



Center for Integration
of Composites into
Infrastructure

Industrial Advisory Board (IAB) Meeting

February 1, 2011

Sheraton Fort Lauderdale Beach Hotel

Self Introductions by Attendees



UM – GFRP Wrapped Columns



WVU – Pavement Panels

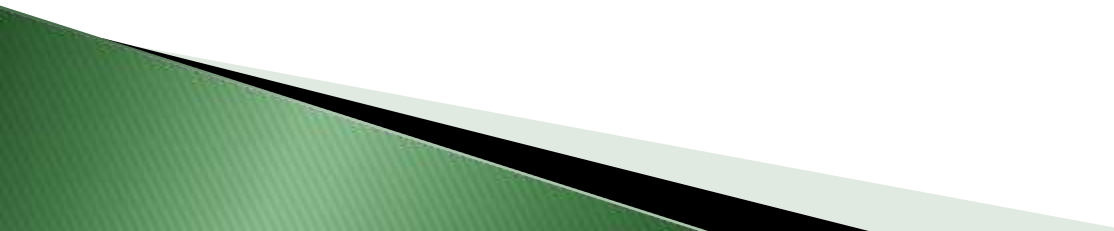


RU – Self Cleaning Composites



NCSU – Shallow Floor Framing System

Organizational Overview

- ▶ Lead: West Virginia University
 - Dr. Hota GangaRao: Center Director
 - Dr. Udaya Halabe: Site Director
 - ▶ Rutgers University
 - Dr. P. Balaguru: Site Director
 - ▶ North Carolina State University
 - Dr. Sami Rizkalla: Site Director
 - ▶ University of Miami
 - Dr. Antonio Nanni: Site Director
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Organizational Overview

- ▶ National Science Foundation
 - Dr. Rathindra (Babu) DasGupta: I/UCRC Program Director
 - Dr. Alex Schwarzkopf: Consultant

- ▶ CICI Evaluator
 - Dr. Denis Gray: North Carolina State University

CICI Mission

- ▶ To accelerate the adoption of polymer composites and innovated construction materials into infrastructure and transportation applications through collaborative research.

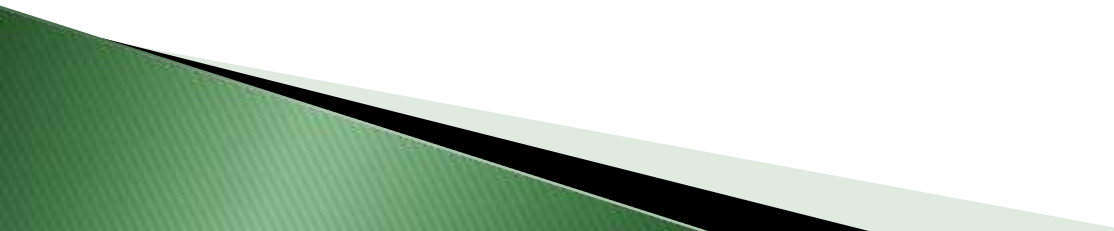
Status of the Center

- ▶ Center is halfway through the second year of operation
- ▶ WVU and RU's application for "NSF Fundamental Research Project" on the Aging of Composites has been deferred for funding by NSF
- ▶ CICI has a booth at the ACMA Composites 2011 Convention and will be giving a presentation on Friday
- ▶ NSF is going to allow universities to count state and local government agencies if they meet the following conditions:
 - The agency cannot legally sign the membership agreement
 - Agency sends a letter agreeing to follow the agreement rules and by-laws
 - University accepts the agency as a member
 - Federal agencies can join through inter-agency transfer

Center Impacts

Site	Under - graduates	Graduate Students	Degrees	Papers	Presentations
West Virginia University	0	4	1	2	5
Rutgers University	3	1	1	0	0
North Carolina State University	0	7	3	2	2
University of Miami	2	5	2	1	2

Status of the Center

- ▶ University of North Dakota and North Dakota State University are actively looking into joining CICI due to their work in bio-polymers
 - ▶ Dr. Wayne Seames of UND will give a brief presentation on their interests and research activities
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Status of the Center – WVU

▶ Industry Partners

- Lockheed Martin – Full
- Bedford Reinforced Plastics – Associate
- Fiber-Tech Industries – Associate
- Foster Supply – Associate
- FriiPwr USA Ltd – Pending Associate
- SPX – Pending Associate
- Booth Energy – Pending Associate

▶ Projects:

- Resin Design for Fire Safety Requirements
- Strength and Fatigue Life Prediction
- Aging-Durability Testing and Analysis of Composite
- Nondestructive Evaluation of FRP Composites Using Infrared Thermography (IRT)
- Design, Manufacture and Implementation of Structural Panels

Status of the Center – RU

▶ Industry Partners

- Baltek
- Rutgers University Facilities Department
- Slag Cement Association

▶ Projects:

- Evaluation of Retrofitted RC Beams at High Temperatures
- Composite Guard Rail System
- Protective Multi-Purpose Coatings

Status of the Center – NCSU

▶ Industry Partners

- AltusGroup, Inc., – Full
- Freyssinet, Inc., – Full
- Fyfe Company, LLC, – Full
- Grancrete, Inc. – Full
- Martin Marietta Composites – Full
- Nippon Steel Materials Co., Ltd. – Full

▶ Projects:

- Rapid FRP Repair of Damaged Reinforced Concrete Columns
- 3-D FRP Sandwich Panels with Corrugated Sheets for Bridge Decks
- Innovative Bonding and Fibers for Strengthening Concrete Structures
- Innovative FRP Shear Transfer Mechanism for Precast Prestressed Concrete Sandwich Panels
- FRP Anchorage Systems for Strengthening Infill Masonry Structures

Status of the Center – UM

- ▶ Industry Partners
 - Strongwell - Full
 - Structural Preservation Systems - Full
 - Composite Rebar Technologies, Inc. - Full
- ▶ Projects:
 - Durability Study of RC Seawalls Constructed with GFRP I-Bars and SIP Panels
 - Guide for Design and Use of Flexible Carbon Grid Reinforcement for the Repair
 - Large-Diameter Composite Hollow Rebars
 - External Confinement of RC Columns by means of GFRP laminates
 - ICE Methodology for FRP Characterization
 - Safety Analysis of Composite Materials for Existing and New Construction

Review of Agenda

- ▶ NSF Presentation by Alex Schwarzkopf
 - ▶ Project Presentations
 - Presentations will be short, but more information is given in the summary sheets
 - Please complete a LIFE form after each presentation
 - ▶ Feedback Questionnaire Evaluation – Denis Gray
 - ▶ Industry Workshop
 - Review LIFE forms
 - Discuss Member Company Needs and Future Projects
 - Closed Door IAB Meeting
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