



IEEE Workshop (Virtual): **Reliable and Resilient Digital Manufacturing**

September 16 Agenda (All times are US Eastern Times)

- 10:00 AM** **Welcome - Nikhil Gupta (New York University)**
Manufacturing Security - The Necessity, Needs and Trends
- 10:30 AM** **Keynote - Andrew Wells (National Science Foundation)**
NSF Support for Reliable and Resilient Digital Manufacturing
- 11:30 AM** **Shuran Song (Columbia University)**
Adaptable and Scalable Robot Teleoperation for Human-in-the-Loop Assembly
- 12:00 AM** **Don Jones (Carlisle & Co.)**
Balancing 3D Printing Opportunities and Security for Aftermarket Parts
- 12:30 AM** **Break**
- 1:00 PM** **Danny Huang (New York University)**
Toward Characterizing Behaviors of Open-source Contributors for Manufacturing Software to Identify Security Risks
- 1:30 PM** **Mohammad Al-Faruque (University of California - Irvine)**
Attacks and Defenses through Side-channels of Manufacturing Systems
- 2:00 PM** **Jitesh Panchal (Purdue University)**
Design of Traceability and Anti-counterfeiting Schemes for Mechanical Parts
- 2:30 PM** **Satish Bukkapatnam (Texas A&M University)**
Cybersecurity for Smart Manufacturing: From Industrial Quality and Integrity to Security Assurance
- 3:00 PM** **Ferenc Pankotai (Solar Turbines)**
Additive Manufacturing as Technology Enabler at Solar Turbines
- 3:30 PM** **Day 1 Closing**

SEPTEMBER 16 & 17

10:00AM – 3:30PM US EDT

<https://r2dm-workshop.github.io/>

Register at: <https://r2dm2021.eventbrite.com/>





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September 17 Agenda (All times are US Eastern Times)

10:00 AM **Welcome - Nektarios Tsoutsos (University of Delaware)**

10:30 AM **Keynote - Paul Huang (Office of Naval Research)**
Navy Manufacturing Technology (MR) Program

11:30 AM **Mark Yampolskiy (Auburn University)**
Security Threats in AM: Attacks within Cyber and Beyond

12:00 AM **Eric MacDonald (University of Texas - El Paso)**
AM of Elastomer, Ceramic and Metal Multi-functional Structures

12:30 AM **Break**

1:00 PM **Student Presentations**
Judges: Michail Maniatakos (NYU-Abu Dhabi) and Yan Lu (NIST)

Dimitris Mouris: *Peak Your Frequency: Advanced Search of 3D CAD Files in the Fourier Domain*

Harsh Srivastava: *Determination of Volume Fraction of Fibre Reinforced Composite Materials using Image Processing Techniques*

Caleb Beckwith: *Threat Vector Analysis - Finding Fault in the Pile*

Lars Folkerts: *FSS: Fourier Silhouette Search*

Praveen Sreeramagiri: *Actor-Network Theory as a Tool to Analyze Cyber Threats in Manufacturing*

3:00 PM **Roundtable Discussion**

3:30 PM **Workshop Closing**

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