STEM Mentor

STEM Mentors are vital to the success of our youth and teen programs! Because many of the Adler’s Science, Technology, Engineering and Math (STEM) programs involve youth taking heightened levels of leadership, we hope to provide them with knowledgeable and motivational mentors. STEM Mentors help Adler staff guide youth participants, volunteers, and interns with independent projects and/or help youth facilitate on-site and off-site Adler educational programs. If you have experience in a STEM-related field, and enjoy connecting with and inspiring young people, we hope you will consider taking time to enrich our youth programs.

We look to STEM Mentors to:

- **Set Independent Project Goals** - work with youth to identify achievable project goals.
- **Make Progress on Goals** - monitor youth for signs of confusion, frustration or lack of direction and consult with them to resolve issues impacting project work.
- **Learn New Design and Construction Techniques** - utilize understanding of STEM-related fields to help youth develop essential work force skills.
- **Maintain Communication with Adler Staff and Youth** – participate in closed online forums with youth and facilitators to build positive relationships within the Adler community.
- **Integrate Technology and Software** - help youth identify and integrate technology into projects. Equipment and software may include computers, cameras, mobile devices, media editing tools, drawing programs, or web design platforms.
- **Safely Utilize Equipment** - help youth identify appropriate tools or equipment for completing a task, providing them with guidance or instruction on using tools or equipment.

Interested? Here’s what we look for:

- Significant professional experience in science, technology, engineering and mathematics industries and/or academic fields.
- Proficiency using STEM-related equipment, including computers and electronics.
- A demonstrated record of successful independent project work.
- Previous experience mentoring youth is highly preferred.

Training will consist of:

- Attendance at a general volunteer orientation
- Integration into the STEM Mentoring community.
- Project specific trainings will be communicated on an individual basis as projects are assigned (see below for this year’s anticipated projects).

We ask volunteers in this position to:

- Make a minimum 1 year commitment
- Take part in at least one project from Column A or three projects from Column B, fulfilling each corresponding commitment requirement.

*When completing your volunteer application, please use the “Anything else you’d like to share?” prompt to identify which of the below projects most interest you and play to your expertise.*
2015-2016 STEM Mentor Projects & Expected Time Commitment

STEM Mentors participate in either 1 project from Column A or 3 projects from Column B. Each project has unique time commitments and durations. Programs and times are subject to change.

**Column A: Long-Term Projects**

**After School Hangouts**
Sept-June, either Tuesdays-Thursdays, from 4 pm-7 pm
Preferred Attendance: At least once per month
Preferred Expertise: Project Management

**Youth Leadership Council**
Sept-June, either Tuesdays-Thursdays, from 4 pm-7 pm
Preferred Attendance: At least once per month
Preferred Expertise: Project Management

**Teen Bloggers**
October-June, either Tuesdays-Thursdays, from 4 pm-7 pm
Must commit to all sessions in the Fall or Spring semesters
Preferred Expertise: Research, Writing, Social Media, Astronomy / Zooniverse Content

**Web-making Workshops**
12/28-12/31, 1/9, 1/23, 2/6, from 1 pm-4pm
Must attend at least 3 sessions
Preferred Expertise: HTML/CSS Coding, Graphic & UX/UI Design, Project Management

**HackLabs**
3/12, 3/19, 4/2, 4/8, 4/18, 4/19, 4/20, 4/21, from 1 pm-4 pm
Must attend at least 3 sessions
Preferred Expertise: Programming, Data Collection, Data Analysis, Data Visualization, Citizen Science

**Column B: Short-Term Projects**

**Girls Do Hack**
11/14, 8:30 am to 4 pm
Preferred Expertise: Group Leadership, Any STEM experience, open only to female mentors

**Random Hacks of Kindness, Jr.**
2/20/16, 8:30 am to 4 pm
Preferred Expertise: Mobile Apps, Project Management

**Operation Airlift**
4/9, 8:30 am to 4 pm
Preferred Expertise: Project Management, Engineering, Design, Construction, Circuitry

**Civic Hack Day**
6/6-6/7, 8:30 am to 3 pm
Preferred Expertise: Project Management, Mobile App & Web Development, UX/UI Design

**HackLabs Hack-a-thon**
5/7, 8:30 am to 3 pm
Preferred Expertise: Project Management, Programming, Data Collection, Data Analysis, Data Visualization, Citizen Science

**Career X-ploration Day**
7/18, 9 am to 3 pm
Preferred Expertise: Industry Expertise, Public Speaking, Presentations

**STEM SMARTS Scholars**
Ongoing, One-on-one informational interviews with scholars
Preferred Expertise: Industry Expertise, Networking
Program Guide

*All programs take place at the Adler Planetarium unless otherwise specified.

**Column A: Long-Term Projects**

**After School Hangouts**
The Adler will begin to host “After School Hangouts,” providing a place for Chicago-area youth to come for homework/project assistance, or just explore their “science/engineering side.” Participants will have the option of taking part in specific activities or working on independent projects. Mentors are invited to lead skills-based activities of your choosing, or provide general guidance as youth explore everything from astrophotography and 3D printers to programming.

**Youth Leadership Council**
Adler’s Youth Leadership Council is comprised of highly involved and motivated Adler teens. This council helps shape the teen voice of the Adler and often leads teen programming initiatives. Mentors in this role will help foster the creativity of the council members as well as help them further develop STEM skills in an intimate, collaborative environment.

**Teen Bloggers**
Teen bloggers do everything from researching current topics in astronomy to documenting youth events around the city. Mentors in this role will coach bloggers on their writing and research techniques, making sure that information they prepare is accurate and compelling. See examples of past work here: [http://adlerastrojournalists.wordpress.com/](http://adlerastrojournalists.wordpress.com/)

**Web-making Workshops**
Participants in web-making workshops learn the basics to code their own website with HTML and CSS. Teens use codecademy.org as a starting point and then work with templates to design a website. Web-making workshops will focus on challenges that charities around Chicago face, in preparation for communicating information during the annual Random Hacks of Kindness, Jr. event in February.

**HackLabs**
Youth participants will explore skills essential for data collection, analysis, and visualization in citizen science projects. Mentors will provide technical assistance during sessions, as well as guidance in the design and completion of projects.
Girls Do Hack
The Adler will hold the third annual Girls Do Hack on November 14, 2015. High school girls from around Chicagoland work in teams with female mentors to complete a variety of skills-based workshops. Past workshop topics included mobile phone hacking, exoplanet detection, and wearable tech.

Random Hacks of Kindness, Jr.
Teams of middle-school students assemble at the Adler to address some of the most complex challenges facing our society. Working alongside local charities, web developers, and high school mentors from the web-making workshops, these young innovators learn more about local community needs and help design practical, open source technology solutions.

Operation Airlift
The culminating event for an Adler after school club is an all-day team engineering challenge. Utilizing high-altitude balloons, the students are asked to design and build ROVs to complete a series of objectives. Mentors are on hand to trouble-shoot, inspire, and manage team dynamics and roles.

HackLabs Hack-a-thon
Teams of high-school students work to address some of the most challenges in citizen science. Building off the HackLabs workshops, students collaborate with scientists, developers, and mentors to design practical and open source technology approaches to advance science research.

Civic Hack Day
Part of the National Day of Civic Hacking, this event encourages citizens of all ages to work together to improve our communities by developing technology-based solutions to civic issues. Mentors help facilitate relationships and project guidance between tech professionals and youth professionals.

Career X-ploration Day
Professionals from a variety of Science, Technology, Engineering and Math backgrounds are asked to share their stories and career pathways with the Adler’s teen community and guests. This event is comprised of two parts: the first being a more formal presentation to a select, invited teen audience, and the second being a more informal conversation/demonstration period in the museum’s public space.

STEM Smart Scholars - Sponsors
*Largely remote experience with meet-ups and dinners offsite
Established to enable and empower future generations to participate in the 21st-century STEM (Science, Technology, Engineering and Mathematics) workplace, the Adler Planetarium’s STEM SMARTS scholarship program is designed to help reduce financial barriers for low-income, STEM-achieving students as they pursue their undergraduate degrees. All program participants take part in a mentoring community. Mentors in the sponsor role will connect with individual scholars interested in their field of expertise and assist in connecting them with industry leaders. For more information, visit:
http://www.adlerplanetarium.org/scholarship-program/