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INFORMS Seminar Series

Monitoring and Prognostics for Data-rich Manufacturing Systems: An Integrated Knowledge-driven Approach

SEMINAR SESSION INFORMATION

DATE: Wednesday, Feb. 8

TIME: 12:15pm

LOCATION: Durham 260

PROVIDED: Pizza and Soda

SPEAKER INFORMATION

Wenmeng (Meg) Tian
PhD Candidate

Grado Department of Industrial & Systems Engineering

MEMBERSHIP INFORMATION

Fees are as follows and include all weekly seminars (12+) & workshops.

FIRST MEETING: FREE

MEETING: $5

SEMESTER: $25

With the advancement of sensing technology, various types of high volume data are available for quality improvement in advanced manufacturing systems. Those data types include diverse discrete data, signal profiles, digital images, and 3D point clouds. Various engineering knowledge, such as kinematics information and physical process models, can be used to guide the statistical learning for enhanced modeling accuracy and interpretability. This talk presents examples of my recent research projects on the integration of process knowledge into statistical monitoring and prognostics for broaching processes, which are widely used to produce turbine discs in a jet engine. Both simulation and case studies are used to demonstrate the effectiveness of the proposed approaches. Finally, several future research directions are discussed for data-rich manufacturing systems.

Questions? Comments? Send an e-mail to shafae1@vt.edu

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