Industry 4.0: Data Management for AM

Additive Manufacturing presents us with a unique opportunity of generating massive amounts of data from various steps of the AM process, including design, process planning, building, in-situ monitoring, post-processing, inspection, characterization, and testing, as well as operation performance, during the service life of the component. While such data can be used to better understand key process variables (KPVs) and support decision making, it simultaneously presents a big data management challenge. Methods of AM data labeling, acquisition, storage, analysis, security, and sharing are yet to be fully explored. While many companies have developed internal procedures to address the above challenges, the AM community would benefit from standards and best practices that are widely accepted and available to the general public, particularly small and medium size enterprises (SMEs).

This symposium broadly covers topics such as:
- Landscape analysis: AM Data Management experiences and Lessons
- Case studies, challenges, and best practices for
  - AM data Modeling - data dictionary, semantic models and data exchange formats
  - Automated data acquisition
  - Data management and governance in AM
- AM material database
- Application of machine learning, AI, and big data in AM Data Management
- Application of simulation in development of AM material databases
- Data and software integration for findability, accessibility, interoperability, and reusability
- Standardization gaps for AM data management
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Symposium Organizers
- Amber Andreaco, GE Additive, USA
- Matthew Jacobsen, AFRL, USA
- Alex Kitt, EWI, USA
- Yan Lu, NIST, USA

Call for abstracts is open!
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