ICAM2024

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# ASTM INTERNATIONAL CONFERENCE ON ADVANCED MANUFACTURING

Research to Application through Standardization

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## Industry 4.0: Security Aspects

Additive Manufacturing (AM) technology enables extraordinarily complex part designs. Thus, AM processes may require a great deal of information sharing via an organization's internal distributed manufacturing network and, because AM is amenable to outsourcing and e-commerce business models, over the global internet. As AM equipment becomes more interconnected with other components of Industry 4.0, the risk increases of exposure to a variety of cyber, cyber-physical attacks and even exploitation of this data to produce counterfeit parts. While established cyber- and IT-security solutions are needed, they might not always be adequate to protect the emerging manufacturing environment. Therefore, the security of AM should be addressed holistically. This includes, but is not limited to, identifying cyber-security threats in AM, assessing the risks they pose, and determining how best to manage the risk. By improving AM security, we can strengthen the business case for adopting AM technology. This symposium specifically explores the security aspects of AM in an Industry 4.0 environment.

**Topics of interest include but are not limited to:**

- Connectivity and security of AM networks
- Mitigation methods and solutions to enhance security for AM
- The extent to which general Operational Technology cyber-security guidance applies to AM
- Cyber Security of AM equipment
- Novel attacks
- Standards and needs for AM security
- Leverage advanced labeling technologies to deter counterfeiting
- The role of Artificial Intelligence in spoofing Intellectual property

### Symposium Organizers

- **Chris Adkins,** Materialise, USA
- **Jason Daniels,** Integrity Training Consulting, USA
- **Joshua Lubell,NIST, USA**
- **Mark Yampolskiy,** Auburn University, USA

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