CAIT was established in December 1999 to conduct advanced computer modeling & simulation and apply modern remote sensing & spatial technologies for enhancing infrastructure asset management and sustainable development with emphasis on surface transportation, aviation, energy & community.

10th Anniversary Celebration, Accomplishments, and Milestones

Dr. Uddin, in collaboration with the University Foundation assistant vice chancellor, received $4.6 million geospatial software university wide gift from IAVO with initial implementation in Transportation Modeling & Visualization Laboratory (from University of Mississippi Newsdesk story, 28 August 2009).

CAIT celebrating its 10 year anniversary in December 2009; attracted over $7 million grants

- One 5-year competitive grant from USDOT in collaboration with the Mississippi State University Consortium (air quality and environment study)
- Two congressional grants on transportation projects (Asphalt, City of Oxford ITS project)
- Three competitive grants from USDOT and Mississippi DOT (highway research projects)

CAIT /Dr. Uddin developed new areas of expertise through research projects

- Geospatial visualization of transport infrastructure and built environment
- Highway & airport safety and efficiency
- Infrastructure asset management, ITS
- Nondestructive evaluation technologies
- Sustainability & air quality in cities & urban areas
- Global warming and energy issues related to transportation and development
- Imagery-based disaster impact assessment
- Computer modeling and simulation

CAIT /Dr. Uddin’s research project funding support to graduate and UG students

- Graduate students from USA and 10 other countries received funding support from CAIT
- 7 PhD students (3 completed and one in progress)
- 25 MS students (15 completed)
- Over 50 UG students received funding support
- In-kind and research advise support to visiting scholars and students from Alcorn (Mississippi), UK, Italy, Azerbaijan, Armenia, Turkey, Pakistan
CAIT Director: Professor Waheed Uddin  
1-662-915-5363  cvuddin@olemiss.edu

**CAIT /Dr. Uddin’s international collaboration**

- International collaboration with NED University, Karachi, Pakistan (3-year USAID grant to improve urban transportation and traffic in Pakistan)
- International Journal of Pavements (Dr. Uddin has been the Chief Editor since 2002)
- International Society of Maintenance and Rehabilitation of Transport Infrastructures (iSMARTi), established in Portugal, 2004 (Dr. Uddin was the Founder President, 2004-2007)
- International collaborative agreement of University of Mississippi and Mackenzie University, Sao Paulo, Brazil, 2006
- Second International MAIREPAVE conference, 2001 (organized by CAIT in collaboration with Auburn University and Mackenzie University)
- Cooperated in over 10 international conferences and workshops (Mexico, Brazil, UK, Portugal, Italy, Greece, China, Australia, Brunei, Pakistan)

- **Transportation Safety Analysis**
  - Vehicle crash simulations, 3-D modeling of airport obstruction space & approach surface

- **Remote Sensing for Environmental Studies and Disaster Impact Assessment**
  - 2000-2004 Transportation related air quality analysis project sponsored by U.S. DOT / Mississippi State University
  - 2007-2008 New Orleans DELTA project sponsored by Canadian Space Agency-NASA-USGS with additional imagery data from Digital Globe and GeoEye

- **Remote Sensing and Geospatial Technologies for Corridor Assessment, Landuse Mapping, and Urban Planning**
  - Extraction of surface type and traffic counts and landuse mapping from high resolution satellite imagery; 2007-2010 Pakistan-USAID transportation project

- **ITS Technologies, Traffic Management**
  - 2001 Assistance to City of Oxford for high accuracy GPS markers and terrain mapping/GIS workplan related to the $1.5 million ITS project, Mississippi
  - 2007-2010 Pakistan-USAID ITS-based traffic management project, Karachi, $94,000
  - 2008-2010 Mississippi DOT- Performance evaluation of roundabouts in Oxford, $70,590

- **Infrastructure Assets – Preservation, improvement, safety, and security needs**
  - **Airport, Highway, and Bridge Assets**
    - 1999-2007 Sponsors: Mississippi DOT, USDOT Federal Highway Administration, iBSi
  - Pavement evaluation by falling weight deflectometer (FWD)

- **Material Characterization and Modeling**
  - In situ nondestructive evaluation (NDE) for structural and material characterization
  - Waste tire rubber, coal tar, coal flyash, and cement byproducts in asphalt highway pavements

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**ASPHALT LABORATORY TEST FACILITIES**

- Asphalt Superpave Binder Test Equipment
- Asphalt Mixing and Dynamic Test Equipment
- Fumehood and Test Accessories