

Session organiser (Affiliation):

Makoto Imamura(Tokai University), Hidetoshi Mishima(Mitsubishi Electric),

Session title:

Evolving Smart Manufacturing System by design and implementation of PHM

Theme and objective:

In the future of manufacturing, PHM will be required to have an indispensable presence.

Demand forecasting through supply chain analysis, productivity improvement of assembly and processing equipment, and continuous operation of manufactured products on-site are required more than ever.

In recent years, there has been a growing movement in these fields to utilize statistical and AI models to improve production line activities.

Therefore, it is essential to design and introduce a system that responds to the declining workforce and diversifying needs, such as an IoT system that uses data from the entire factory to index improvements.

CPS in this field also incorporates human factors, and in addition to ensuring the safety of AI, cooperation between machines and humans is also a very important theme.

Potential in this theme but are not limited to:

- Demand forecasting by supply chain analysis
- Smarter manufacturing sites by applying MLOps
- The Evolution of IoT and Sensing Technology to support manufacturing sites
- Smart Manufacturing Maturity Evaluation
- The Quality Guidelines for Machine Learning Product
- AI-based exterior inspection
- Direction of safety technology in a space where humans and machines coexist

Field:

Manufacturing System

Tentative list of presenters (4 presenters per block):

Tamio Tanikawa (AIST: National Institute of Advanced Industrial Science and Technology)

Yutaka Oiwa (AIST: National Institute of Advanced Industrial Science and Technology)

Nicole Shonan Otoki (Mitsubishi Electric Corp.)

Toshihiro Shinpo (MITSUBISHI GAS CHEMICAL COMPANY, INC.)