

# Educational Outreach

Activities for  
Pre-college Learners



CAPE TOWN

## IGARSS 09

JULY 12-17, 2009

# Earth Observations Origins to Applications



## K-12 Education Outreach

### (A) CERSER/IGARSS GPS Hands-On Training

Students will first receive instructions on how to operate the devices. They will then be presented with the challenge of navigating to preselected local sites and recording data. Pairs of students will use hand-held GPS to complete the tasks.

### (B) CERSER/IGARSS Remote Sensing Art Workshop

Students provide a visual insight into how experiences at IGARSS'09 have impacted them. Close your eyes and visualize some of the highlights of IGARSS 2009 including registration, exhibits, people, posters, etc. What colors do you recall seeing the most (yellow, blue, etc.)? Use those colors and sights in your design of an IGARSS 2009 Mousepad. Mousepads and paints will be provided by The ECSU Center of Excellence in Remote Sensing Education and Research (CERSER).

### (C) Mathematics of Remote Sensing Team Contest

Student teams bring their collective wisdom to the solution of mathematics problems related to remote sensing and climate change. You can sign up to join a team at the education and outreach booth. Teams are challenged to solve 20 multiple choice mathematics questions. Awards are presented to each member of the winning teams.

### (D) IGARSS Scavenger Hunt

Students write four questions that they will ask the scientist and vendors. They take their questions to the e-o booth for approval and signature. Questions can ask about remote sensing or why they enjoy their job or what subject are most important to study, what does a certain word or image mean what is the importance of remote sensing, What is GIS, What is GPS, etc. Students then visit with vendor booths and meet with scientist. They ask questions and get a signature. Rewards are provided for all who complete the IGARSS scavenger hunt.

## 2009 Earthzine Student Essay Competition

### *Sustainability through Earth Observation and Engineering*

Earthzine invites you to submit an essay for the 2009 Student Essay Competition: Sustainability through Earth Observation and Engineering.

Earthzine, an online environmental journal, is conducting a competition to encourage undergraduate and graduate students to creatively examine the benefits that new technological systems in Earth observation and engineering can have on sustainability. Students are encouraged to submit essays that follow one of the two dominant themes in sustainability: social equity and environmental protection. Essays should also be related to one or more of Earthzine's focal topics: Agriculture, Biodiversity, Climate, Disasters, Ecosystems, Energy, Health, Water, or Weather. Essays should follow Earthzine's Writers' Guidelines.

After initial review, Earthzine will post several essays on its webpage. The author(s) of the essay will be invited to lead a blog about their essay and to participate in blogs of competing essays. Winners will be determined through an Earthzine Readers' Choice Vote based on the quality of the essay and the quality of the blog. Prizes will be given for first place (\$500), second place (\$250), and third place (\$150).

Submission Guidelines: Queries may be sent to David Mullins, Ph.D., Associate Education Editor, at any time (dmullins@sf.edu). The deadline for the submission of essays is October 17, 2009. Blogging will occur November 15-December 15, 2009. Winners will be announced on Earthzine on December 21, 2009, which is the Winter Solstice. Check for more information on Earthzine.

Information: Earthzine website: <http://www.earthzine.org>  
 Writer's Guidelines: <http://www.earthzine.org/about-2/writers-guidelines/>  
 Sample: <http://www.earthzine.org/2009/02/10/territorial-and-risk-management-an-approach/>

Editor-in-Chief: Paul E. Racette, DSc, editor@earthzine.org  
 Managing Editor: Maeve Hickok, MA, mhickok@earthzine.org  
 Associate Editor for Education: David F. Mullins, PhD, dmullins@sf.edu

Earthzine is chiefly staffed by volunteers.

Please join us!

Check out the Contributions page at <http://www.earthzine.org/contributecfp/>

## Schedule

Times: I: 0900-1200, II: 1240-1420, III: 1515-1700

	Wednesday		Thursday		
	I	II	I	II	III
(A) CERSER/IGARSS GPS Hands-On Training	X		X		
(B) CERSER/IGARSS Remote Sensing Art Workshop	X	X	X	X	X
(C) Mathematics of Remote Sensing Team Contest		X			X
(D) IGARSS Scavenger Hunt		X	X	X	X
(E) IGARSS and You Photo Shoot	X		X	X	X
(F) NOAA Seminars	X	X	X	X	X
(G) IGARSS Research Poster Session		X		X	
(H) Earthzine Membership Drive	X	X	X	X	X

IGARSS Local Organizers for Education:

South African: Andiswa Mlisa Umvoto, [ANDISWA@UMVOTO.COM](mailto:ANDISWA@UMVOTO.COM)

USA: Dr. Linda Hayden, [HAYDENL@MINDSPRING.COM](mailto:HAYDENL@MINDSPRING.COM)

### (E) IGARSS and You Photo Shoot

Have your photo taken and printed on the cover of the IGARSS Education Outreach program flier.

### (F) NOAA Seminars

Nina Jackson of the National Oceanic and Atmospheric Administration will conduct discussions and demonstrations of educational products for learners to help build understanding of the science of Earth's systems and the stewardship of our planet.

**Operational Environmental Satellites:** An overview of the NOAA operational environmental satellites, Geostationary Operational Environmental Satellites (GOES) and the Polar Orbiting Environmental Satellites (POES). After a short question and answer period, the students will play the "GOES POES Wild World of Weather Adventure Game" prepared by the Jet Propulsion Laboratory (JPL) under contract to NASA & NOAA.

**Bathymetry, Topography and You:** Discussion of the importance of satellite data and data measurement. After a short question and answer period, the students will punch out, fold flaps, and create an icosahedron globe generated and prepared by the NOAA National Geophysical Data Center.

**Operational Environmental Satellites:** An overview of the NOAA operational environmental satellite, Geostationary Operational Environmental Satellites (GOES). After a short question and answer period, the students will construct a mystery book of weather, space weather, and search and rescue prepared by the Jet Propulsion Laboratory (JPL) under contract to NASA & NOAA.

### (G) IGARSS Research Poster Session

Hundreds of research posters will be on display related to themes that have a strong link to the development of the African continent, as well as themes that have international relevance. Authors will be available at their posters for discussion of their research and to share their methods with the participants.

### (H) Earthzine Membership Drive

Earthzine will kick off its 2009 Student Essay Competition Sustainability through Earth Observation and Engineering. Representatives will distribute the essay competition information and help you to sign up for an Earthzine membership.



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FOSTERING EARTH OBSERVATION & GLOBAL AWARENESS