



Building Future Leaders Through STEM Mentoring

June 16, 2016

2016 Collaborative Mentoring Webinar Series

Planning Team

The Collaborative Mentoring Webinar Series is funded by the Office of Juvenile Justice and Delinquency Prevention through the National Mentoring Resource Center and facilitated in partnership with MENTOR: The National Mentoring Partnership



Good to Know...

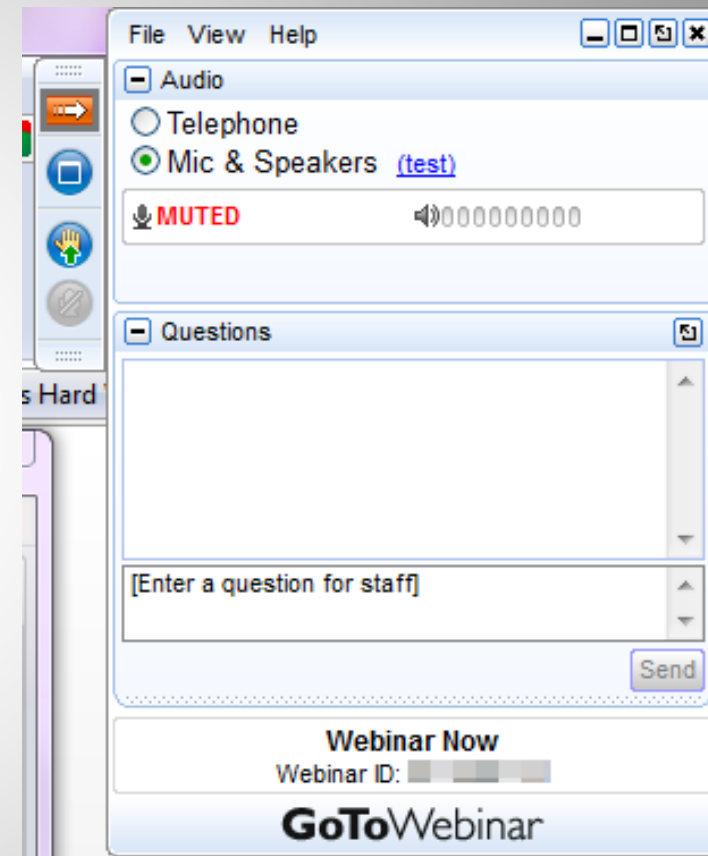
One week after the webinar, all attendees receive an email with:

- Instructions for how to access PDF of presentation slides and webinar recording
- Link to the Collaborative Mentoring Webinar Series webpage, where all slides, recordings, and resources are posted.

Please help us out by answering survey questions at the end of the webinar.

Participate in Today's Webinar

- All attendees muted for best sound
- Type questions and comments in the question box
- Respond to polls
- Who is with us today?



Today's Webinar

- Laura Batt, Sea Research Foundation's Mystic Aquarium
- Charles Lindquist, Global Leaders Program
- Cheryl Howard – Neal, Illinois Mentoring Partnership

**Q & A throughout the presentation
(use the Q & A panel)**

Laura Batt



- Director of STEM Programs at Sea Research Foundation's Mystic Aquarium
- More than 15 years of experience engaging youth in STEM activities
- Holds an Indiana teaching license in physics for grades 5-12

Charles Lindquist



- Joined the Illinois Tech Global Leaders Program in 2014 as an AmeriCorps VISTA
- Transitioned into his role as Program Coordinator for Community Innovation Projects in June 2015
- Received his Bachelor degrees in Political Science and Sociology from the University of Wisconsin-Madison

Cheryl Howard - Neal



- Director of Programs & Partnerships, Illinois Mentoring Partnership
- More than 20 years of service in the non-profit sector working with mentoring programs, volunteers and youth
- Facilitates trainings and workshops and helps disseminate information about mentoring program best practices

Ready for STEM!



Ronald, age 6 at ChiS+E

Chicago Pre-College Science
and Engineering Program

Why do youth need STEM?



STEM is their future—the technological age in which they live, their best career options, and their key to developing skills that are highly transferrable.

STEM is everywhere; it shapes our everyday experiences

How can STEM help youth?

STEM activities help youth to:

- Problem solve
- Develop critical thinking skills
- Be innovative
- Learn to communicate effectively
- Build self-esteem
- Become leaders



Sea Research Foundation

- Is a 501(c)(3) nonprofit organization focused on conservation, education, research, and youth development
- Was awarded Multi-State Mentoring grants from the United States Department of Justice's Office of Juvenile Justice and Delinquency Prevention (OJJDP) in FY2011, FY2013, and FY2015
- Has engaged more than 4,000 youth and 1,000 mentors at more than 100 youth-serving organizations in its STEM-based group mentoring programs

Sea Research Foundation's STEM Mentoring Program

- Sea Research Foundation's group mentoring program for underserved youth ages 6–9
- Connects adult and teen mentors with youth mentees through joint participation in structured, hands-on STEM activities and interactive technologies
- Activities cover a variety of STEM topics, with a particular focus on conservation
- Goal to positively impact the social development and academic achievement of participating youth

Expected Outcomes for Youth

- Increased desire and likelihood to continue participation in the mentoring program
- Strengthened positive relationships with mentors
- Improvement on targeted social, academic, and/or behavioral goals
- Greater interest in academics, particularly in STEM areas
- Greater awareness of and interest in STEM-related careers

Group Mentoring Model

- Ratio of at least 1 mentor to 4 mentees regardless of program size
- Matches kept consistent throughout the program — for one year or longer



Program Elements

- Fun, interdisciplinary **hands-on activities** and group projects that engage mentors and mentees
- Interactive online games, activities, videos, and other **multimedia connections** for youth and their families
- **STEM enrichment activities** that expose youth to inspiring scientists, engineers, and conservationists who model a variety of careers and education pathways

Each Session

- Warm Up
- Read (reading selection)
- Do (hands-on activity)
- Multimedia Connections



STEM Enrichment Activities

- Can include curriculum-related outings, guest speakers, and virtual field trips
- Build mentees' awareness of STEM connections in their community and the world
- Provide a different way for youth to engage with their mentors and the curriculum topics
- Engage the local community in STEM Mentoring



The Illinois Tech Global Leaders Program

Inspiring Students from Chicago-Area High Schools to Lead and Serve through STEM (Science, Technology, Engineering, Math) and to Pursue Higher Education

Goals

1. STEM Exposure
2. Leadership Development
3. College Access

The Illinois Tech Global Leaders Program

Our free, two-year enrichment program offers **100** high school juniors and seniors:

- Summers:** four weeks of project-based, collaborative STEM programming

- Year round:** workshops, field trips, and career exploration

- Junior year:** support in developing community-based leadership projects

- Senior year:** college advising and application assistance

The Illinois Tech Global Leaders Program

110 Scholars

Free/Reduced Lunch
70%

Female
60%

Schools Represented
63



First Generation College Bound
58%

Racial/Ethnic Minority
77%

CPS/Affiliated Charter
83%

Connecting with STEM

Address **complex problems**

Learn how STEM can **impact lives**

Develop as a **leader**

Apply the **Design Thinking** framework

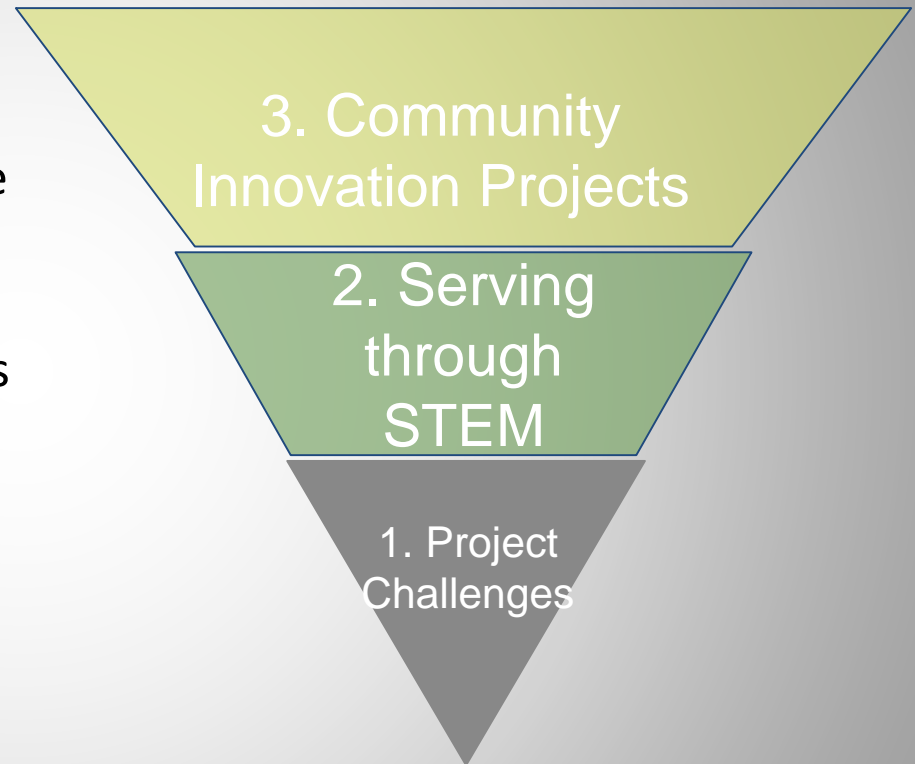
Focus on practical **next steps**

Collaborate on hands-on projects



Translating to STEM Curricula

- Inquiry and project-based learning
- Connect STEM to issues Scholars care about
- Use design thinking structure as basis for collaborative projects
- Scaffold learning
 - Increasingly more independent and real-world projects



Project Challenges

- 4-hour, classroom-based collaborative projects
- Curriculum designed around student interest
- Students are provided with background information and activity
- Students work together to prototype, test, and discuss



Serving through STEM

- Partners pose real problems or challenges they are facing
- Scholars work for 6 afternoons designing a solution to the challenges
- Walked through Design Thinking process, facilitated by adults



Community Innovation Projects

- Scholars define, design and implement a 10-month project
- Address a real problem of their choice in their communities
- Work in teams, guided by Project Mentors
- Attend monthly professional development workshops



Things to
consider...



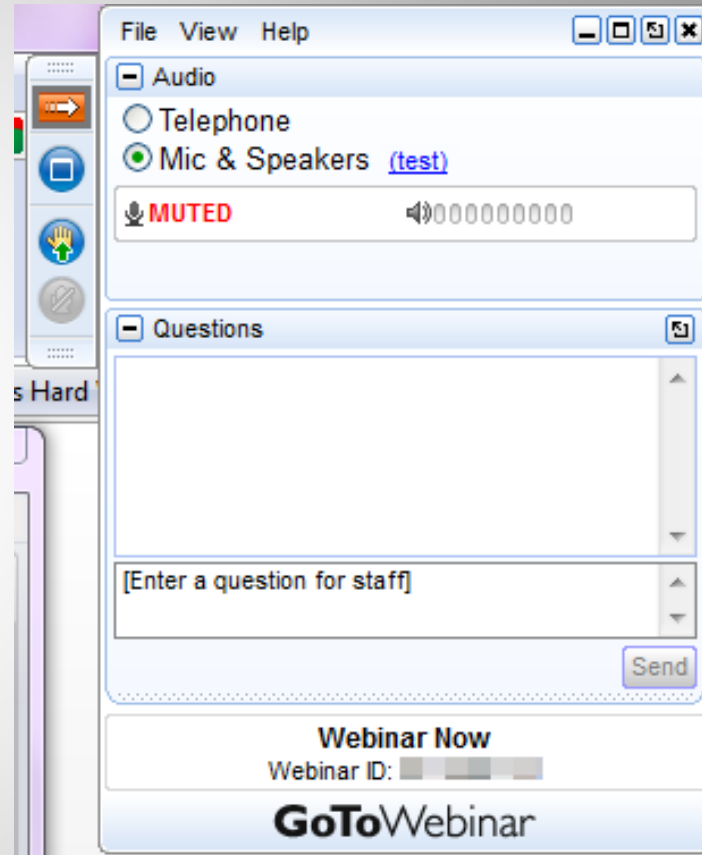
Mission, Goals & Outcomes

- Developing or adopting STEM curriculum
- Program goals
- Program effects



Q&A for all Panelists

Type your questions in the question box:



Recruitment and Training

- Recruiting youth for specialized programs
- STEM mentors
- Mentor training



Program Sustainability and Longevity

- Partnerships



Starting a Program

- Incorporating STEM activities
- Strengths and challenges of STEM mentoring



What You Need to Get Started

- An existing mentoring program or the desire to create one
- STEM activities and supplies (do not have to be expensive)



Recommended Program Elements

- Community partners as a source for mentors, STEM enrichment activities, and/or funds to run the program
- Professional development for program staff
- An appropriate space to run the program
- Training for mentors
- Orientation for mentees and families

Community Resources

- Colleges and universities can be great partners for recruiting mentors
 - Challenge: Retaining mentors across semesters and/or summer break
- If your program has an engaged teen population, they can also be a great resource for mentors
 - Challenge: Committing to entire duration of program
- Formal and informal STEM organizations in your community can help with STEM enrichment activities and possibly curriculum and professional development as well

Sea Research Foundation's Lessons Learned

- Emphasize both the STEM and mentoring aspects of the program and the commitment required of mentees and mentors
- Include warm-up activities as part of each session to help mentees and mentors form a sense of belonging and group/team identity
- Allow for time for informal discussion before, during, and after activities
- If possible, involve all in shared experiences outside of the normal program structure (for example, field trips or other STEM enrichment activities)

Additional Resources

STEM Resources from the Afterschool Alliance:

afterschoolalliance.org/STEM-RESOURCES.cfm

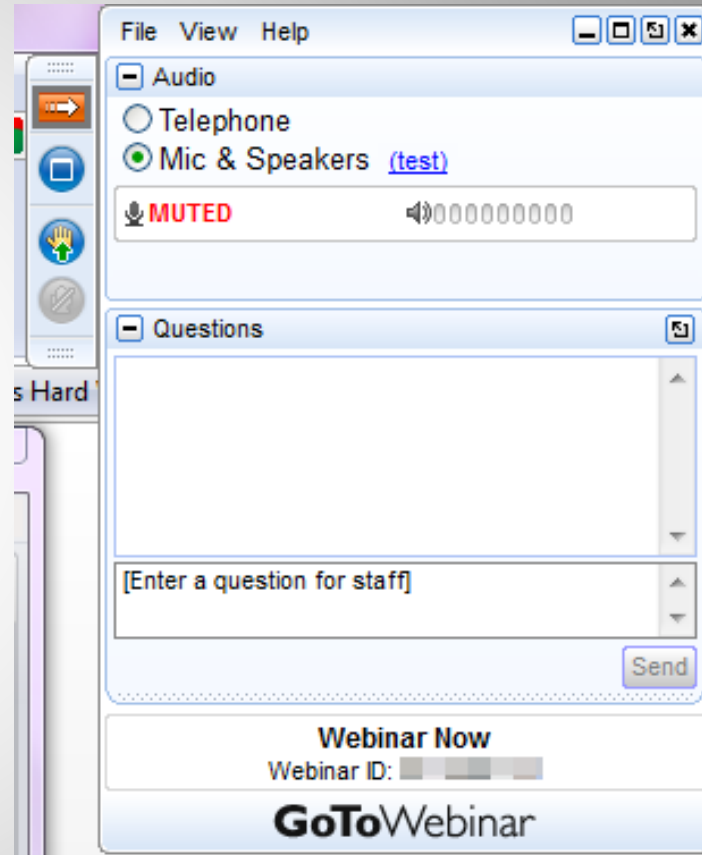
- General Resources
- Assessment Tools
- Professional Development
- Curriculum
- Partners and Allies

STEM Mentoring Resources from Sea Research:

[@STEM_Mentoring](https://twitter.com/STEM_Mentoring) and stemmentoringprogram.org

Q&A for all Panelists

Type your questions in the question box:



Additional Resources

- [Toolkit: Becoming a Science, Technology, Engineering, and Math \(STEM\) Mentor](#) from the Corporation for National & Community Service
- [Theconnectory.org](#), a comprehensive portal for STEM offerings

Additional Resources



National Mentoring Resource Center

Apply for no-cost help for your mentoring program at www.nationalmentoringresourcecenter.org, an online resource funded by the Office of Juvenile Justice and Delinquency Prevention and facilitated in partnership with MENTOR

Mentoring Connector

Recruit mentors by submitting your program to the Mentoring Connector (previously called the VRS)

<https://connect.mentoring.org/admin>

Remember...

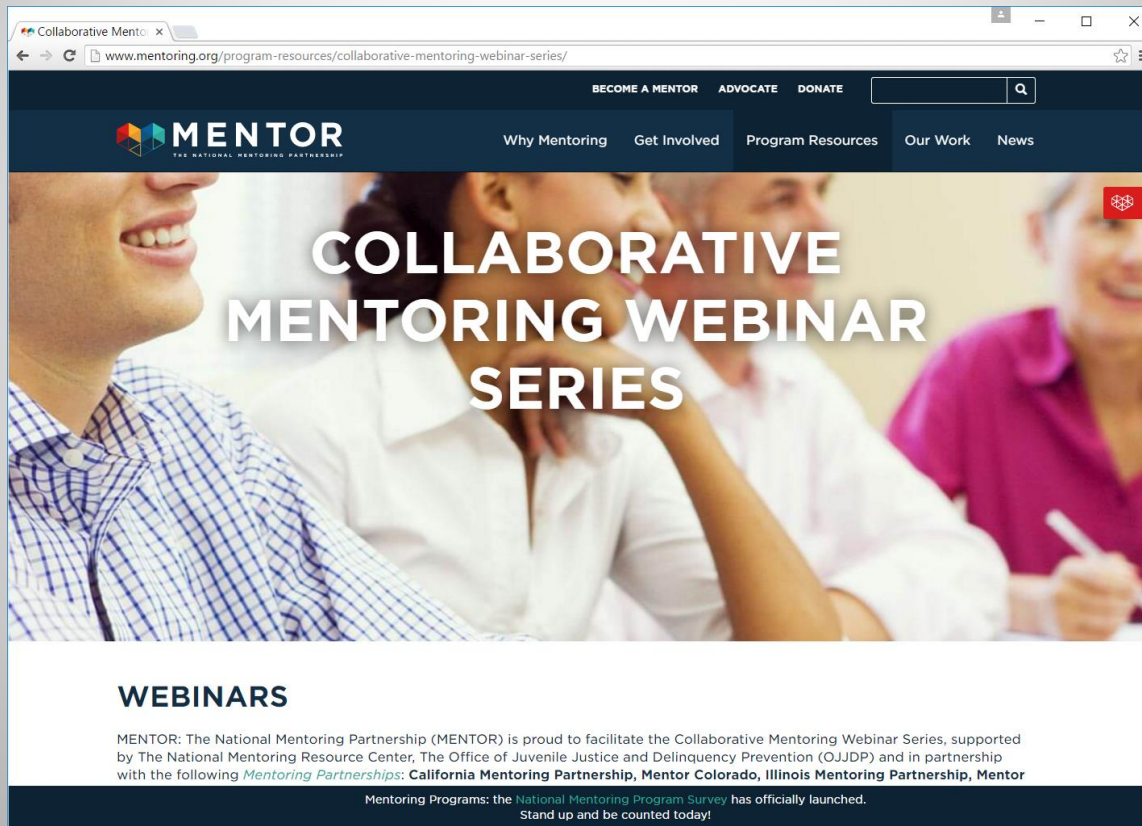
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http://www.mentoring.org/program_resources/training_opportunities/collaborative_mentoring_webinar_series/

Stay Connected

- Email us at collaborativewebinarseries@mentoring.org
- Tweet with hashtag #MentoringWebinar
- Visit our webpage on the MENTOR website for past and upcoming webinars:



The screenshot shows a web browser window displaying the MENTOR website. The URL in the address bar is www.mentoring.org/program-resources/collaborative-mentoring-webinar-series/. The website features a dark blue header with the MENTOR logo (The National Mentoring Partnership) and navigation links: "BECOME A MENTOR", "ADVOCATE", "DONATE", "Why Mentoring", "Get Involved", "Program Resources", "Our Work", and "News". A search bar is also present. The main content area has a large image of four diverse people smiling and talking, with the text "COLLABORATIVE MENTORING WEBINAR SERIES" overlaid in white. Below the image, the word "WEBINARS" is written in bold. A paragraph of text follows, stating: "MENTOR: The National Mentoring Partnership (MENTOR) is proud to facilitate the Collaborative Mentoring Webinar Series, supported by The National Mentoring Resource Center, The Office of Juvenile Justice and Delinquency Prevention (OJJDP) and in partnership with the following *Mentoring Partnerships*: California Mentoring Partnership, Mentor Colorado, Illinois Mentoring Partnership, Mentor". At the bottom, a small line of text reads: "Mentoring Programs: the National Mentoring Program Survey has officially launched. Stand up and be counted today!"

Collaborative Mentoring Webinar Series

Join Us Next Month!

Mentee Training
July 21, 2016
1 - 2:15 pm Eastern

