

## Track Proposal: Manufacturing Intelligence

### *Session Objectives*

The **Manufacturing Intelligence** track encompasses different dimensions of manufacturing requirements to be competitive in the dynamic global environment. Manufacturing Intelligence is the detection and use of patterns in data to analyze, improve, or forecast the performance of manufacturing processes or systems. We invite papers which present advances in manufacturing intelligence research from 3 different areas of work and the integration between these 3 areas. The areas are as follows: (1) Understanding key patterns and relationships in manufacturing. These patterns can define key drivers that could be obtained via sensors and other advanced concepts. (2) Conversion of raw data into valuable information to operate and manage manufacturing. Concepts, models, algorithms that provide unique insight into operations of manufacturing will be appreciated. (3) Development of dissemination and reporting schemes that assure accurate timely information to decision makers.

Sample applications for these ideas include, but are not limited to:

- Operational excellence
- Agile, reliable, flexible, or Lean systems
- Systems thinking
- Systems engineering
- Manufacturing system modeling
- Product design
- Process planning and scheduling
- Material requirement planning
- Optimization of manufacturing yield
- Manufacturing process control
- Assembly selection
- Manufacturing robotics
- Quality control
- Monitoring and diagnosis
- Safety evaluation
- Preventive machine maintenance

### *Organizers*

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