Physics Teacher
Term Expires December 31, 2017

BOARD OF DIRECTORS
Dr. Joseph Zawicki
Associate Professor of Science Education, SUNY Buffalo State (Board Chair for 2016)
Term Expires December 31, 2019

Mr. Mark Casell, CEM, LEED AP
Service Account Executive, Siemens Industry, Inc.
Term Expires December 31, 2016

Dr. Michael Jabot
Professor of Science Education, SUNY Fredonia
Term Expires December 31, 2017

Dr. Michelle Kavanaugh
Retired Superintendent of Schools
(President and Acting Executive Director)
Term Expires December 31, 2018

Ms. Liz Callahan
Manager for Workforce Development, Buffalo Niagara Partnership
Term Expires December 31, 2020

Dr. Richard Hershberger
Chief Academic Officer, Roswell Park Cancer Institute and Dean, Roswell Park Graduate Division, University at Buffalo Graduate School
Term Expires December 31, 2020

New Director Seat: TBD
Term: TBD

EMERITUS BOARD MEMBER
Dr. Rodney Doran
Professor Emeritus of Science Education, University at Buffalo

Measuring Our Success

WNY STEM
SCIENCE TECHNOLOGY ENGINEERING MATH AND THE ARTS

2014-2015 ANNUAL REPORT

PLEASE VISIT OUR WEBSITE
• Stay connected with this region’s robust STEM activities
• Post your STEM events
Contact us for membership information
www.wnystem.org

Find us on Facebook and LinkedIn
MESSAGE FROM THE PRESIDENT

This is the right time in our region’s history for STEM (Science-Technology-Engineering-Mathematics-The Arts), Western New York is at a crossroads and STEM/STEAM learning is our guidepost. As our region pursues an economic reboot, there is no denying that STEM learning and careers will support ongoing innovation and sustain the change into the future.

The WNY STEM Hub (WNY STEM) belongs to this region and to our network of members and partners who come from all sectors and geographic corners of Western New York. Mirroring the rapid growth in our surroundings, our membership trajectory has been steep and our activities are rapidly evolving. We have benefited from the stewardship of the United Way of Buffalo & Erie County and the UB Center for Integrated Global Biomedical Sciences.

We are most proud of the impact we bring to young people across our communities. In 2015, we launched the Buffalo-Niagara Coalition of 10 urban schools engaging more than 300 students in real world science, project based learning that is gaining them national recognition. Across our five counties, we have school systems and individual schools evolving their STEM/STEAM learning. With Siemens as our sponsor, we have recognized 44 school systems and nine individual schools for emerging in their development of quality STEM programming. Our new STEM Cafe model and Progressive Career Exploration Model inspires hundreds of students to discover STEM career pathways and meet STEM role models.

Our passionate educators in P-12 through higher education, parents of young people and dedicated community members make this impact possible. WNY STEM facilitated several workshops, conferences, learning tours, monthly programs and other experiences that engaged thousands of adult learners in STEM/STEAM in 2015. We are proud of our partnership with the Buffalo & Erie County Public Library and the Imagine Lecture Series which - beginning in November, 2015 - features monthly STEM/STEAM discussions in the Central Library Ring of Knowledge.

While this report may be a look back, we are always looking forward! Look for news on our expanded discussions in the Central Library Ring of Knowledge.

SPONSORS SUPPORT OUR ROBUST AND GROWING PROGRAMS AND ACTIVITIES

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While this report may be a look back, we are always looking forward! Look for news on our expanded menu of services, new coalition experiences, our report on STEM workforce skills in WNY and a focus on diversity in STEM during 2016.

Yours in STEM,

Michelle Kavanaugh
President
**MISSION STATEMENT**

The WNY STEM Hub of the Empire State STEM Learning Network facilitates collaboration among business, education, community organizations, arts and cultural organizations, and government entities to advance the interdisciplinary teaching and learning of science, technology, engineering, the arts, and mathematics in support of sustained economic and intellectual vitality in our five-county region.

**VISION STATEMENT**

WNY will be a thriving economic region whose innovative workforce and citizenry are created through interdisciplinary STEM collaboration.

**OUR VALUE PROPOSITION**

WNY STEM creates awareness and partnerships that serve students, teachers and parents in accessing STEM/STEAM learning and careers. This is achieved by providing events, experiences and resources through collaboration of the extensive network of cross-sector members and partners. Students engaged in STEM/STEAM learning will have the skills and dispositions to succeed in college and career and will contribute to an economically and intellectually vibrant region.

Our valued partners help WNY STEM meet its goals. At the end of 2015, the Hub had more than 450 members representing 200+ school districts, colleges, businesses and organizations. The WNY STEM Hub is part of the Empire State STEM Network Leadership Council.

**OUR SIGNATURE PROGRAMS**

**Emerging STEM School Systems** – This annual recognition sponsored by Siemens honors schools and school districts that have greatly grown or enhanced STEM/STEAM programming and initiatives. Launched in 2014, 44 schools and school districts earned this designation. In 2015, nine STEM schools were cited for being “On the Move” as their STEM programs continue to grow.

**May is STEM/STEAM Month** – We celebrate STEM and the arts (STEAM) every May with a wealth of co-branded school and community programs. Past partners include Buffalo Women in STEM, General Motors, EdCoWNY, Erie 1 BOCES, SUNY Buffalo State, and the Niagara Power Vista.

**Program Series** – Monthly programs and networking sessions of WNY STEM average 80-100 participants and have featured community leaders speaking on workforce development topics, international STEM initiatives, community impact, and new initiatives for educators.

**FINANCIAL DATA**

WNY STEM Hub grows more every day, thanks to the generous support from our donors and sponsors. As a completely volunteer driven organization, WNY STEM relies on financial and in-kind support to create programs and initiatives that are aligned with our mission. One of our key goals is to develop a substantial base of support across all philanthropic sectors - individual and organizational donors, foundation support, corporate sponsorship, and government grants when appropriate - that sustains our operations and allows for a robust and continuous program schedule. Thank you to all our donors, sponsors, and partners for their generosity in 2014 and 2015.

The year ended with a surplus of $6,065. The only expenditures were for costs related to the STEM/STEAM Immersion Conference:

- Conference - $216
- Sponsorships - $1,650
- Donations - $973
- Programs - $2,268
- Services - $958

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**OPERATING BUDGET: REVENUES**

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Conference</td>
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<td>Sponsorships</td>
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<tr>
<td>Services</td>
<td>-$958</td>
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**PROGRAM REVENUES: BUFFALO NIAGARA COALITION**

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**PROGRAM EXPENDITURES: BUFFALO NIAGARA COALITION**

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<td>Field Experiences</td>
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</table>

**U.S. FIRST Robotic demo at Nichols Elementary School**

STEAM activity at N. Tonawanda elementary school
STUDENTS

In September, 2015, WNY STEM formed the Buffalo-Niagara Coalition of 10 schools from Buffalo and Niagara Falls to participate in the Students Spacelift Experiments Program. With approval from the National Center for Earth and Space Science Education and support from 18 sponsors, students worked in teams to develop experiments that could be performed in microgravity. Three projects were submitted to the NCESSE and one was selected to be conducted by astronauts on the International Space Station. The national program provides students in Grades 5-16 with authentic workforce development experiences in science and engineering careers. WNY STEM raised more than $25,000 in funding and established an extensive network of community partners for the schools.

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Teacher on a Learning Tour at Lima Primary School

SUNY STEM Conference workshop on DNA testing

STEM Cafés in Erie County – Launched during National Computer Science Week with the WNY School Counselors Association and four school systems, WNY STEM provided STEM Cafés by arranging IT mentor visits and coding experiences with volunteers from seven community partners.

STEM Cafés in the Southern Tier – WNY STEM provided the concept and support to the Southern Tier West Economic Development Board and Dream It Do It Cattaraugus County for two mentoring experiences from local advanced manufacturing firms to Southern Tier schools. The cafés provided role models and exploration of manufacturing careers.

Regional STEM Careers Expo – WNY STEM participated in a STEM Expo hosted by the Niagara Power Vista in May 2015. The Expo featured career and learning opportunities open to the general public.

COMMUNITY

STEM/STEAM Trail – A series of indoor and outdoor kiosks is being developed by community members, educators, Buffalo students (middle school) and university students to highlight STEM connections and STEM careers at key sites in WNY. Four kiosks were funded by the New York Power Authority and are in place on the bike path near the Niagara Power Vista. One Erie County site is in the design phase.

Global STEM Capacity Building – Through our Hub Steward, the UB Center for Integrated Global Biomedical Sciences, we are working with universities and ministries of education to support capacity and exchange ideas in Zimbabwe and Jamaica. Plans are in place to establish virtual STEM learning communities and virtual mentoring between the University of Zimbabwe, the “Winning Highfields” suburbs of Zimbabwe and Buffalo Niagara. The City of Buffalo, with a Mayor of Jamaican heritage, has a significant Jamaican population, a Sister City relationship and an interest in the emerging Jamaican partnership. WNY STEM traveled to Jamaica in June, 2015 to begin establishing relationships.

BUSINESS

Online Workforce Development Resources – The WNY STEM website includes a bot-driven search site for WNY jobs in STEM fields. Job fairs and job announcements are also posted to the STEM Jobs site. In addition, WNY promotes high school and college internship experiences and scholarship opportunities through the website and e-newsletters.

The “Spud Launchers” from Hamlin Park School 74 in Buffalo

TEACHERS

Learning Tours – WNY STEM organized nine learning tours to community sites to expose students and educators to STEM university programs and STEM careers. The 2015 destinations included the Buffalo Niagara Medical Campus and local companies such as Cannon, Moog and Yahoo!

Workshops and Presentations – WNY STEM Hub leaders gave 16 workshops or informational presentations, reaching nearly 1,000 audience members.

STEM/STEAM Immersion Conference – WNY STEM convened educators, parents and community members to participate in hands-on engineering and project-based learning experiences.

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