CISIA
THE CENTER FOR INNOVATIONS IN STRUCTURAL INTEGRITY ASSURANCE

LSU

Structural Integrity Industry Workshop | August 14-15th, 2019 | LSU Foundation Building

Moderator: Greg Trahan, Director of Economic Development, LSU

DAY 1: Wednesday August 14 | 7:30 am – 5 pm

7:30 am — **Participant Registration | Breakfast | Transportation from Lod Cook Hotel**

8:00 - 8:15 am — **Welcome to Campus!**
Dr. Stacia Haynie, Executive Vice President and Provost, LSU
Dr. Ramu Ramachandran, Vice Present for Research, Louisiana Tech
Mr. Greg Trahan, Director of Economic Development, LSU

8:15 - 8:45 am — **Introduction: The Center for Innovations in Structural Integrity Assurance (CISIA)**
Dr. Michael Khonsari, Center and LSU Site Director
Dr. John C. Matthews, Louisiana Tech Site Director

8:45 - 9:45 am — **The Industry/University Cooperative Research Center (IUCRC) Program**
Dr. Prakash Balan, IUCRC Program Director, National Science Foundation
Dr. Tayo Fabusuyi, IUCRC Evaluator, National Science Foundation

9:45 - 10:00 am — **BREAK**

10:00 - 10:15 am — **Perspectives**
Structural Integrity: Challenges and Opportunities
Mr. Tom McGaughy, Sr. Technical Advisor on Structural Integrity, EWI

10:15 - 12:15 pm — **CISIA Project Overview – Part 1 (5 projects)**
For each project: Presentation - 10 min | Discussion – 10 min | Evaluation – 4 min

Focal Area: Testing

- **Project 1:** Mechanical Performance of Nanostructured Hard Turning Layers in Mechanical Components [*PIs: W.J. Meng and S. Shao (LSU)*]
- **Project 2:** Remaining Useful Lifetime Prediction of Components and Accelerated Testing [*PIs: M. Khonsari, S. Shao, S. Guo, J. Chen (LSU); A. Jaganathan (LATech)*]

Focal Area: Sensing

- **Project 3:** Ruggedized Structural Integrity/Environmental Sensors for High Temperature Environments [*PIs: A. Moore (LATech) and J. Chen (LSU)*]
- **Project 4:** Remote Wireless Sensing Networks for Ubiquitous Structural Integrity Monitoring [*PIs: A. Moore, B. Drozdenko (LATech); J. Chen (LSU)*]
- **Project 5:** Using IoT to Develop Secure, Reliable Wireless Sensing Networks (WSNs) for Infrastructural Monitoring [*PIs: A. Moore and B. Drozdenko (LATech)*]

12:15 - 1:15 pm — **LUNCH**

1:15 - 3:15 pm **CISIA Project Overview – Part 2 (5 projects)**

For each project: Presentation - 10 min | Discussion – 10 min | Evaluation – 4 min

Focal Area: Analysis and Prediction

- **Project 6:** Materials design for 3D metal printing applications [*PIs: S. Shao, W.J. Meng, S. Guo, M. Khonsari, J. Chen (LSU); C. Wick, R. Ramachandran (LATech)*]
- **Project 7:** Advancement of Friction Stir-Welding-Additive Manufacturing (FSW-AM)
- [*PIs: S. Shao, M. Wahab, T. Liao, A. Okeil, S. Guo, J. Chen, D. Mallow (LSU)*]
- **Project 8:** Reliable Rehabilitation of Pressure Pipeline Structural Integrity [*PIs: J. Matthews and S. Alam (LATech)*]

Focal Area: Inspection

- **Project 9:** Tentacle-like Robotic System for Corrosion Detection [*PIs: H. Gilbert and J. Chen (LSU)*]
- **Project 10:** Hi-res Elastic Wave-Based Tomography Tool for Inverse Reconstruction of Material Properties in Concrete [*PI: A. Jaganathan (LATech)*]

3:15 - 3:30 pm **BREAK**

3:30 - 4:45 pm **Industry Feedback Session**

Discussion of projects, questions, company needs, and potential center initiatives

4:45 - 5:00 pm **Close of Day 1/Review**

5:00 pm **Casual Reception | Transportation to Lod Cook Hotel**

DAY 2: Thursday August 15 | 7:30 am – 12:00 pm

7:30 – 8:00 am **Arrival and Breakfast | Transportation from Lod Cook Hotel**

8:00 – 9:30 am **Project Discussion: Level of Interest and Feedback Evaluation (LIFE) Review**

Dr. Tayo Fabusuyi, NSF Evaluator

9:30 – 10:15 am **CISIA Response and Discussion: Industry Workshop & LIFE/Project Feedback**

Dr. Michael Khonsari, Center and LSU Site Director
Dr. John C. Matthews, Louisiana Tech Site Director

10:15 – 10:30 am **BREAK**

10:30 – 11:15 am **Closed Session: NSF + Industry (No university personnel present)**

Industry members and NSF personnel discuss center membership and effort

11:15 - 11:45 am **Next Steps, Action Items & Closing Remarks**

11:45 am **ADJOURN | Transportation to Lod Cook Hotel**

12:00 pm **LUNCH (*Optional*)**

1:00 pm **Tour of LSU Engineering, Research, and Analysis Facilities (*Optional*)**

- Shared Instrumentation Facility (SIF)
- Center for Rotating Machinery (CeRoM)
- Advanced Manufacturing and Machining Facility (AMMF)