

2014 Women in STEM Event

Evaluation Report

June 2015

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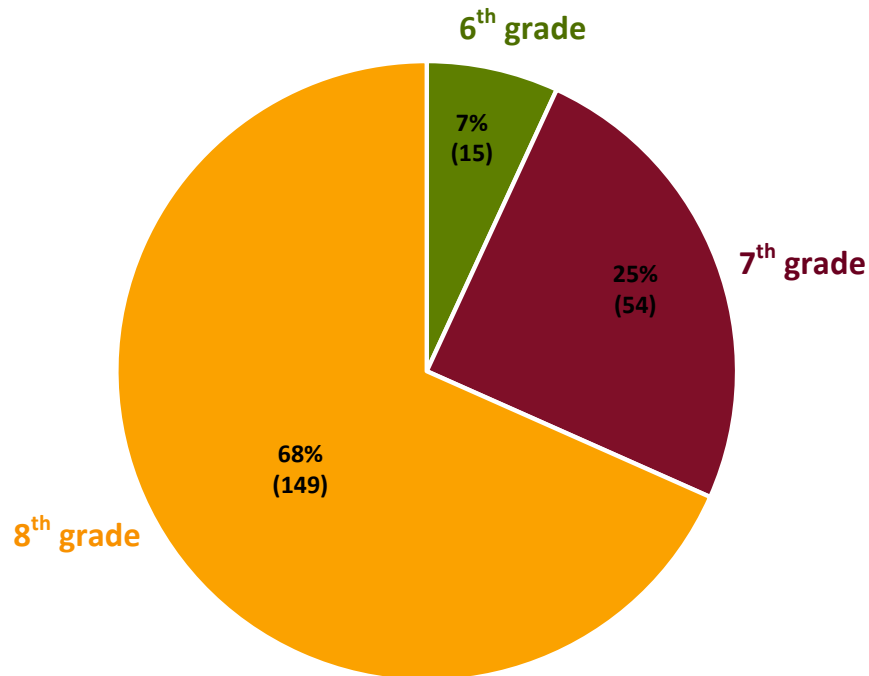
This report provides a summary of the activities and findings regarding the evaluation of the 2014 Women in STEM event. The event was held on November 21, 2014 from 9AM to 3 PM at Bowling Green State University. This report summarizes the following information:

- Event attendance
- Event activities
- The quality of the event
- The impact of the event
- Recommendations for next year

Event Attendance

A total of 329 people attended the event, including 23 chaperones/teachers, 41 session presenters, 47 staff/volunteers, and 218 students. The figure below illustrates the distribution of the 216 participating students.

Most participating students were in the 8th grade



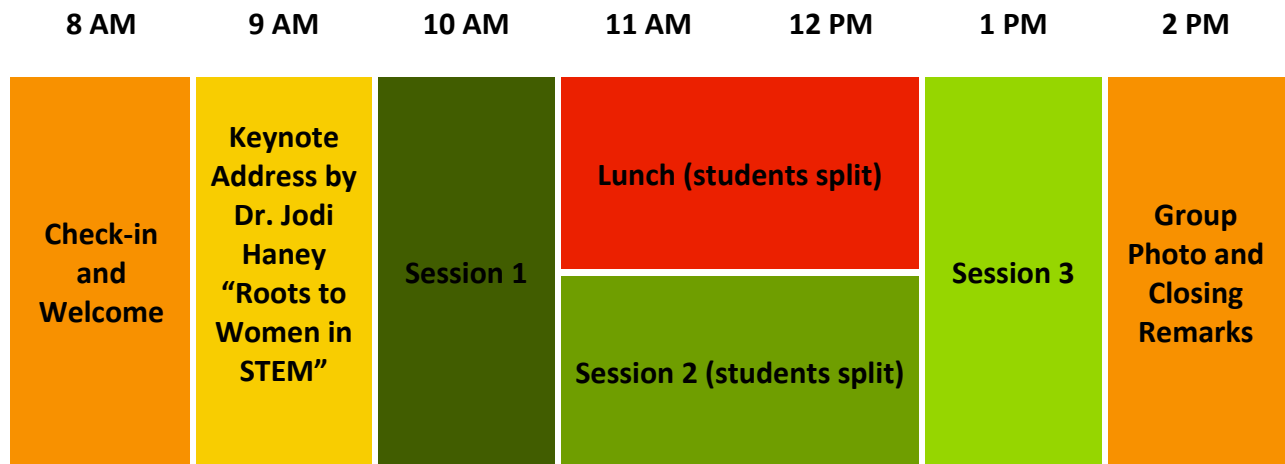
Students from 11 different schools in northwest Ohio attended the event. About two chaperones from each school attended with the students. The box below shows the schools who participated in the 2014 event.

Anthony Wayne	Oregon
Archbold	Pettisville
Bowling Green	South Sci-Tech Magnet
Glenwood	Toledo School for the Arts
Liberty Arts Magnet	Upper Sandusky
Oak Harbor	

Event Activities

Women in STEM was coordinated by the Northwest Ohio Center for Excellence for the first time in 2014—it was previously coordinated by the BGSU Office of Community Outreach.

The schedule of the 2014 Women in STEM activities is illustrated below. Students attended a keynote address, three content sessions, and a group photograph before being dismissed at 2:30 PM.

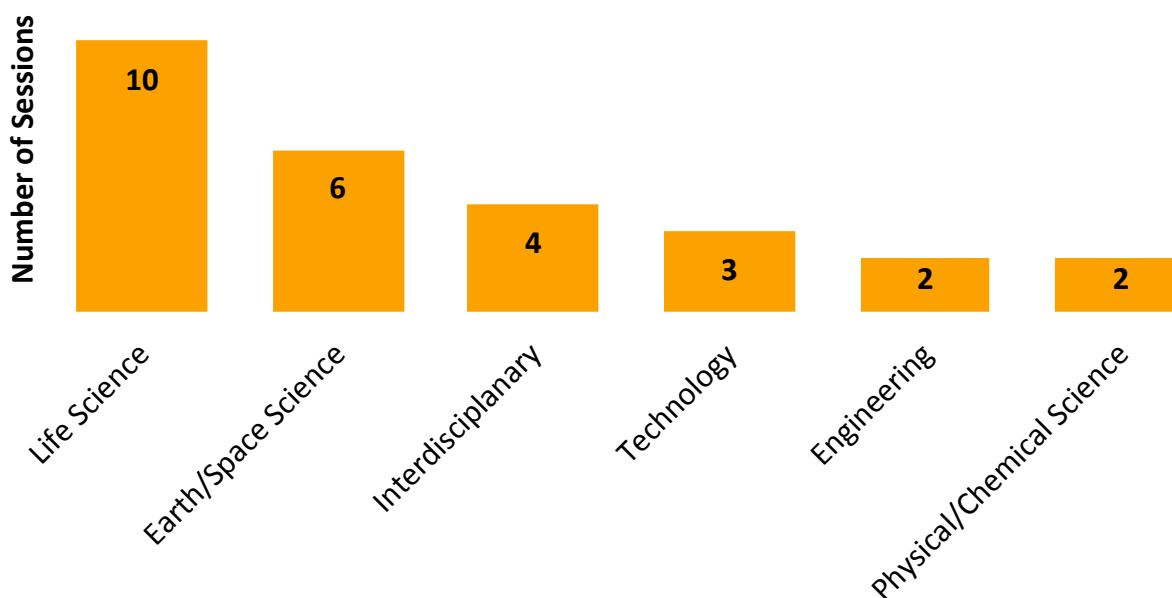


Students were assigned to one of fifteen groups, each with its own distinctive name (e.g., Astronauts, Dinosaurs, Suns). The groups consisted of students from several different schools, and students travelled within their groups from session to session during the event.

Students attended three out of twenty-seven possible sessions during the event. The twenty-seven sessions addressed topics related to life science, earth and space science, physical and chemical science, technology, engineering, and interdisciplinary topics. The types and titles of the 2014 sessions are shown below.

Most sessions addressed topics related to science, especially life science

There were no sessions that addressed topics related to mathematics



2014 Women in STEM Session Titles

<ul style="list-style-type: none"> • A Crystallographic Journey into the Atomic World of Pencils, Diamonds, and other Sparkles • A Day in the Life of an Orthopedic Occupational Therapist • Animal Adaptations are Amazing! • BGSU Marine Lab • Bowling Green State University Herpetology Laboratory • Chemistry & Forensic Science • Conservation Detectives • D.I.R.T. Discovering and Investigating the Realities of Topsoil. • Discover the "gene" in Genetics! • Discover the a-MAZE-ing Robots • Edible Car Contest • Engineering: Candy and Rockets. • Food Science Lab: the chemistry of what you're eating 	<ul style="list-style-type: none"> • For Enzymes, the Real Estate Rule Applies: It's Location! Location! Location! • Fun with Geospatial Technology! • Geology and LEGOs: If You Can Build it, You Can Map it! • History's Mysteries: History Detectives • In Touch With Nature • Making Energy from the Wind • Polymers & Plastic Recycling • Print Technology • Spectral Signature of Women in Remote Sensing • Tech Trek • Telling Time by the Stars • The Day in the Life of a Veterinarian! • What is an Architect's Job? • Women in Broadcasting: 'Weather Girl' vs. Meteorologist
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Quality of the Event

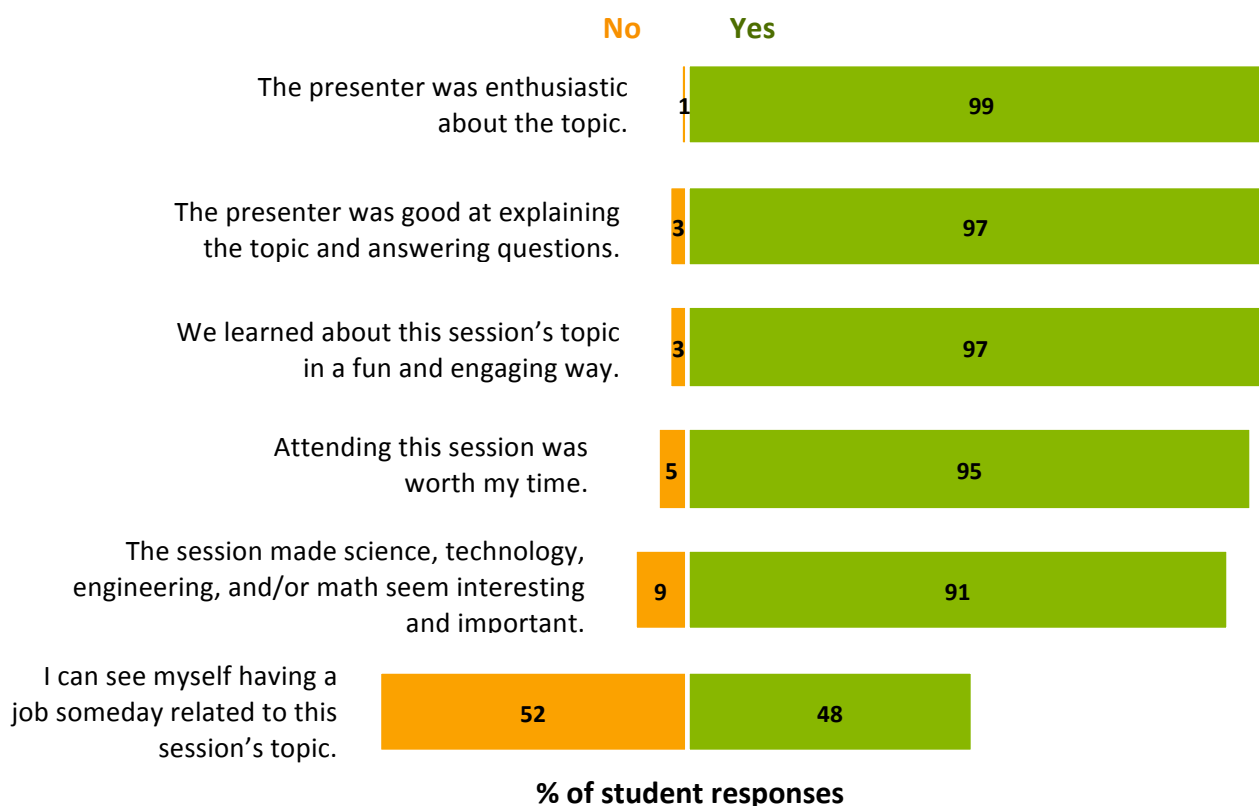
The quality of the Women in STEM event was determined by examining evaluation responses from all participations: students, presenters, and chaperones/teachers. Presenters' and chaperones' thoughts about the events were documented using an online post-event survey (Appendix A). Students' thoughts about the event were documented using session-specific evaluation surveys (Appendix B).

From the Students' Perspective

Students completed an evaluation survey for every session they attended. All together, 574 session evaluation surveys were submitted for 24 unique sessions. Students were generally very positive about the event. They believed that the presenters were high-quality, the sessions were engaging and worth their time, and the sessions made STEM seem interesting and important. Students agreed most with statements about the quality of the presenters (good at explaining the topic and answering questions; enthusiastic about the topic), and agreed least with the statement, "I can see myself having a job someday related to this session's topic". The figure below illustrates the students' survey responses.

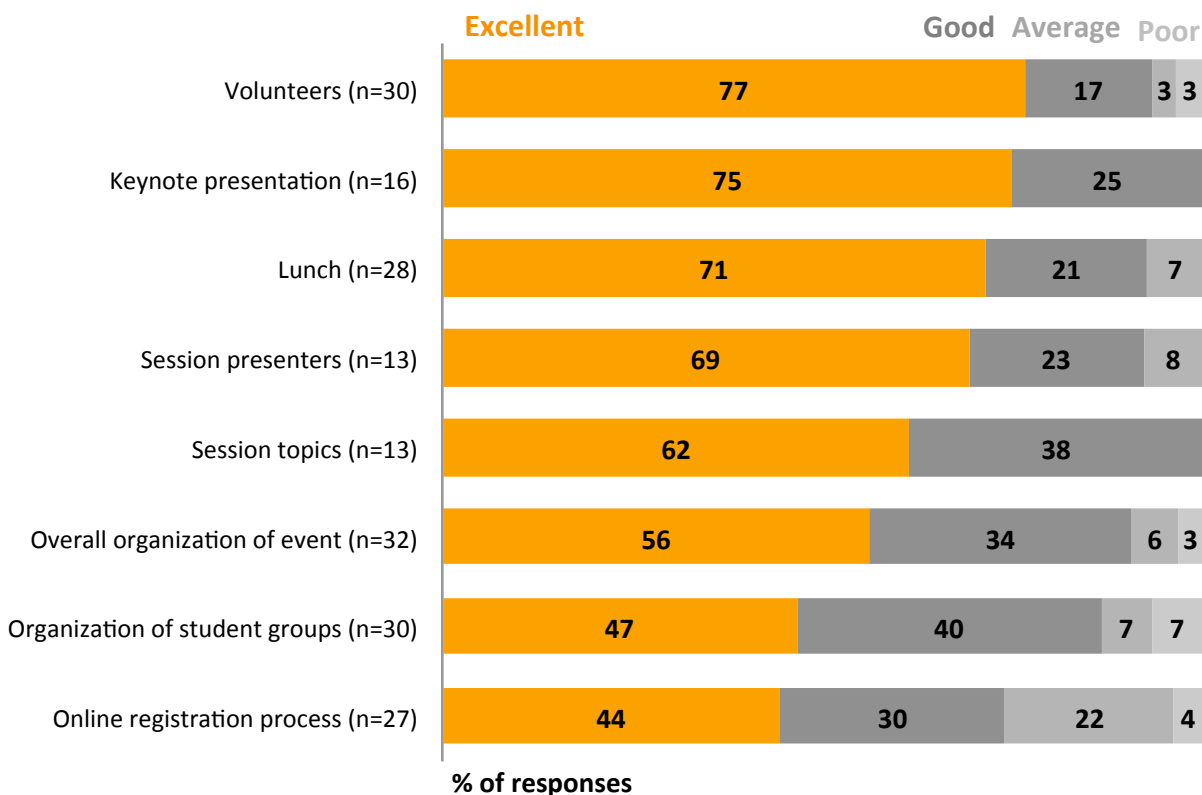
Participating students believed the sessions to be high in quality

Almost half of the students could see themselves in a STEM-related career



All survey respondents were asked to rate several different aspects of the event, including the registration process, the keynote presentation, and lunch. The most highly rated components were the keynote presentation and volunteers, and the least highly rated component was the online registration process. It should be noted, however, that all aspects of the event received an overall positive rating. The figure below illustrates the survey results.

74% or more of survey responses were positive (Good or Excellent)



The project staff had previously considered expanding the event to include boys—and thus changing the name to something like “Youth in STEM”—and wanted to solicit the feedback of teachers and presenters at the event in order to make a more informed decision.

The responses from teachers and presenters clearly demonstrated a preference to keep the event focused on girls. Some thought that offering a similar experience for boys would be beneficial, but not on the same day as the girls. Teachers and presenters thought it was important to have an event especially for girls, since there are not many opportunities for girls to have their own event, and since there is such a disparity between the number of men and women in STEM fields.

Impact of the Event

The chaperones, teachers, and presenters who completed the online evaluation survey believed the event was most successful in exposing students to STEM topics and careers of which the students may not have otherwise been aware. A few survey respondents observed an increase in students' interest about a particular topic. Some of the survey respondents wrote:

I definitely saw interest stimulated among the girls from our school. Chemistry was an area I heard the girls talking about after the event. It opened their eyes to the kinds of things chemists do, and that it can be a very fascinating field.

I think the program did an excellent job of introducing the students to some of the different STEM related fields.

I think the conference offered the girls a good chance to explore a variety of STEM topics and get a better understanding of areas they may be interested in

I think it is a great opportunity for girls at a younger age be exposed to different areas of science and be made aware what varieties of career options are available for different types of science degrees.

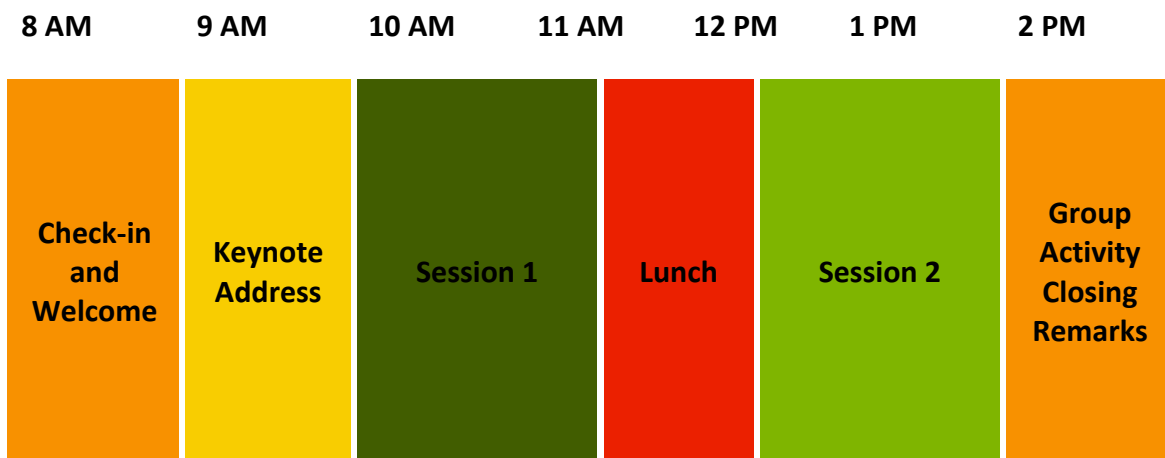
I think it is a wonderful way to engage students at their middle school time and show them a wide variety of options for STEM careers that they may not have thought about before.

I feel the day opened students' eyes to different fields of STEM that they may not ordinarily think of--our area of expertise for example (animal care and education) is not usually what students think of when they think of STEM careers.

Recommendations

The following recommendations are made based on the feedback from the evaluation survey and input from project staff:

- **Have students complete an “overall” evaluation survey at the end of the day (instead of online).** This year, chaperones and teachers were asked to send the online evaluation survey to their students, but only a few student responses were collected. While collecting paper copies of the evaluation survey will require more time for data entry, it will ensure that almost all students will be heard from.
- **Include only two content sessions at one and a half hours each.** This change would simplify the event schedule, reduce travel time, and keep all students together for lunch. It would also decrease the number of sessions, which could possibly allow the project staff to be more selective in their session selections. The new schedule would look something like this:



- **Keep students from the same school together in the same group.** Chaperones and teachers suggested that students stay together during the event to reduce the potential discomfort associated with meeting a group of new people.
- **Check the efficiency of the registration and check-in processes.** The feedback regarding the registration and check-in process was fairly broad, with no specific suggestions offered for improvement. However, a few presenters perceived the process to be “a little clunky”. A thorough “check-up” by the project staff might result in some improvements.

Women in STEM Evaluation Survey

We Hope You Enjoyed the 2014 Women in STEM Event at BGSU!

Members of the Women in STEM committee are always seeking ways to improve future events. The best way to do this is to find out what participants think of the event, and use their comments and suggestions to make future events better.

Please take a few minutes to complete the following evaluation survey and tell us what you thought about the 2014 Women in STEM event. We appreciate your cooperation!

Thank you for your assistance in improving Women in STEM.

Which of the following describes your participation at Women in the STEM?

- Student
- Chaperone
- Presenter
- Other (please specify)

Women in STEM Evaluation Survey

Students, Tell Us What You Think!

What school or school district do you attend?

- Archbold Area Schools
 Oregon City Schools
 Bowling Green Middle School
 Pettisville Junior High School
 Findlay City Schools
 South Sci-Tech Magnet, Lima
 Lial Catholic School
 Toledo School for the Arts
 Liberty Arts Magnet, Lima
 Upper Sandusky Middle School
 Oak Harbor High School

Which of following best describes the way you define your racial/ethnic background?

- American Indian or Alaskan Native
 Asian
 Black or African American
 Hispanic
 Middle Eastern
 Native Hawaiian or Other Pacific Islander
 White, non Hispanic

Please rate the following aspects of Women in STEM 2014.

	Poor	Average	Good	Excellent
Keynote presentation (Dr. Jodi Haney)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Session presenters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Session topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your student group (Turtles, Suns, Astronauts, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
T-shirts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide some comments to explain your choices.

Women in STEM Evaluation Survey

What STEM topics (e.g., biology, physics, medicine, global warming) would be interesting for next year's keynote address?

How interested in STEM (science, technology, engineering, and mathematics) topics were you before and after going to Women in STEM? Choose the options below that describe you the best.

	Not at All Interested	A Little Interested	Pretty Interested	Very Interested
Before Women in STEM, I was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After Women in STEM, I am:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How interested were you in having a career in STEM before and after going to Women in STEM? Choose the options below that describe you the best.

	Not at All Interested	A Little Interested	Pretty Interested	Very Interested
Before Women in STEM, I was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After Women in STEM, I am:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Women in STEM Evaluation Survey

Please Tell Us What You Think

How many years (counting this one) have you been involved with Women in STEM?

- One (this is my first year)
- Two
- Three
- Four
- Five or more

Please rate the following aspects of Women in STEM 2014.

	Poor	Average	Good	Excellent	This doesn't apply to me
Online registration process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keynote presentation (Dr. Jodi Haney)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organization of student groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall organization of the event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sessions presenters (for chaperones to answer)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Session topics (for chaperones to answer)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide some comments to further explain your above ratings.

Women in STEM Evaluation Survey

If you were a presenter at Women in STEM, how worthwhile was your participation?

- Not at all
- Very slightly
- Somewhat
- More than somewhat
- Very

Please briefly explain why you think so.

As a [Q1], what is your perception of the impact of Women in STEM on students' interest in and understanding of STEM (science, technology, engineering, and mathematics)?

How likely is it that you (or your school) will participate in Women in STEM next year?

- Very unlikely
- Somewhat unlikely
- Somewhat likely
- Very likely

What are your thoughts about expanding the event to include girls and boys? The expanded event would open registration to all students, but still focus its efforts on groups that are under-represented in STEM, namely women and racial minorities.

Women in STEM Evaluation Survey

We Want to Know About Your Women in STEM Experience

Please describe your experience at Women in STEM 2014 in your own words. You can include the parts that you liked as well as those that you didn't like.

What suggestions do you have for next year's event? Is there is anything that you would want to see kept or removed? Is there anything you would change or add?

THANK YOU VERY MUCH FOR YOUR COOPERATION!

Women in STEM 2014 Session Evaluation

Presenter:

Title:

Room:

Time:

Read each statement carefully. Then, circle the one choice that best matches your opinion of the statement. There are no right or wrong answers. We only want to know your opinion.

We learned about this session's topic in a fun and engaging way.

No, Not at All

No, Not Really

Yes, Kind Of

Yes, For Sure

The presenter was good at explaining the topic and answering questions.

No, Not at All

No, Not Really

Yes, Kind Of

Yes, For Sure

The presenter was enthusiastic about the topic.

No, Not at All

No, Not Really

Yes, Kind Of

Yes, For Sure

Attending this session was worth my time.

No, Not at All

No, Not Really

Yes, Kind Of

Yes, For Sure

I can see myself having a job someday related to this session's topic.

No, Not at All

No, Not Really

Yes, Kind Of

Yes, For Sure

This session made science, technology, engineering, and/or math seem interesting and important.

No, Not at All

No, Not Really

Yes, Kind Of

Yes, For Sure

Please use the space below to tell us what you thought of the session in your own words. You can write about the things you liked the best, the things you didn't like, and/or your thoughts about the topic or the presenter.

Please return this sheet to the volunteer in the room. Thank you!!