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**ASME Nondestructive Evaluation & Prognostics Division (NDPD) events at IMECE 2023**

**New Orleans Ernest N. Morial Convention Center, New Orleans, LA, USA.**

**Plenary Talk**

**Title:** Persistent Engineer Intelligence

**Presenter:** Dr. Mihan H. McKenna Taylor, U.S. Army Engineer Research and Development Center (ERDC)

**Abstract:** Engineer Intelligence is engineering information which has been evaluated as to its accuracy and reliability and accepted as fact, related to specific activities, and used to plan operations or construction activities. Though generally understood to be discrete analyses tied to a specific time and place, in reality, the status of the physical environment is under constant flux to due to human activity and the effects of weather and other natural disasters. Engineer Intelligence Systems become the combination of environmental data sets, analyzed information, assessments, planning tools, and programs, all of which is used to support the breadth of engineer operations. This presentation will explain the history of the Army Engineer, the concept of Persistent Engineer Intelligence, analogues between civilian and military roles, and the critical role that Big Data will play in all future engineer tasks.

**Schedule:** Wednesday Nov 1, 2023;  9:45AM – 10:30AM.

**Location:** Room 273, Convention Center

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**Panel Discussion**

**Title: Frontiers of Manufacturing: In-Process Nondestructive Evaluation.**

**Panelists:**

* Sourav Banerjee, University of South Carolina
* Jian Cao, Northwestern University
* Christian Gobert, Sentient Science Corporation
* Roman Maev, University of Windsor & Tessonics Group
* Megan McGovern, General Motors R&D
* Yan Wang, Georgia Institute of Technology

**Description:** This panel aims to explore the prospects of in-process nondestructive evaluation (NDE) during next generation manufacturing of structural components. Panelists comprising leading experts in manufacturing and NDE from academia and industry will discuss recent advances in the field and how continuous monitoring of emerging complex manufacturing processes can transform the industry and accelerate adoption of new rapid, additive, and high-rate processes for demanding structural applications. Challenges, opportunities, and needs will be covered from research and workforce development prospectives. Value proposition for the use of in-process NDE will be presented. Possible contribution of real-time NDE to future smart digital manufacturing and Industry 4.0/5.0 will be discussed. Join us to learn about relevant emerging technologies elucidated via engaging discussion.

**Schedule:** Wednesday, November 1, 2023; 2:00PM – 4:00PM | Additional discussion: 4:00PM – 6:00PM
**Location:** Room 388, Convention Center

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**Technical Sessions**

**Wednesday, Nov 1**

* 2PM – 4PM, **7-20** Dynamics, Vibration, and Control for Structural Health Monitoring Applications (Session Chairs: Yanfeng Shen & Peter Zhu)
* 4PM – 6PM, **1-16-01** Ultrasonic waves for material characterization and damage assessment (Session Chairs: Andrei Zagrai & Jiaze He)

**Thursday, Nov 2**

* 10:15AM–12:00PM, **12-11** Fatigue and fracture evaluation and quantification for failure analysis (Session Chairs: Yuris Dzenis & Portia Banerjee)
* 2 PM – 3:35 PM, 1**-16-02** Ultrasonic waves for material characterization and damage assessment (Session Chairs: Andrei Zagrai & Yanfeng Shen)
* 2 PM – 3:35 PM,**1-17-01** Computational nondestructive evaluation and structural health monitoring (Session Chairs: Jiaze He & Portia Banerjee)
* 4 PM - 5:45 PM**, 1-17-02** Computational nondestructive evaluation and structural health monitoring (Session Chairs: Peter Zhu & Yanfeng Shen)
* 4PM – 5:45PM, **3-2-02** Measurement Science, Sensors, NDE and Process Control for Advanced Manufacturing (Session Chair: Hossein Taheri)

**CSNS Student Poster Competition**

**Poster organizers/ judges:** Andrea Arguelles, Jiaze He, Yanfeng Shen, Portia Banerjee, Peter Zhu.

**Schedule:** Wed, Nov 1, 12 PM- 2 PM

**Location:** Exhibit Hall G, Convention Center.

**NDPD Executive Committee Meeting and Dinner**

**Schedule:** Wed, Nov 1, 6PM – 8PM.

**Location:** Room 393, Convention Center.