

Eastern North Carolina Chapter Salutes Distinguished Lecturers Sonia Gallegos, Richard Moore and Sivaprasad Gogineni

See also <http://nia.ecsu.edu/ieee/index.html>

The first meeting of IEEE-GRSS Eastern North Carolina Chapter #03191 was held on 13 November 2003 in the Center of Excellence for Remote Sensing Education and Research (CERSER) facility on the campus of Elizabeth City State University. The chapter sponsors distinguished lectures, seminars and workshops related to remote sensing. CERSER also serves as the home of GRSS student branch #66221.

Dr. Sonia Gallegos was the first scientist to participate in the distinguished lecture series. She spoke on "Optical Models Developed for the Yellow Sea Between the Coasts of China and the Korean Peninsula." Dr. Gallegos continued her work with Dr. Malcolm LeCompte and members of the Eastern North Carolina student chapter through a pilot study undertaken to determine the spatial and temporal variability of chlorophyll concentrations in the northwestern Gulf of Mexico. The chlorophyll parameter was obtained from daily Level-3 estimations of Sea-Viewing Wide-Field-of-view Sensor (SeaWiFS) data computed by the Naval Research Laboratory. An empirical eigenfunction (EOF) analysis was performed on the data using the Karhunen-Loeve (KL) algorithm. Ten empirical eigenfunctions, temporal coefficients, and variance spectrum were computed. This analysis revealed that 15% of the variance around the mean is accounted for by the first empirical eigenfunction, which is identified with chlorophyll fluctuations around the Mississippi Delta, Lakes Pontchartrain and Borgne, the Mississippi Sound, and the Mobile, Pensacola, and Choctawhatchee Bays. The eigenfunc-

tion analysis shows that the chlorophyll in near-shore water is changing more rapidly than the rest of the shelf waters. The study was presented during IGARSS 2005 in Seoul Korea.

Drs. David Goodenough, Robert Bindschadler, Ken Jezek, Geoffrey Fox, Keith Raney, Malcolm LeCompte, Scott Hensley, and Sivaprasad Gogineni are among those who have been a part of the Eastern North Carolina Chapter distinguished lecture series.

We continued our IEEE-GRSS Distinguished Lecture Series by welcoming Dr. Richard Moore, Professor Emeritus of Computer and Electrical Engineering at the University of Kansas (now deceased).

Dr. Moore's talk centered around the developments that took place in remote sensing both in the United States and other countries. He is credited with many of the terms used today in remote sensing. The Distinguished Lecture was webcast to all



Digital Object Identifier 10.1109/MGRS.2014.2348171
Date of publication: 17 October 2014



our partners in the NSF Center for Remote Sensing of Ice Sheets (CReSIS), and the Association of Computer/Information Sciences and Engineering Departments at Minority Institutions (ADMI).

Dr. Moore was a pioneer in the field of microwave-based satellite remote sensing and was a prolific inventor of new remote-sensing devices that helped to revolutionize mapping and monitoring of the Earth's surface. He was also a major contributor to understanding how microwave signals vary with surface characteristics. His research had significant impact in the field of remote sensing.

During Dr. Moore's talk, he noted that Microwave remote sensing became prominent with World War II military radars (active sensors) and Radio telescopes (passive sensors). These sensors were initially carried on aircraft until 1968, when they were also carried on spacecraft.

The first Ground Penetrating Radars (GPRs) were used to study the depth of polar ice caps in Greenland and Ant-



arctica. In 1947, a plane crashed in Greenland because its altimeter (400 MHz) showed distance to the bottom of the ice instead of the surface. This led to developing special VHF radars to probe the ice caps. At Kansas (1986) Dr. Moore initiated design of a coherent radar (at 150 MHz) to get more sensitivity and better depth resolution. He also played a significant role in the development of Seasat-A, the first earth-orbiting satellite designed to monitor the global surface wave field and polar sea ice conditions.

Although the initial 150 MHz effort was unsuccessful, Dr. Sivaprasad Gogineni, using NASA funding, and with the help of graduate and undergraduate students, rebuilt the 150-MHz radar into a successful instrument for probing the Greenland ice cap. Under the direction of Dr. Gogineni, a CReSIS article, titled *UAS-Based Radar Sounding of the Polar Ice Sheets* is featured on the cover of the March 2014 IEEE Geoscience and Remote Sensing Magazine. Also the work of CERSIS in the Antarctic was documented in the paper titled *Temporal Reduction and Loss of an Ice Shelf in Pine Island Bay, Antarctica: 1972–2003* in the June 2013 issue of the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing. As a result of this study, the bay, which was progressively exposed over the 30 year period during which, the occupying ice shelf slowly retreated, was named by the US-Advisory Committee on Antarctic Names (ACAN) Board of Geographic Names (BGN) for Elizabeth City State University and was entered into the Geographic Names Information System (GNIS), the nation's official geographic names repository.

The GRSS Distinguished Lecture Series has been a major part of the chapter programming and has served to stimulate the remote sensing research efforts of faculty, graduate and undergraduate student chapter members at ECSU. Dr. Linda Bailey Hayden is president of chapter #03191.