



ITHACA GENERATOR

A community that likes to make stuff.

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GERLS CAMP – ENCOURAGING YOUNG WOMEN IN STEM



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We are Ithaca Generator, a community of inventors, crafters, designers, engineers and artists. Join our membership-supported makerspace in downtown Ithaca. Join us at #ithacagenerator on irc.freenode.net or on our Google Group.

HOURS AND LOCATION

Ithaca Generator is located at 116 West Green St. in Ithaca New York. Go past Life's So Sweet chocolate store and down the stairs by the loading dock. We are open during the hours shown on our Makerspace Open Times

Last week, Ithaca Generator (IG) partnered with Xraise, the outreach program at the Cornell Laboratory for Accelerator-based Sciences and Education, to host a week-long GERLS Camp for middle school girls. GERLS is an acronym developed by the program’s leaders Lora Hine, director of outreach at Xraise, and Claire Fox, education coordinator at IG. The acronym stands for “Girl Engineers Really Love Science!”

The camp had 11 girls participate from a number of area schools in Tompkins County. Additionally, several female mentors* from Cornell University, Ithaca College, and downtown institutions worked with the girls throughout the week.

THE FACTS ON WOMEN IN STEM

According to a 2012 Girls Scouts report titled, “Generation STEM,” women are not well represented in engineering, computing, and physics with only 20% of bachelor degrees in these areas earned by women and 26% of women with STEM degrees pursuing careers in STEM.

The report provides evidence on why these numbers are so low. While interest in STEM among high school girls is high, these same girls don’t necessarily want careers in STEM. They want jobs in which they can be creative, solve problems, work collaboratively, and make the world better. And the way that STEM is taught in many high schools now, it’s hard for girls to see that connection.

Another problem is that many girls don’t have STEM role models. When we asked one of the mentors at GERLS camp, computer scientist Jennifer Westling, why she thought there aren’t many women in STEM, she responded, “As a girl, I never knew any women engineers or scientists. As a result, I just didn’t envision myself in those roles.”

WHY IS IT IMPORTANT?

Research coming out of the [Center for Collective Intelligence at MIT](#) finds that there is a positive correlation between the number of women on a team and how smart the team is. So it’s important that women have opportunities to not only get in to these teams but to make sure these places are designed so that women can succeed once they are in.

GERLS Camp mentor Jenn Colt adds this insight, “We’re not going to solve the important problems facing us today if we have half the population convinced that they aren’t smart enough to take on these challenges. We don’t need everyone to be a scientist but we need everyone believing that they have important contributions to make and their gender doesn’t determine the value of their ideas.”

WHAT TO DO ABOUT IT

calendar.

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EVENTS

- ▷ Maker Camp with GIAC
 - ▷ **Aug 14 9:30 AM**

- ▷ at Ithaca Generator

- ▷ Game Developer's Clinic
 - ▷ **Aug 14 6:00 PM**

- ▷ at The Generator

- ▷ Geek Night
 - ▷ **Aug 14 6:00 PM**

- ▷ at Ithaca Generator

- ▷ Staffed by Mark
 - ▷ **Aug 14 6:00 PM**

- ▷ at Ithaca Generator

- ▷ Staffing by Laurence
 - ▷ **Aug 15 1:00 PM**

- ▷ at Ithaca Generator

- ▷ Game Night
 - ▷ **Aug 15 7:00 PM**

- ▷ at Ithaca Generator

- ▷ Craft Night
 - ▷ **Aug 16 8:30 PM**

- ▷ at The Generator

- ▷ Members Only Mini Classes
 - ▷ **Aug 17 10:00 AM**

In a 2014 interview with Maria Klawe, the president of [Harvey Mudd College](#)—a place where they’ve worked to get over half of the students in computer science to be women—Dr. Klawe lays out her insights on how to engage more women in STEM. ‘First, the intro courses need to be compelling, tying STEM to real world problem solving and creativity. Second is building confidence in the community and encouraging students to ask each other for help. And finally, it’s important to offer joint majors where women can integrate subjects they feel confident in with STEM.’

GERLS CAMP

In line with Dr. Klawe’s insights, GERLS Camp was filled with real, hands-on activities, lots of encouragement to work collaboratively and to help each other, and the girls were allowed to bring their own interests into their projects. Many of the girls worked with the Gemma microcontroller, developed by STEM Innovator [Limor Fried](#), to create wearable electronics that solved real problems they had like a hat that reminded them to put on sunblock or a purse that lit up on the inside when opened in a dark space.

Lora Hine adds, “Research shows that childhood interest in science, not performance in science, has been shown to be a greater predictor of choosing to concentrate in STEM as a career ([Maltese and Tai, 2011](#)). The more we can do to positively influence a girl’s perception of what it means to ‘do’ science or to be a scientist, the more likely she will be to pursue science-related activities inside and outside of school time.”

The experience was great for the GERLS but also for the female mentors. Says Jennifer Westling, “I’d just like to show my appreciation to XRAISE and the Ithaca Generator for making these opportunities available, not just for the girls, but for women like myself, to share our passions with the next generation!”

To see more of our work encouraging Youth in STEM, come to the Maker Expo at [Tompkins County Public Library](#) on Saturday 23 August from 11am-1pm.

RELATED READING

GIRLS SCOUTS 2012 REPORT

http://www.girlscouts.org/research/pdf/generation_stem_full_report.pdf

2014 INTERVIEW WITH MARIA KLAWE

http://www.huffingtonpost.com/2014/07/31/women-in-engineering_n_5631834.html

TOMPKINS COUNTY STEM INNOVATORS FEATURED IN THIS ARTICLE

▶ at Ithaca Generator

▶ all events

Tweets by @IthacaGen

<http://www.lansingstar.com/business-archive/10102-women-entrepreneurs-on-the-cutting-edge>

Xraise, Cornell University

<http://www.classe.cornell.edu/Outreach/WebHome.html>

MENTORS

Romy Fain – graduate researcher in the Nanophotonics group

<http://nanophotonics.ece.cornell.edu/>

Saramoira Shields AKA MathematiGal <http://mathematigal.com/> Math major at Cornell, Research Assistant in a soft robotics Lab

<http://www.mae.cornell.edu/research/groups/shepherd/>

Eva Luna – MS Biological and Environmental Engineering, assistant at the Engineering Teaching Excellence Institute at Cornell

<https://www.linkedin.com/pub/eva-r-luna/19/269/b32>

Jenn Colt – UX Designer at Cornell University Library and IG Board Member

www.linkedin.com/in/jenncoltdemaree

Xanthe Matychak – Professor of Strategic Communication at Ithaca College and IG Board Member

<https://www.linkedin.com/pub/xanthe-matychak-mfa/57/1a5/37>

Jennifer Westling – Computer Scientist and IG Member

www.linkedin.com/pub/jennifer-westling/19/32/645

Dr. Rebecca MacDonald – Swanson Director of Engineering Teams at Cornell University

<http://www.engineering.cornell.edu/magazine/features/macdonaldqa.cfm>

Lina Sanchez Botero – Graduate Student, Fiber Science Department, Cornell University

<http://nanotextiles.human.cornell.edu/people.htm>

Denise Lee – Coordinator of the Saturday Science and Mathematic Academy, Ithaca New York

5 Aug 2014 / Xanthe Matychak / 0

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