THE 9TH ANNUAL

STEM SUMMIT

Building Capacity and Partnerships for STEM Education

October 24th, 2018
Norris University Center
Northwestern University
We thank our STEM Summit Sponsor

[Logo of Motorola Solutions Foundation]

And our lead partners

[Logo of Chicago STEM Pathways Cooperative]

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changing the face of science
Thank you to all of our presenters. We appreciate you sharing your experience and expertise in STEM education at the 9th annual STEM Summit!
The 9th annual STEM Summit is presented by:

OFFICE OF COMMUNITY EDUCATION PARTNERSHIPS

OCEP’s mission is to promote, build capacity for, and engage in actionable scholarship and partnerships that improve learning and well-being in our home communities of Evanston and Chicago, and beyond. Situated within the School of Education and Social Policy (SESP) at Northwestern University, OCEP’s mission stands on three pillars: scholarship, infrastructure and capacity building, and community partnerships.

OCEP works to bridge the research, practice, and service missions of SESP and Northwestern University to create initiatives and partnerships that positively impact our home communities of Evanston and Chicago, but that can be shared and scaled far beyond.

ILLINOIS SCIENCE & TECHNOLOGY INSTITUTE

The Illinois Science & Technology Institute (ISTI) is a STEM-focused nonprofit that provides programs and partnerships to connect companies with classrooms. ISTI supports schools and companies who want to impact the next generation of innovators. We are a bridge between the classroom and real world that facilitates collaboration between students and industry mentors. Visit https://www.istcoalition.org/education-programs/ for more info!
AGENDA

8:00-9:00 am  Registration & Breakfast
LOUIS LOBBY & LOUIS ROOM - 205

9:00-10:25 am  Welcome & Keynote
LOUIS ROOM - 205

10:35-11:20 am  Breakout Session One

11:30-12:15 pm  Breakout Session Two

12:15-1:00 pm  Lunch & Networking
LOUIS ROOM - 205

1:15-2:00 pm  Breakout Session Three

2:10-2:55 pm  Breakout Session Four

3:15 - 4:00 pm  STEM and STEAM Partnerships: Chicago STEM Pathways, EvanSTEM and ISTI Networking & Closing Remarks
LOUIS ROOM, SOUTH - 205B
12:30-4:30pm

PRACTICAL IMPLEMENTATION OF NASA ENGINEERING PRACTICES AND TECH DESIGN FOR MIDDLE AND HIGH SCHOOL CURRICULUM

ROOM G22
ANNENBERG HALL
Lunch will be provided at this session.

Connect to the WiFi at Norris!
Network: Guest-Northwestern
Click: “I agree with the policy”
Dr. Shirin Vossoughi
Assistant Professor
Northwestern University

Shirin Vossoughi is an assistant professor of Learning Sciences at Northwestern University, where she draws on ethnographic and interactional methods to study the social, cultural, historical, political and ethical dimensions of learning. Vossoughi’s research centers on hybrid learning environments that blend formal and informal elements and support young people to engage in sophisticated forms of disciplinary thinking while questioning and expanding disciplinary boundaries. As the daughter of Iranian immigrants, she is also personally invested in the development and study of educational settings for youth from migrant, immigrant and diasporic backgrounds. Vossoughi is currently studying embodied learning in after-school tinkering/making programs, as well as the role of feedback on writing in the context of political education. She takes a collaborative approach to research, partnering with educators and students to study the conditions that foster educational dignity and possibility.
KEYNOTE PRESENTATION:
Culture, Power and Learning in Makerspaces:
*Toward Transformative Visions for Educational Equity*

Making is a deeply cultural and historical practice that often interweaves the arts, humanities and sciences. As a portal to practicing various ways of knowing, inquiring, creating and relating, making is increasingly shaping educational spaces, both inside and outside of schools. Yet efforts to expand access to “makerspaces” often treat making as a normative or ahistorical practice, and tend to reproduce individualistic and economic narratives with regard to the purposes of making, and of STEM learning more broadly. In this talk, Vossoughi offers a critical framework for educational design, practice and research on making that is rooted in understanding students as cultural and historical actors and makers of meaning. Drawing on long-term ethnographic research in after-school tinkering programs serving students in non-dominant communities, Vossoughi argues that the design of making spaces and experiences ought to consider: 1) critical analyses of educational injustice; 2) historicized approaches to making as cross-cultural activity; 3) explicit attention to pedagogical philosophies and practices; and 4) ongoing inquiry into the sociopolitical values and purposes of making. Offering examples of each of these principles, Vossoughi considers the specific pedagogical sensibilities that animate transformative visions for educational equity.
Cross-Disciplinary STEAM Learning, Students’ Questions, and Historical Primary Sources

Trey Smith  
*PhD Candidate, Learning Sciences*  
Northwestern University

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Girls Who Code: Teaching Girls to Code and Change the World

Chelsey Echevarria  
*Regional Partnership Coordinator*  
Girls Who Code

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Introducing Argument-Driven Inquiry to the Science Classroom

Allan Fluharty
Teacher
Prosser High School, Chicago Public School District

McCORMICK AUDITORIUM

NASA High School Capstone Projects

Gerald Voltz
Education Program Specialist
NASA Glenn Research Center

Maria Arredondo
Education Program Specialist
NASA Glenn Research Center

WILDCAT ROOM, 101A
BREAKOUT SESSIONS 1 AND 2
90 MINUTE PRESENTATIONS

#KidsCanCode
Lauren Wysocke
Technology Teacher
Wilmette School District

ARMADILLO ROOM, 208

Climate Science: What do we know? How can we engage students with the data?
Yarrow Axford, Ph. D
Associate Professor of Earth & Planetary Sciences
Northwestern University

ROOM G22
ANNENBERG HALL
CT-STEM: Integrating Computational Thinking into Science Curriculum

Golnaz Arastoopour-Irgens, Ph. D
Researcher
Northwestern University

Kevin Hall, Ph. D
Curriculum Specialist
Northwestern University

Sugat Dabholkar
Graduate Research Assistant
Northwestern University

Umit Aslan
Graduate Research Assistant
Northwestern University

ROOM G08
ANNENBERG HALL

Engineering Practices in Chemistry

Hina Patel
Educator
West Leyden High School

LOUIS ROOM, 205
BREAKOUT SESSIONS 1 AND 2
90 MINUTE PRESENTATIONS

Hands-On with LEGO Education: Embedding STEM into Early Childhood Instruction
Keith Kostrzewski
Head of Enterprise Sales
LEGO Education
Leanna Prater
Senior Education Consultant
LEGO Education

NORTHWESTERN ROOM, 202A

“Making” In The Classroom
Melissa Perez
TII LT Lab Team Member
Northwestern University
Sarah Lee
TII LT Lab Manager
Northwestern University
Bobbie Burgess
TII LT Lab Team Member
Northwestern University

NORTHWESTERN ROOM, 202B
Teenage Robot Coding Turtles
Kelly Rooney
Math Instructional Coach
Evanston/Skokie School District

WILDCAT ROOM, 101B
Exploring STEM in Aerospace & Aviation
Rosalind Cobbs
Owner and Founder
Aerospace Careers Network Resource
EVANS ROOM, 102

How to Make Archaeology a STEM Activity
Kristen Vogt-Veggeberg
STEM Scouts Director
Boy Scouts of America
WILDCAT ROOM, 101A
Making Literacy Rich Experiences for Youth

Linda Diekman
Library Information Specialist
Central Elementary School, Wilmette School District

BIG TEN ROOM

The DNA of Race and the Biology of Bias

Adam Held
Teacher
Evanston Township High School

McCORMICK AUDITORIUM
A Slice of Raspberry Pi
Gary Cipinko
Innovation Coach
King Arts & Bessie Rhodes Elementary Schools, Evanston/Skokie School District

NORTHWESTERN ROOM, 202B

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Computational Physics (Modeling) Using Netlogo
Neil Schmidgall
Engineering/Physics Teacher
Glenbrook South High School

EVANS ROOM, 102
Globalizing Science Units
Corinne Durette
Teacher
Wendell Phillips High School, Chicago Public School District

BIG TEN ROOM

The Role of Play and Choice in Makerspaces
Greg McDonough
Innovation Space Coordinator
Lake Forest Country Day School

Mark DeBernardi
Visual and Digital Art Teacher
Lake Forest Country Day School

Stacy Janda
Senior Kindergarten Teacher
Lake Forest Country Day School

McCORMICK AUDITORIUM
Budburst in the Classroom: Using Citizen Science to Achieve Nature-Based Research Experiences for Students

Jennifer Schwarz Ballard  
*Vice President of Education & Community Programs*  
Chicago Botanic Garden

Jean Bryan  
*Budburst Director*  
Chicago Botanic Garden

LOUIS ROOM, 205
BREAKOUT SESSIONS 3 AND 4
90 MINUTE PRESENTATIONS

Building Blocks of STEM: Early Childhood Education and STEM
Leslie Layman
Director of Teaching & Learning Programs
Harry S. Truman College
Tamara Kaldor
Associate Director, Technology in Early Childhood (TEC) Center
Erikson Institute

NORTHWESTERN ROOM, 202A

Everyday Computing: Integrating Computational Thinking into Elementary Mathematics
Carla Strickland
Digital Development Manager
UChicago STEM Education

ARMADILLO ROOM, 208
BREAKOUT SESSIONS 3 AND 4
90 MINUTE PRESENTATIONS

Middle School Competitors Wanted for Free Competition!

Jacqueline Otmanski
Outreach Instructor
Argonne National Laboratory

Jessica Dietzel
Outreach Lead
Argonne National Laboratory

WILDCAT ROOM, 101A
Re-envisioning Museum Field Trips: Using Inquiry-based Strategies to Unlock Student Learning and Personal Connections Through Nature-Based Workshops

Caroline Freitag  
Evaluator  
Peggy Notebaert Nature Museum | Chicago Academy of Sciences

Melissa Siska  
Student Programs Manager  
Peggy Notebaert Nature Museum | Chicago Academy of Sciences

WILDCAT ROOM, 101B
The Engineering Resources You Didn’t Know You Had
Constance Kelly
Chair
Illinois Engineering Council

EVANS ROOM, 102

Innovation in the STEAM Classroom
Sherri Kushner
Media Arts Teacher
Chute Middle School, Evanston/Skokie School District

McCORMICK AUDITORIUM
STEM and the Marketplace
Joy Nunn
Teacher
Oscar de Priest Elementary School, Chicago Public School District

BIG TEN ROOM

TunePad: Python Coding and Music
Amartya Banerjee
Post-Doctoral Fellow
Northwestern University

NORTHWESTERN ROOM, 202B
First Floor Map
Norris University Center
About the STEM Summit

The STEM Summit - Illinois’s only education conference that brings together K-12 educators and leaders, industry, and academia - focuses on innovation and collaboration in STEM education. The annual Summit was started and is run as a grassroots effort of education professionals who want to advance and advocate for STEM inquiry in Illinois schools. The Summit also focuses on building the capacity of educators to not only meet but exceed the Next Generation Science Standards and the Common Core Standards for Mathematics and build 21st Century skills and abilities among students. The Summit works to improve and increase student capacity and interest in STEM education and career pathways and bridge the gap between K-12, academia, and industry.

We hope to see you at the 10th Annual STEM Summit in 2019!