



## JCET's and GEST's Summer Programs at GSFC

The grounds of GSFC were buzzing again this past summer with the participants in JCET's and GEST's Summer Programs: the *JCET Student Summer Program*; the *Graduate Student Summer Program (GSSP)*; and the *Summer Institute in Earth Sciences*. For an intensive ten weeks, undergraduate and graduate students had the opportunity to work with mentors on research-driven projects.

The three undergraduate students of JCET's Student Summer Program worked with their respective mentors at NASA GSFC and had the opportunity to participate in many science- and career-related seminars, and attend UMBC's Summer Horizons event, which provides an introduction to graduate school. The JCET Student Summer Program culminated with the students' poster presentations at UMBC's Tenth Annual Undergraduate Research Fest; among the 50 interns participating in Research Fest, JCET's students were the sole representatives of research in the Earth Sciences.

Student/Affiliation	Mentor*	Poster Presentation
Piyali Kundu, University of Maryland	<i>Petya Campbell, 614.4</i>	Variation in the Bio-Physical and High Spectral Resolution Reflectance Properties associated with the Light Environment in a Mature Tulip Poplar Stand
Collin Lawrence, Texas A&M	<i>Ali Tokay, 613.1</i>	Raindrop Distribution: Inter-Storm Size Variability
Jennifer Rolling, UMBC	<i>Paolo de Matthaëis &amp; Daniel Jacob, both 614.2</i>	Ocean Response to Hurricane Ophelia

\*GEST & JCET Faculty, italicized

In GEST's Graduate Student Summer Program, seven participants were paired with mentors and conducted research, which they will incorporate into their theses at their home institutions. Each student gave a 20-minute-long presentation on the last day of the program. One of the highlights of the GSSP's Seminar Series was the half-day seminar, "Climate in the Extreme: Melting Ice and more Powerful Hurricanes?", which featured an intensive dialogue regarding the science of global warming. The seminar featured a 4-D presentation of data on the Science on a Sphere, given by Dr. Chris Shuman and Dr. Jeff Halverson.

Student/Affiliation	Mentor*	Oral Presentation/ Written Paper
Teddy Allen, East Carolina Univ.	<i>Guojun Gu, 613.1</i>	Jamaica's Mid-Summer Dry Spell
Amalia Anderson, Michigan Tech.	<i>Alexander Marshak, 613.2</i>	Using MODIS Observations to Study Cloud Glaciation Level
Ali Behrangi, University of California, Irvine	George Huffman, 613.1	Analyzing an Artificial Neural Network Clustering Approach for Precipitation: The Self Organizing Feature Map
Nicole Hastings, University of Wyoming	Gerald Heymsfield and <i>Lin Tian, both 613.1</i>	A Dimensional Case Study of Wind Profile Effects on a Florida Cirrus Anvil
Josh Hatzis, North Illinois Univ.	<i>Oreste Reale, 613.0</i>	Water Sources for the June 2008 Midwest Floods
David Peterson, University of Nebraska - Lincoln	Lorraine Remer and <i>Jun Wang, both 613.2</i>	The Inter-annual Variability of Biomass Burning in North America: MODIS Observation and Meteorological Impacts
Jessica Sagona, Rutgers University	Dorothy Koch (GISS) and Susanne Bauer	Effects of Aerosol Mixing State on Black Carbon Concentrations in GISS ModelE

\*GEST & JCET Faculty, italicized  
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GEST and JCET Summer Interns on NASA GSFC tour, (right)



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Finally, twelve undergraduate students participated in the Summer Institute in Earth Sciences. In the first week, mentors presented topics and students selected which topic they were interested in researching. At the conclusion of the program, they each gave oral presentations.

Student/Affiliation	Mentor*	Oral Presentation/Written Paper
Erin Balsamo, McDaniel College	Keith Ogilvie, 673.0	Neutral Atoms to Negative Ion Conversion and Detection
Jeff Ceratto, Valparaiso University	<i>Santiago Gasso, 613.2</i>	Case Studies of Patagonian Dust Transport to Antarctica
Aaron Ferrel, Texas A&M	<i>Ali Tokay, 613.1</i>	A Study of Comparison of Reflectivity Using WSR-88D and Disdrometers
Colene Haffke, Univ. of Michigan	<i>Thorsten Markus, 614.1</i>	Honey Bees, Satellites, and Climate Change
Christopher Hawkins, Univ. of Missouri	<i>Chris Shuman, 614.1</i>	Detecting Depolarization Ratios from Photon-Counting Lidar
Eric Holt, University of Missouri	Stephen Palm, 613.1	Cloud Cover Extent Statistics using both ICESat and CALIPSO Measurements
Aaron Johnson, Valparaiso University	<i>Santiago Gasso, 613.2</i>	Boreal Biomass Burning and Climate Change from MODIS Aerosol Optical Depth: Variability and Correlation to Climate Cycles
Vikram Kulkarni, Carnegie Mellon University	Keith Ogilvie, 673.0	Analysis of Solar Wind Velocity and Magnetic Field as Functions of Time and Space
Dana McGlone, Valparaiso University	Robert Meneghini, 614.6	Validation of the Rain Rate and Reflectivity Factor from the TRMM Precipitation Radar with Melbourne and Kwajalein Ground-Based Radars
Catalina Oaida, University of Michigan	<i>Thorsten Markus, 614.1</i>	Assessment of the atmospheric contribution in laser altimeter sea ice thickness retrieval
Christine Standohar, Valparaiso Univ.	<i>Paolo de Matthaeis, 614.6</i>	Hurricane Intensity and Ocean Vertical Structure
Justin Wegwerth, St. Cloud University	<i>Ben Johnson, 614.6</i>	An Investigation of the Microwave Extinction and Scattering Properties of Realistic Frozen Hydrometeors

\*GEST & JCET Faculty and Fellow, italicized

Details and dates for the 2009 Summer Programs can be found on the JCET and GEST websites.

## Congratulations

Dr. David Tobin and Dr. Ilan Koren both received a prestigious Young Scientist Award this past August at the International Radiation Symposium in Iguassu Falls, Brazil. These awards are presented every four years to young scientists who are regarded as becoming leaders in radiation research. Dr. Tobin, a former Ph.D. student of Dr. Larrabee Strow, now with the University of Wisconsin, received the award for his work in the advances in the measurement and semi-empirical representation of the water vapor continuum absorption. Dr. Koren (*pictured, right*), who has been with JCET/UMBC since 2002, received the award in honor of his contributions to understanding the interactions between atmospheric aerosols, clouds and radiation.



## Arrivals and Departures

Since our last newsletter, JCET has welcomed some new members to its team. **Dr. Tianle Yuan** joined JCET in September 2008 as a Research Associate and is working with Dr. Vanderlei Martins conducting research on the effects of aerosols on clouds. Working out of his office at Sigma Space, **Aboubakar Traore** recently joined JCET as an Optical Engineer and will be working with Dr. Hoff and the Atmospheric Lidar Group. **Paul Schou**, a former graduate student in UMBC's Physics Department, has also joined JCET as a Faculty Research Assistant, providing IT support to Dr. Larrabee Strow and his team.

JCET also wished a couple of its esteemed colleagues the best of luck in their new adventures. After a trip to Iceland with Dr. Arlin Krueger last summer, **Dr. Simon Carn** left UMBC for Michigan Technological University, where he is an Assistant

Professor with the Department of Geological and Mining Engineering and Sciences.

In December 2008, after eleven distinguished years with JCET, **Dr. Lazaros Oreopolous** became a Physical Research Scientist with NASA GSFC. He joined JCET as a member of the Landsat Clear Sky and Cloud Research team, led the JCET Radiation Focus Group for three years, taught a graduate atmospheric radiative transfer course, and held the position of Research Associate Professor.

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