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A student-centered program led by North Carolina A&T State University

NOAA - ISET PARTNERSHIP MEMBERS

ACADEMIC PARTNERS

North Carolina A&T State University (Lead) – Dr. Solomon Bililign

North Carolina A&T State University

Fisk University – Dr. John Caulfield

University of Alaska, Fairbanks – Dr. Matt Heavner

City University of New York – Dr. Samir Ahmed

California State University at Fresno – Dr. Frederika J. M. Harmsen

North Carolina State University – Dr. Fred Semazzi

University of Minnesota – Dr. Michael Steinbach

This Center is a National Oceanic and Atmospheric Administration Research Facility funded through a cooperative agreement from the NOAA Educational Partnership Program.
MISSION STATEMENT

To train students in NOAA scientific areas and develop technology and analysis techniques for improved understanding of climate and environmental change.

RESEARCH THRUST AREAS

I. Sensor Science and Technology: Basic Research, Sensor Technology Development

Important aspects of the chemistry of the atmosphere take place at very small concentration scales, involve complex reaction mechanisms, and have temporal and spatial variations. This group conducts research with the aim of developing sensing strategies, sensor technologies, and sensor packages that fill some of the existing data gaps in observation systems.

II. Global Observing Systems: Numerical and Physical Research

Research include: (i) analysis of global observing systems data to refine hurricane development phases, (ii) derive climate indices for predicting climate variation and events, (iii) numerical simulation of African easterly waves and mesoscale convective systems, and their impacts on hurricane formation, (iv) investigation of the effects of aerosol, sea surface temperature, and air-sea interaction on climate and hurricane formation and intensification, (v) modeling landfalling hurricanes.

III. Data Mining, Fusion, and Distributed Architecture

Analyzing, correlating, and interpreting large volumes of data from extensive networks of heterogeneous sensors presents a challenge for state-of-the-art data fusion. Also, traditional data-mining techniques are challenged by the complex, dynamic relationships to be discovered in large volumes of climate data (including image data). This group is involved in non-traditional architectures, such as grids, which make vast data and computational resources transparently available to users, and multiagent systems, which use flexible problem-solving protocols to allow persistent computational entities to collaborate.

FEATURES OF THE COOPERATIVE SCIENCE CENTER (CSC)

• Strong emphasis on effective mentoring, especially for minority students and Ph.D. students
• Field study opportunities
• Undergraduate research experiences during the academic year and summer
• Energy and Environmental Ph.D. program www.ees.ncat.edu
• Internships at NOAA’s Earth System Research Lab and with other government and industrial partners
• K-12 Teacher Workshops
• K-12 Summer Camps

STUDENT CAREER DEVELOPMENT OPPORTUNITIES

• ISET Cooperative Science Center (CSC) serves as a gateway for job opportunities at NOAA and NOAA-ISET’s industrial and governmental partners
• Paid summer internships with NOAA labs across the nation
• ISET/CSC students have professional development opportunities such as conferences, seminars, NOAA lab visits, and mentoring

FINANCIAL SUPPORT CRITERIA

• Must be a U.S. Citizen
• Science and engineering students with a GPA of 3.0 and above
• Enrolled or planning to enroll in any of the academic partners
• Interest in or knowledge of research thrust areas

FINANCIAL SUPPORT PACKAGES

• Undergraduate Students: $2,000–$10,000
• Graduate Students: $18,000–$30,000
• Summer Internships: $2,500–$3,500