

**Pittsburgh International  
Science and Technology Festival**  
c/o Carnegie Science Center  
One Allegheny Avenue  
Pittsburgh, PA 15212-5850

[www.SciTechFestival.org](http://www.SciTechFestival.org)

Non-Profit Org.  
U.S. Postage  
**PAID**  
Pittsburgh, PA  
Permit #788



**MISSION:**

SciTech Festival is a fun-filled community celebration of discovery and innovation that will energize regional science and technology development.

Join us!  
**HIGH SCHOOL CAREER DAYS**



**HIGH SCHOOL  
Career Days**

Environmental Technology  
Information Technology  
Biomedical Technology  
Robotics  
Advanced Materials Processes

**SciTech  
Festival.**  
Pittsburgh International  
Science and Technology Festival.

**April 21-23, 2004**  
Carnegie Science Center  
[www.scitechfestival.org](http://www.scitechfestival.org)

### Bring your high school class!!

Field trips from 9am-5pm daily • Act 48 Eligibility for Teachers

*learn...* About the Biomedical Revolution

*explore...* Robotics/AI/IT...the Future of Technology

*solve...* Cutting Edge Environmental Issues

*see...* How Advanced Materials Processes Benefits You

*discover ...* Job Shadowing Opportunities and More!

### Five main areas of focus are covered **EACH** day:

Robotics, Information Technology (IT), Biotechnology  
Environmental Technology and Advanced Materials Processes

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### TYPES OF PROGRAMS

Maps of locations available online and at the Festival!

### CAREER CAMEO FORUMS

Forums presented: Advanced Materials Processes, Environment, Medicine, Mathematics and Information Technology. Each forum includes four to five presenters ranging from college students to seasoned professionals. They represent at least two corporations and/or universities. Each presenter does a five-minute presentation followed by Q & A and discussion.

### LIVE THEATER

Edu-tainment at its best! Learn and become inspired through the exciting productions of "1001 Black Inventions" and "A Wrinkle in Time."

### NEW FRONTIER LECTURE SERIES

Top notch professionals present cutting edge topics. They combine traditional lectures with engaging interactive components and lots of Q & A. Check out the Speakers' Table in the lobby — books and book signing available!

### OPEN MIKE PANEL DISCUSSIONS

Provocative panelists present topics within a cultural context. Presentations include interactive elements, such as role playing. The moderator introduces the topic — including the nature of the controversy surrounding the technology. Members of the audience (students and teachers) pose questions for the experts at an open microphone. The moderator ensures a balanced discussion of issues and perspectives.

### TECH ZONE: CORPORATE AND HIGHER EDUCATION EXHIBITS

Students explore job shadowing opportunities, experience interactive demonstrations and meet with cutting edge industry experts. Exhibitors distribute great give-aways!

### WORKSHOPS

Hands-on small group learning at its best!



*"Wonderful presentations and speakers. The program was excellent... Students...loved every minute of the trip. We are looking forward to next year."*

Greensburg Salem Senior High School

Robotics, Information Technology, Biotechnology, Environmental Technology and Advanced Materials Processes are covered daily.

**Emphasis: Biotechnology**

### 9am — 5pm

**TECH ZONE** — Corporate and Higher Education Interactive Exhibits (see page 9)

### 9:30am and 1:30pm

**EARTH HARP PERFORMANCE** (see page 13)

### 10 — 10:50am

**OPEN MIKE PANEL DISCUSSION** — *Stem Cells Wars: What's at Stake?*

Medical Dir., In Vitro Fertilization Program, Magee-Women's Hospital, *Judith Albert, MD*  
Biomedical Researcher in the Therapeutic Use of Stem Cells  
Ethicist

There are different kinds of stem cells and different ways to use them. What does stem cell research have to do with cloning, infertility, embryonic research, cures for Parkinson's and other diseases? What ethical and religious issues are being debated?



**NEW FRONTIER LECTURE SERIES** — *Genetic Engineering: False Fears or Real Problems?*

Assoc. Prof. of Human Genetics, Dir. of Graduate Education, Center for Bioethics and Health Law, Univ. of Pgh., *Lisa Parker, PhD*



What will be some of the choices we will need to make? Designer children and more...

**CAREER CAMEO FORUM** — *Advanced Materials Processes*

PPG Industries — Research Scientist  
Research Technician  
Sunoco Chemicals — Research Scientist  
Research Technician  
Chatham College Student, Chemistry Major



**WORKSHOP** — *Tissue Engineering (TE): Pittsburgh's Biomedical Revolution*

Can people grow new limbs, like salamanders? Find out. Regenerative Medicine/Tissue Engineering requires biologists, physicists, chemists, engineers, computer engineers, material scientists and physicians. Workshop Challenge: Form your own company, fabricate bone tissue and assess it. Sponsor - Pittsburgh Tissue Engineering Initiative (PTEI). (Mark Krotec, Central Catholic)

### 11 — 11:50am

**OPEN MIKE PANEL DISCUSSION** — *The Environment, Mines and Today's Technology: Quecreek...and Subterranean Robotics for the Future*  
*Quecreek Miner, John Unger*

U.S. Dept., Nat'l Energy Technology Lab, Mining Engineer, *Terry Ackerman*  
Systems Scientist, Carnegie Mellon Univ., *Scott M. Thayer, Ph.D.*

Nat'l Inst. of Occupational Safety/Health, Research Physical Scientist, *Michael Trevits*  
Bureau of Deep Mine Safety, Dept. of Environmental Protection, Dir., *Joseph Sbaffoni*

Do we have the resources to produce the kind of detailed maps we need? GIS/GPS (Graphic Information Systems/Global Positioning Systems), Mine Drainage/Leaching, Detection & Protection



**NEW FRONTIER LECTURE SERIES** — *Brain Research*

Brain mapping, MRI's (Magnetic Resonance Imaging)  
What we know and don't know about our brain!



**CAREER CAMEO FORUM** — *Medicine*

Univ. of Pgh. Medical Center: Clinical Pharmacist, *Doug Widener, PharmD*  
Respiratory Health Technician  
Occupational Health Technician  
Pharmacy Student



Carlow College, Prof. Nursing, *Carol Caliendo, ND, C NM, CRNP*

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Ethicist



There are different kinds of stem cells and different ways to use them. What does stem cell research have to do with cloning, infertility, embryonic research, cures for Parkinson's and other diseases. What ethical and religious issues are being debated?

**NEW FRONTIER LECTURE SERIES** — *It Takes Heart*

Dir., Thoracic Transplantation & Artificial Heart Program - Univ. of Pgh. Medical Center (UPMC), Medical Dir., McGowan Inst. for Regenerative Medicine, *Robert L. Kormos, MD*



Dr. Kormos is one of the world's most experienced surgeons with mechanical support of the heart. He has operated on most of the patients who have received artificial hearts or heart assist devices at UPMC since 1985. *The future is now* with the therapeutic options available. Even though as a research fellow in '85 "all believed we would have a full mechanical heart within five years" (Byron Spice, Post Gazette Science Editor quoting Kormos). What else? We need many more surgeons!

**CAREER CAMEO FORUM** — *Environment*

U.S. Dept. of Energy, Nat'l Energy Technology Lab - representatives of two different career paths within the agency

PA Fish & Boat Commission, Aquatic Resources Program Specialist, *Dennis Tubbs*  
Masters Student, Duquesne Univ. Environmental Science and Management Dept.



**WORKSHOP** — *Robotics and Automated Manufacturing*

Students manufacture a simple part using an automated system consisting of a CNC milling machine, a robot, a programmable logic controller and various software.

**PRIME: Partnership for Regional Innovation in Manufacturing Education, an industry-driven, academic system delivering manufacturing education and career development**

Robotics, Information Technology, Biotechnology, Environmental Technology and Advanced Materials Processes are covered daily.

**Emphasis: Robotics**

### 9am — 5pm

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### 9:30am and 1:30pm

**EARTH HARP PERFORMANCE** (see page 13)

### 10 — 10:50am

**OPEN MIKE PANEL DISCUSSION** — *Xtreme Robotics: Go to Mars and Into the Pyramids, Perform 'Nano' and Emergency Response Medicine*

Prof., Computer Science - CMU, Fellow of The Amer. Assoc. for Artificial Intelligence (AI) and Italian Finmeccanica for promising young faculty, Robot Soccer, Manuela Veloso, PhD  
 Pres./CEO/Founder, Verimetra, Inc., Michele Migliuolo, PhD Physics, PhD Philosophy  
 Panelist tba Who Works with Explorer Robots

What is the future of robotics? Where do robots already go that we cannot?  
 What are MEMS and what is their role in revolutionizing medicine?



**NEW FRONTIER LECTURE SERIES** — *Tissue Engineering and Your Life!*

Asst. Prof. - Depts. of Surgery and Bioengineering - Univ. of Pgh.,  
 Dir. - Plastic Surgery Lab, Faculty - McGowan Institute for Regenerative  
 Medicine, Kacey Marra, MD



Now and the Future: Tissue Engineering and Limb Transplantation

**CAREER CAMEO FORUM** — *Advanced Materials Processes*

Axicon Technologies- silent gear developers for the Segway (the futuristic people movers):  
 Noise & Vibration Engineer, Matt Shope, MSES, BSME  
 Test Lab Manager, Chuck Amurgis, MSES, BSME  
 Accounting Manager, Courtney Cook  
 Mechanical Engineering Student



**WORKSHOP** — *Robotics*

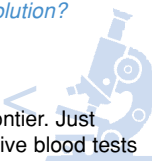
Students program robots that move autonomously around their environment. They will learn to write simple syntax based programs using "NQC," a shareware available for free over the internet and to control LEGO robots as they learn about light and touch sensors and conditional statements.  
 Dir. of Educational Outreach, National Robotics Engineering Consortium, CMU, Robin Shoop

### 11 — 11:50am

**OPEN MIKE PANEL DISCUSSION** — *Nanotechnology: Is This the Next Revolution?*

Penn State Nanofabrication Facility, Instructor/Engineer, Bill Mahoney, BA  
 Swanson Center for Micro and Nano Systems, Univ. of Pgh., Representative  
 Nanoindustry Representative

It is THE wave of the future - the 2nd industrial revolution and the builder's final frontier. Just imagine, a finger prick and a couple of drops of blood is enough to conduct extensive blood tests instead of the vials required today. A common material shrunk to the thickness of an atom - behaves in surprising, yet often useful ways! Did you know that stained glass incorporates nanotechnology?



**NEW FRONTIER LECTURE SERIES** — *Social Robots: How Does the Technology Match the Needs of People?*

Asst. Prof. Human-Computer Interaction Inst. and School of Design, CMU  
 Jodi Forlizzi, MDes

How do roboticists, social scientists & designers collaborate to design assistive robotics?



**CAREER CAMEO FORUM** — *Environment*

Dept. of Environmental Protection, Hydrogeologist  
 Biologist

Friends of the Riverfront, Exec. Dir., Karl Thomas  
 Univ. of Pgh. Student, Environmental Studies Dept.



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 Pres./CEO/Founder, Verimetra, Inc., Michele Migliuolo, PhD, Physics, PhD, Philosophy  
 Panelist tba Who Works with Explorer Robots

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**NEW FRONTIER LECTURE SERIES** — *Xtreme Weather: Tsunamis, Volcanology...*

Asst. Prof., Geology & Planetary Sciences, Univ. of Pgh., Michael S. Ramsey, PhD

See state of the art satellite/ground based technology to map/monitor environmental change. Image Visualization and Infrared Spectroscopy Lab includes major objectives for new ASTER Instrument on the Terra Spacecraft, infrared cameras used to screen for SARS and more!!



Related Program:

OMNIMAX® film *Stormchasers* (see page 13)

GPS/remote sensing mapping

**CAREER CAMEO FORUM** — *Medicine*

Allegheny Co. Health Dept., Infectious Disease Division, Irene Hodge  
 Epidemiology Manager, Joan Glad, RN, MPH

Univ. of Pgh. Medical Center, Nurse  
 Surgical Technician

Duquesne Univ., Pre-med Student



**WORKSHOP** — *Robotics*

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**Emphasis: IT**

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### 9:30am and 1:30pm

**EARTH HARP PERFORMANCE** (see page 13)

### 10 — 10:50am

**OPEN MIKE PANEL DISCUSSION** — *CSI: Solve This!*

**Ally. Co. Coroner's Office: Chief Toxicologist/Dir., Forensics, Duquesne, Fred Fochtman, PhD**  
**Senior Deputy Coroner, Ed Strimlan, MD**  
**Forensic Epidemiologist, Ed Koehler, MPH, PhD**

Crime Scene Investigation (CSI) - Audience members role play a mock shooting. Explore ballistics, fingerprints, autopsy and crime statistics. Science topics include physics/chemistry/IT/mathematics.

**NEW FRONTIER LECTURE SERIES** — *Hard Drives at Nano-Scale*

**Chief Technical Officer - Seagate Research, Prof. - Electrical & Computer Engineering- CMU, Mark Kryder, PhD**

How do you get to the top and stay there in today's market? Seagate was the first company to build more powerful/5.25-inch hard disc drives specifically for the PC - fueling the PC revolution. Suddenly, it was possible to quickly and easily store and access data like never before, eventually giving rise to developments like the Internet. Seagate is now developing technology to increase today's computer capacity 10-100 times!!



**CAREER CAMEO FORUM** — *Advanced Materials Processes*

**U.S. Dept. of Energy, Nat'l Energy Technology Lab Specialist: Building Carbon Molecules**  
**PPG Industries: Research Scientist**

**Research Technician**  
**United States Steel Corporation, Research Engineer**  
**Duquesne University Chemistry Student**



**WORKSHOP** — *Police Accident: At The Scene (SESSION FOR TEACHERS ONLY)*

Triangulation, physics, mechanics, and more! Work in groups with trained student leaders to investigate a traffic accident. Explore actual skid marks, coefficient of friction, formulas (motion/work/energy), mapping (vector diagram) and an accident report. Participants conduct a mock trial.

**Bethel Park- High School (Teacher, Barb Dietz ), Police Dept. (Sargent Mclain)**

### 11 — 11:50am

**OPEN MIKE PANEL DISCUSSION** — *IT & IRAQ: Politics and Systems*

**Dir. - Lab for International Data Privacy, Dir. - Privacy Technology Center, Asst. Prof. of Computer Science, Technology, and Policy, School of Computer Science, CMU, Lantanya Sweeney, PhD**

**Office of Homeland Security, CMU**  
**Political Science Professor, specializing in the Middle East**

What kind of information are we collecting, how are we getting it and what does it really tell us? Societal and computing data issues include: validity, anonymity, privacy, bioterrorism surveillance, and how they affect us daily.



**NEW FRONTIER LECTURE SERIES** — *The 'Dark' Force in the Universe: and Appearing on David Letterman*

**Assoc. Prof., Physics Dept., Astrophysics Grp., CMU, Robert Nichol, PhD**

He is one of the discoverers of new physical evidence for "dark energy" - the mysterious repulsive force that appears to be speeding up the universe!

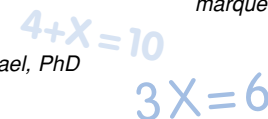


Late Show marquee!

**CAREER CAMEO FORUM** — *Mathematics*

**Univ. of Pgh.: Assoc. Prof., Number Theory, Thomas Metzger, PhD**  
**Faculty, Undergraduate Mathematics, Beverley Michael, PhD**  
**Research Statistician**

**College Student in a Related Field**



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**Senior Deputy Coroner, Ed Strimlan, MD**  
**Forensic Epidemiologist, Ed Koehler, MPH, PhD**

Crime Scene Investigation (CSI) - Audience members role play a mock shooting. Explore ballistics, fingerprints, autopsy and crime statistics. Science topics include physics/chemistry/IT/mathematics.

**NEW FRONTIER LECTURE SERIES** — *Quantum Weirdness: Quantum Computing Can Do What?*

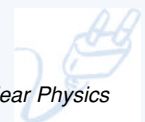
**George Johnson, MA, New York Times Science Journalist, three-time winner of the Amer. Assoc. for the Advancement of Science Journalism Award.**

A computer with 'switches' the size of a single atom. Major problems on today's supercomputers will be solved with ease. Quantum mechanics becomes real - explained with Tinkertoys, clocks, spinning tops and just a little arithmetic! Author of "A Shortcut Through Time," brings clarity to the strange world of the quantum computer, a device at the intersection of quantum mechanics, computer science, and mathematics.



**CAREER CAMEO FORUM** — *Information Technology*

**SONY Technology Center Representative**  
**Univ. of Pgh., Epidemiology Technician**  
**Pgh. Supercomputing Center, Senior Research Analyst, Nathan Stone, PhD Nuclear Physics**  
**CMU Student, Woman in Computer Science**



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**Bethel Park- High School (Teacher, Barb Dietz ), Police Dept. (Sargent Mclain)**

More than 25 interactive exhibits focus on five major Pittsburgh industries. Job shadowing opportunities are available!

Corporate / Higher Education Exhibits

Exhibitors (as of October 8, 2003)

### GOLD SPONSOR EXHIBITORS

#### FEDEX GROUND

Learn all about the high tech methods Fed Ex Ground uses to sort, transport, and track your shipments.

[www.fedex.com](http://www.fedex.com)

#### UNITED STATES STEEL

United States Steel, the nation's largest steel producer, invites you to learn more about one of the most interesting materials on the planet! For over 100 years, U.S. Steel has been proud to call Pittsburgh its home and still operates significant facilities in the area. Come and see how steel is made and how it is being used to build stronger homes, safer and more efficient automobiles and other improved products. Test your knowledge of steel by taking the steel challenge quiz.

[www.ussteel.com](http://www.ussteel.com)

### SILVER SPONSOR EXHIBITORS

#### ALLEGHENY COUNTY HEALTH DEPARTMENT

Featuring human and environmental health issues such as HIV/AIDS, injury prevention, food safety, air quality, pollution prevention and recycling. Job shadowing opportunities are available.

[www.county.allegheny.pa.us/achd](http://www.county.allegheny.pa.us/achd)

#### CARNEGIE MELLON UNIVERSITY

Interactive and changing daily including robotics, information technology, biotechnology, environmental management and advanced materials processes. Special focus on Institute for Complex Engineered Systems and Biomedical Health Engineering.

[www.cmu.edu](http://www.cmu.edu)

#### DUQUESNE UNIVERSITY, BAYER SCHOOL OF ENVIRONMENTAL SCIENCES

Interactive presentations with different focus daily.

Wednesday: Biology

Thursday: Chemistry

Friday: Environment

[www.duq.edu](http://www.duq.edu)

#### PPG INDUSTRIES

PPG and the Environment.

Limited job shadowing opportunities are available.

[www.ppg.com](http://www.ppg.com)

#### SUNOCO CHEMICALS

Plastic technology in action! Sunoco Chemicals presents hands-on testing of plastics that are used in household, packaging, automotive, and many other products. Come BREAK STUFF!!! Test your strength against our tough plastics, and receive gifts that highlight the plastic technologies that we develop right here in Pittsburgh. Learn how

*"The corporate and university displays were excellent."*

Seneca Valley  
Intermediate High  
School Teacher



*"Thank you for the wonderful day for my students and myself. I thought it was one of the best career information days I've ever attended in my 29 years of teaching."*

Shaler Area  
High School Teacher

dispersed particles of ethylene-propylene rubber make polypropylene (PP) resist shattering upon impact, while allowing it to retain its stiffness. Learn how plasticizers make the same PVC (polyvinylchloride) that is used for rigid pipe flexible enough to wear as a rain coat. Learn about the chemical building blocks and processing tools that are used to make plastics. See the advanced technology behind the performance of the plastics that you use everyday.

[www.sunocochem.com](http://www.sunocochem.com)

#### UNIVERSITY OF PITTSBURGH

Individuals from the university present materials from their research and teaching labs to demonstrate robotics, biotechnology, electronics and information technology. For example, the university will allow you to enter a virtual world — a representation of Pitt's Oakland campus — and discover a powerful tool for emergency preparedness and response, limited only by your imagination.

[www.pitt.edu](http://www.pitt.edu)

#### WESTINGHOUSE

Westinghouse Electric Company is the world's pioneering nuclear power company and is a leading supplier of nuclear plant products and technologies to utilities throughout the world. Today, Westinghouse technology is the basis for approximately one half of the world's operating nuclear plants. Visitors to our booth will see nuclear technology applications and learn more about how nuclear energy safely and cleanly supplies 20 percent of the United States' electricity needs. Job shadowing opportunities are available for high school seniors.

[www.westinghouse.com](http://www.westinghouse.com)

### BRONZE SPONSOR EXHIBITORS

#### MICHAEL BAKER CORPORATION

Demonstration of technology in engineering.

[www.bakervr.com](http://www.bakervr.com), [www.mbakercorp.com](http://www.mbakercorp.com)

#### NATIONAL INSTITUTE OF SAFETY AND HEALTH (NIOSH)/SME, PITTSBURGH SECTION

Minerals Science — interesting facts and information about our world and our society.

[www.cdc.gov/niosh](http://www.cdc.gov/niosh), [www.SMEPittsburgh.org](http://www.SMEPittsburgh.org)

#### PITTSBURGH TECHNICAL INSTITUTE

Electronics demo including magnetic levitation, amplifier, plasma ball and laser show. Interacting with Multimedia and Electronics.

[www.pittsburghtechnical.com](http://www.pittsburghtechnical.com)

#### ROBERT MORRIS UNIVERSITY

Hands-on introduction. What can you do with degrees in Manufacturing, Logistics and Software (engineering specialties), Actuarial Science and Mathematics Education?

[www.rmu.edu](http://www.rmu.edu)



*"The programs were at the appropriate intellectual level and informational level for high school students. The combination of programs, company-sponsored booths and the Earth Harp made a day full of interesting and stimulating activities."*

Mt. Lebanon High  
School Teacher



More than 25 interactive exhibits focus on five major Pittsburgh industries. Job shadowing opportunities are available!

Corporate / Higher Education Exhibits

### THE ART INSTITUTE OF PITTSBURGH

The Art Institute of Pittsburgh is the college for creative minds. Visit The Art Institute of Pittsburgh booth for a look at the bachelor's and associate's degree programs available for those who want to pursue a creative career. Learn about famous graduates and try something new. Interactive presentations throughout the day.

[www.aip.aii.edu](http://www.aip.aii.edu)

### CONTRIBUTOR SPONSOR EXHIBITORS

#### ALLEGHENY-SINGER RESEARCH INSTITUTE/CENTER FOR GENOMICS

Participants will explore the biotechnology, bioinformatics and bioethics learning available at the Center for Genomic Sciences (CGS) — Education Program. Come for an interactive demonstration of what scientists do in the CGS laboratories and learn about the teacher professional development opportunities we offer!

[www.centerforgenicsscience.org/education/gsi.html](http://www.centerforgenicsscience.org/education/gsi.html)

#### AMERICAN EDUCATION SERVICES AND PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY (AES/PHEAA)

Students can access the PHEAA mentor website. Distribution of informational brochures on financial aid for postsecondary education.

[www.pheaa.org](http://www.pheaa.org)

#### MAGLEV, INC.

Faster than a Speeding Train, More Powerful than a Ten-lane Highway — Coming soon to the United States — High Speed Maglev. Come see what High-Speed Maglev has in common with a Navy Ship. Get on board before the maglev leaves without you.

[www.maglevinc.com](http://www.maglevinc.com)

#### PITTSBURGH ADVENTURES IN TECHNOLOGY (PAT)

The PAT Project is designed to increase the visibility of regional career opportunities in manufacturing, information technology, biomedical, finance, marketing, and information services by motivating high school students to participate in an 8-week hands-on project. Students design and build a product, or re-engineer an existing product, process or system and present their project solutions. At the festival, students will share their process and their product.

[www.catalystconnection.org/services/adventure.htm](http://www.catalystconnection.org/services/adventure.htm)

#### PITTSBURGH REGIONAL SCIENCE AND ENGINEERING FAIR

Peer presentations of Science Fair projects by High School student participants. Students welcome questions on their research and the fair competition experience.

[www.pittsburghsciencefair.org](http://www.pittsburghsciencefair.org)

#### PRIME: Partnership for Regional Innovation in Manufacturing Education

Robots and more! Visit us and learn more about our initiatives! PRIME is an industry-driven, academic system delivering innovative manufacturing education and career development.

[www.primepa.org](http://www.primepa.org)

*"When the question comes up as to whether this sort of event is worthwhile, the answer is definitely 'yes'! It's good for the morale of employees... it makes you feel good about your company, it gives you a chance to interact with students and colleagues from the other research centers and share your knowledge."*

PPG Industries



### SAINT VINCENT COLLEGE

Environmental Technology — Interactive wetland model demonstrating the use of constructed wetlands to improve water quality in streams degraded by the effects of abandoned mine drainage pollution. Come learn how mine drainage forms, degrades our streams and rivers and how wetlands are being used to remediate mine drainage discharges throughout Western Pennsylvania.

<http://facweb.stvincent.edu/eec/>

### SLIPPERY ROCK UNIVERSITY

Wednesday and Thursday — students can use a cryomicroscope in a demonstration about freeze tolerance in animals. A cryostage and physiological data system will be available for student operation. Friday — students can test water quality and effectiveness of remediation systems and learn about acid mine drainage. A remediation treatment system also will be set up for students' use.

[www.sru.edu](http://www.sru.edu)

### UNITED STATES DEPARTMENT OF ENERGY, NATIONAL ENERGY TECHNOLOGY LABORATORY

Visitors will learn about energy and the environment, converting forms of energy and how a coal-fired powerplant works. Job shadowing opportunities available.

[www.netl.doe.gov](http://www.netl.doe.gov)

### UPMC HEALTH SYSTEM

Hands-on activities related to various health careers including nursing, respiratory care, radiology and other allied health professions.

[www.upmc.com](http://www.upmc.com)

## SPONSORS

### PRESENTING SPONSORS

The Buhl Foundation  
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Bayer Foundation  
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University of Pittsburgh  
Westinghouse Electric Company

*"Even the Silicon Valley doesn't have an event like this."*

C. Kapadia



### DAILY PROGRAMS

**TECH ZONE** — Corporate and higher education exhibits:  
OPEN 9AM - 5PM, DAILY

More than 25 interactive exhibits (*see page 9*).

### EARTH HARP: PERFORMANCES

9:30AM and 1:30PM DAILY

World's largest stringed instrument is strung from the lobby to the 4th floor of Carnegie Science Center. It was designed and is played by Mass Ensemble, a unique performance troupe. Students can play Earth Harp themselves between performances!



### PITTSBURGH CHALLENGE 9AM — 5PM, DAILY

The Challenge: What does Pittsburgh need most that science and technology could provide?

**Enter:** By e-mail, mail or at the festival!

(*Further instructions online and at the festival!*)

**Vote:** Choose from the display at the festival. Daily winners announced at 1pm. Receive a stamp on your passport for an entry and/or a vote.

**Prizes:** Daily winners qualify for 'weekend play offs.' Grand prize winners announced April 25, 3pm at Carnegie Science Center.

### A WRINKLE IN TIME Check times at registration

Science fiction that inspires you to learn science fact. Adapted from Madeleine L'Engle's Newberry Award winning children's book. Vignettes and full length play available. For ages 7 - adult.

**Produced in collaboration with Prime Stage Theatre and Carnegie Science Center.**



*Check what else is happening at Carnegie Science Center to fill out your day!*

### OMNIMAX® FILM FEATURES DAILY

#### STORMCHASERS

Journey around the planet to experience our most extreme storms. Witness dramatic - and often perilous - efforts of scientists to understand weather.

Related Program: Xtreme Weather: Tsunamis, Volcanology... (*see page 6*)



#### JANE GOODALL'S WILD CHIMPANZEES

Enter the hearts, minds and lives of wild chimpanzees in Gombe Africa with the world's most famous field researcher. This OMNIMAX® film serves the mission of the Jane Goodall Institute which focuses on research, conservation and environmental education programs.

#### ROBOTICS EXHIBIT, 2ND FLOOR

Explore how humans and robots sense, think, and act at this major interactive exhibit.



#### TISSUE ENGINEERING FOR LIFE, BUHL PLANETARIUM

Watch, through 3D animation, as the story of a broken bone is healed with regenerative medicine.

### REGISTRATION

Please select programs starting on p. 3. Listings are by day.

Register for your field trip by:

**PHONE** 412.237.3410 (TTY 412.237.3365)

**FAX** 412.237.3375 **E-MAIL** fieldtrips@csc.clpgh.org

**FOR ADDITIONAL PROGRAM INFORMATION, CALL 412.237.1552**

**Group Admission** Groups of 15 or more need a reservation.

Students \$5; required chaperones FREE (1 adult per 10 students required); Additional adults \$7; OMNIMAX® add on \$7 for chaperones and \$3 for students and additional adults. (Non-school groups need to be 15 or more)

**General Admission** — please call 412.237.3400

Children 3-18 \$10; Adults \$14, Seniors 62+ \$10;

OMNIMAX® add on \$4 for adults, \$3 for children or seniors

### Directions

The SciTech Festival High School Career Days program is at Carnegie Science Center, located on Pittsburgh's North Shore at One Allegheny Avenue across from Heinz Field. Print out directions at [www.CarnegieScienceCenter.org](http://www.CarnegieScienceCenter.org).

*This program is accessible to persons with disabilities.*

### Ready-made Student Assessment: Passport System

Information mailed upon registration and available online. Students collect as many stamps as desired in their passport booklet by visiting exhibits and attending programs. A tear sheet has the checklist to tabulate completed tasks and validate completion of the passport. The purpose of the program is to provide student assessment.

1. Get passport at check-in.
2. Visit an exhibit/attend a program, complete multiple choice questions, get a stamp.
3. Collect 5 exhibit stamps and 1 program stamp.
4. Teacher collects and returns tear sheet before departure.

Students have completed the passport program!

*"The passport idea was terrific, especially...accompanied by a SciTech volunteer who asked the students questions to see whether they had achieved the learning objectives of the booth. That activity not only helped the students to figure out what they were supposed to 'get' from the presentation, but it also helped the presenters to target specific information."* — Sunoco Chemicals

### Act 48 Eligibility for Teachers

1. Attend SciTech Festival High School Career Days.
2. Collect and return student passport tear sheets before departure
3. Go online, download and complete form ( [www.scitechfestival.org](http://www.scitechfestival.org), educators link) and submit to [bakerg@csc.clpgh.org](mailto:bakerg@csc.clpgh.org) (deadline June 15, 2004)

Receive 3 FREE Act 48 hours!!