Platforms for Engineering for Global Development (EGD)

North American Gender Summit 2013
14 November, Washington, D.C.

MADIHA EL MEHELMY KOTB, ENG.
ASME PRESIDENT
In 2007, the two richest people in the world had more money than the combined GDP of the 45 poorest countries.
Roughly $\frac{1}{4}$ of the world’s population, about 1.5 billion people lack access to electricity.
1/6 of the global population lacks access to clean, safe drinking water
affordable, appropriate and sustainable technology +
building the capacity of local communities
Innovation Gateways

*Practitioners
*NGOs
*Designers/Engineers
*Education Professionals
*Government
*ASME Members

Communities/End-users
How Does ASME Fit?

- Practical Knowledge
- Education & capacity building
- Advocacy & recognition
- Expediting social innovation cycle

*Practitioners
*NGOs
*Designers/Engineers
*Educators
*Professionals
*Government
*ASME Members
**EGD Capabilities**

- Content that demonstrates impact

- Focused on technology research, development, and transfer

- For the role of engineering in social innovation in policy making, industry, and education

- Creating funding mechanisms and brokering relationships
E4C features an open, innovative, user-friendly online platform that will promote community content.
A free, open source archive of technology solutions from around the world that can be replicated and adapted across regions.
E4C
Webinars

• broaden expertise
• build knowledge of new opportunities
• showcase how technology-based solutions
  ► communications ► water ► energy
  ► housing ► product development
  ► navigating cross-cultural differences
  ► and more
Ten top fundraising platforms

Convenient, online tools exist to help non-profits and social entrepreneurs raise money. We’ve rounded up some reputable services that could work for organizations that focus on humanitarian technology and engineering for global development. Some of these are primary fundraising platforms, while others are one-stop, full-service platforms that help with Web sites, newsletters, organizing memos, and also fundraising. These are ten top online fundraising platforms.

Also, try these other money-raising resources at E4C:
- Humanitarian tech development grants roundup
- Sustainable design contests and awards roundup

E4C News Plus

▪ Newsletter ▪ Blogosphere roundup ▪ Social media
DEMAND
— ASME’s Global Development Review

- Case studies
- Feature articles
- E4C articles
- Infographics
- Evidence-based engineering knowledge
**3 An ancient filtration material removes pesticides from drinking water**

BY ROB GOODIER

**CHARCOAL MAY HAVE BEEN A PART OF WATER TREATMENT FOR AT LEAST 4,000 YEARS, BUT CAN IT REMOVE MODERN SYNTHETIC PESTICIDES FROM DRINKING WATER?** Farmers in northern Thailand, concerned about agriculture runoff, put the question to John Kearns, an environmental engineering doctoral candidate at the University of Colorado in Boulder, and the science director at Aquos Solutions, a non-profit water sanitation and hygiene development organization.

"Farmers introduced me to the ancient tradition of using charcoal for water filtration and asked me, 'Will it work to remove pesticides?' I didn't know the answer, and searching the scientific literature revealed that, in fact, no one knows the answer," Kearns told E4C.

The answer: Kearns discovered, is that it can. But a lot depends on how you make the charcoal.

**CARBONISERS AND CHAR**

Charcoal removes impurities from water in a process called adsorption, meaning the contaminants adhere to the charcoal surface. Because it is porous, it can hold many weighty and harmful substances. That benefit is the basis of the "sorption" word "sorption," which means taking in water, then "drying" it up, too.

In traditional kilns, charcoal is heated in carbon to remove oxygen and moisture, then broken down into charcoal, which is marketed as "charcoal charcoal charcoal."

**THE FUTURE OF SISAL TWINE**

Sisal twine has become something of a media sensation since it was presented to the leading deodorant at Maker Faire Africa in 2010. Since then, he became a TED Fellow in 2012. Moving forward, he has plant to improve the machines. It is looking forward to taking these technologies to the next higher levels by improving the efficiency, durability and aesthetics, and finally to mass production of the machines to meet the demand that is currently rising every day," he says.

**URINE POWERED**

Recent headlines raised eyebrows at E4C when a Norwegian Dortmund announced that it had charged a cell phone with urine power. Did anyone else imagine a life without toilets? The device is a microbial fuel cell. It's a urine-powered variant in which microorganisms feed on urine, while generating electricity. When stored in a sense, the fuel cells have generated power to charge an iPhone... just enough to send text messages, browse the Web and make a brief call.

LEARN MORE AT: https://www.engineeringexchange.org/news/2013/01/10/phone cell phones are not technically urine powered.html
ASME Conference Programming

ASME 2013 INTERNATIONAL DESIGN ENGINEERING TECHNICAL CONFERENCES
and COMPUTERS AND INFORMATION IN ENGINEERING CONFERENCE
AUGUST 4–7, 2013 · PORTLAND, OREGON
Kathleen Sienko, Ph.D.
Associate Professor,
Mechanical Engineering and Biomedical Engineering,
University of Michigan
— technology design in the maternal health space
Under Exploration

Engineering Fellowships with NGOs and Multilateral Organizations
Thank you!

MADIHA EL MEHELMY KOTB, ENG. ASME PRESIDENT

www.EngineeringforChange.org
www.ASME.org