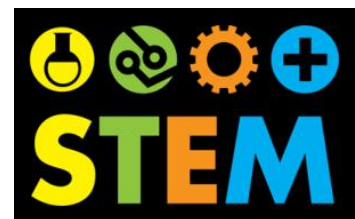


STEM DAYS @ RPI

(Event's agenda can be customized with participant's input)

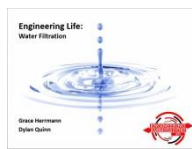
Agenda:

Time	Event / Topic	Location / Details
8:45 AM	Student Arrival and Registration at Rensselaer Union – Horseshoe Union Room 3606 Shelnut Gallery	
9:00 AM	Welcome & Introductions (Agenda Overview)	
9:15 AM	RPI EA 1 st Theme Presentation & Activity	
10:15 AM	Campus Tours & Lab Tours	
11:15 AM	Lunch (on own)	
11:30 AM	My College Experience Presentation	
11:45 AM	RPI EA 2 nd Theme Presentation & Activity	
12:45 PM	EA Panel and Closing Remarks	
1:00 PM	Dismiss	

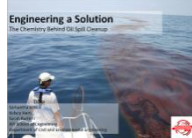


Themes and descriptions:

Environmental theme: Water filtration & Oil Spills



Students will learn about our planets natural filtering process, the water cycle, and how a similar process has been engineered to filter our water. A portable solution to providing clean water after natural disasters will be introduced.

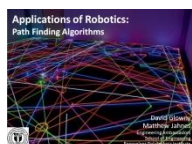


An overview of how oil spills affect ecosystems that directly affect our lives and how engineers are working with scientists to develop new technology to quickly and effectively recover these ecosystems from oil spill disasters.

Manufacturing theme: Path-finding Robots & Advanced Manufacturing

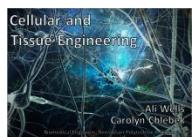


A major component of our outreach work is geared towards taking the micro/nano-scale manufacturing concepts and converting them into the language of Lego. These hands-on Lego modules sponsored by Nano-M3 Design Lab at RPI are then presented to students.

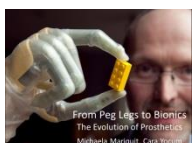


This presentation starts with a general background of robotics and focuses on different path finding algorithms and how they are used. Examples are sourced from cellular life forms, modern technology, and the future of path finding algorithms in robotics.

Biomedical Engineering Theme: Tissue Engineering & The Evolution of Prosthetics



This presentation will discuss the current solutions that are being developed to solve medical problems. It will focus on how engineers are working to eliminate the need for organ transplants by finding ways to create organs outside of the body.



This presentation covers the evolution of prosthetics and the engineering design process that governs the innovation. Topics covered will include biomechanics, action potentials and the connection of the nervous system, as well as future bionic and thought-controlled prostheses.

Going Green Theme: Future of Light & Wind Engineering



This presentation focuses on the applications of digital lighting, Light Emitting Diodes (LEDs), for a multitude of applications beyond lighting. Students will be exposed to technological advances and how crucial they are to the electronic devices they enjoy in today's world.



This presentation will introduce the importance of developing alternative energies to reduce America's traditional dependency on oil. Wind energy technology will be described as the focus of the presentation. The hands-on activity will involve the students designing the wind turbine blades.

For more information or to return completed form please email: RPIEngineeringAmbassadors@gmail.com
Or visit our website: <http://engineeringambassadors.union.rpi.edu/index.php>

Recreational Engineering Theme: Imagineering & Snowboards



A peek into how Disney engineers the theme parks we all know and love! Students learn the basics of potential and kinetic energy applications involved with roller coasters design. Then they participate in a competition to design and build one themselves.

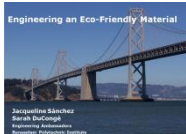


Take a journey through the history of snowboarding, and learn how a few dreamers changed winter sports forever. From their materials and testing, to the physics of how they work, we break down snowboards to their core (literally) for one exciting ride.

Civil Engineering Theme: Structures & Eco-friendly Material



This presentation explores architecture through an engineering perspective. The history of structures, fundamental engineering concepts, and a structural analysis of modern buildings are all included. Using these understandings, a look into the future of architecture is possible.



Explore an Eco-friendly material used in construction: Light-Weight Concrete. Students are exposed to some of the material's history, composition, properties, as well as present and future uses. The hands-on activity allows students to make their own light-weight concrete samples.