



## Dr. Forrest G. Hall, 2009 William T. Pecora Award Recipient

In 1963, a recent engineering graduate from the University of Texas, Austin was hired by the Johnson Space Center in Houston to work with a design group, designing such things as docking mechanisms for the Gemini and Apollo missions and landing gear for the Lunar Excursion Module that landed astronauts safely on the lunar surface. A realization of a love for physics led him to the University of Houston where he received his Master's and Ph.D. in physics. He returned to NASA, analyzing data from scientific experiments placed on the Lunar Surface by the Apollo astronauts, and, when NASA's moon program ended in the late 1960s, this Texan scientist, **Dr. Forrest G. Hall**, continued to work on the design of a brand-new concept within NASA: remote sensing. He worked on the SkyLab program, putting remote sensing instruments aboard an S-IVB booster, once used to send Apollo missions into space. In the mid-1970s, Dr. Hall was named Project Scientist on a new NASA remote sensing project, the Large Area Crop Inventory Experiment (LACIE), to estimate Soviet wheat production from space. This was designed and implemented following a disastrous failure of the Soviet wheat crop in 1972. They created a successful monitoring system using Landsat data. After LACIE, he joined GSFC in 1985 and continued his remote sensing work, using it to aid in the study of the Earth's climate and the effects humans are having on it. Dr. Hall also has held key roles in programs such as AgriSTARS, ISLSCP and associated field campaigns such as FIFE and BOREAS. His work has led to a better understanding of North America's carbon, water, and energy cycles.

At the AGU meeting in December 2009, Dr. Forrest Hall became the 50th awardee to be presented with the William T. Pecora Award. Dr. Michael Freilich, Director, NASA Earth Science Division, and Dr. Marcia McNutt, Director, USGS were on hand to make the presentation to Dr. Hall (*center, image at right*). This award is presented "for exceptional contributions to remote sensing of terrestrial ecosystems" and its accompanying citation refers to the awardee's accomplishments "for bringing physics and quantitative methods to satellite remote sensing." According to Dr. Hall, "I always admired the 49 awardees who came before me. It's really great to realize how much your colleagues value your work." Just as Dr. Hall has come a long way, his award is about to make quite a journey of its own. In May 2010, Hall and his family will attend the launch of the Space Shuttle Atlantis. The colleague with whom Hall worked hand in hand over the past 23 years to accomplish much of what he was recognized for in the Pecora award, Dr. Pier Sellers, will fly on the Atlantis to the ISS where he will carry the award aboard the ISS and it will orbit the Earth for 12 days. Says Hall, "It will whiz around the earth at zero-G at 17,000 miles per hour and approximately 11,000 miles each orbit. So it will be well-travelled by the time it returns to sit in my office."



*Image courtesy of Dr. Forrest Hall*

When asked about the contributions of NASA and JCET's Hydrospheric/Biospheric Branch, Hall states that what stands out in his mind is the interdisciplinary nature of the group and the many useful products resulting from the group's efforts. "NASA and JCET employ a broad range of interdisciplinary scientists, meteorologists, physicists, biologists, geographers, ecologists, oceanographers, mathematicians, computer scientists, just to name a few. We work in a closely integrated fashion, designing, implementing, and utilizing many different kinds of satellites, to produce and share with the world's scientists a variety of global and regional data sets documenting the Earth's changes. Data is also used to incorporate our best understanding of how the Earth's climate system works, how we humans are affecting it and how our planet may change in the future."

Outside of his work at GSFC, Dr. Hall also participates in HoLLiE, the Howard County Legacy Leadership Institute for the Environment. Hall and several NASA colleagues deliver a series of lectures on climate change and what can be done about it. Hall has presented work that NASA is doing to better understand the global carbon cycle and its impact on climate. He tries to help the attendees "understand the basics of human impacts on climate change, the seriousness of the problem, and the urgency to implement the many options each of us has to reduce those impacts, including conservation in our homes, in our transportation choices, and lobbying our county, state, and local politicians to implement the larger scale solutions available."

Congratulations, Dr. Hall, on your lifelong and ongoing achievements.

## Native Peoples Climate Change Workshop

In November 2009, JCET's Student Programs coordinator **Valerie Casasanto** attended the Native Peoples Native Homelands Climate Change Workshop II in Prior Lake, Minnesota. Co-chaired by Dr. Dan Wildcat of Haskell Indian Nations University and Winona LaDuke of Honor the Earth, the workshop, held at the Mystic Lake Casino Hotel on the homelands of the Shakopee Mdewakanton Sioux Community, was titled "An Indigenous Response to the Challenge". This gathering was the second Climate Change Workshop and occurred just a few weeks before world leaders met in Copenhagen to discuss climate change. The workshop was sponsored by NASA's Tribal College and University Program, and included nearly 400 Native leaders, scholars, elders and Tribal college students from across the country. Scientists from NASA and the National Oceanic and Atmospheric Administration (NOAA) also joined them to formulate a collective response to the far-reaching impacts of climate change on Native lands and communities. Specific topics of discussion focused on "clean energy, housing, water, traditional plants and medicine, sacred lands and sites, natural resources, subsistence economies, local and indigenous foods, and practical means to create resilience, health and a positive future for generations to come".

Her experiences at this workshop had a profound effect on Ms. Casasanto: "Not only did I learn about how global warming is affecting native peoples, I also had a wake-up call to lessen my own impact on the Earth in every way I can, from my consumption patterns to my work habits to my home and neighborhood communities."

A poster presentation was held by the Tribal College and University students, several of whom presented Earth science-related projects such as the impact of climate change on water in tribal lands. Said Ms. Casasanto, "I was surprised and delighted by the many efforts occurring in tribal communities in renewable energy, such as adobe and straw bale construction and solar and wind power."

As a result of this meeting, the *Mystic Lake Declaration* was produced and delivered in Copenhagen for presentation at the U.N. COP15 meeting. For more information, and to read the Declaration, please visit <http://www.nativepeoplesnativehomelands.org/>.



Image courtesy of the NPNH website

## Staffing News

JCET welcomes Staffing Specialist **Jo Ann Maxim**, who is assuming the duties associated with both faculty and staff hires. Presently she is working at the Research Park office, but will eventually split her time between UMBC and GSFC. Jo Ann comes to us from University of Maryland, College Park where she was Manager of HR and Payroll for Civil and Environmental Engineering.

**Dr. Nathan Kurtz** has joined JCET as a Research Associate in the Hydrospheric & Biospheric Research Group. He defended his Ph.D. thesis at UMBC in November 2009, and has worked with Dr. Thorsten Markus and Dr. Lynn Sparling.

**Ernest Hilsenrath**, Professor of the Practice, retired from JCET in December 2009. His many contributions and his tireless dedication earned him an amazing amount of airline miles and the never-ending appreciation of JCET.

*JCET remembers  
Dr. W. Wallace McMillan.*

1963 - 2010

JCET/UMBC  
5523 Research Park Drive, Suite 320  
Baltimore, MD 21228  
410-455-6362

[jcet.umbc.edu](http://jcet.umbc.edu)