LUIAS SUMMER WORKSHOP 2025

AI SCIENCE AND ENGINEERING

Programme Rundown

13 June 2025

Day 1 - AM session

8:30am -9:00am **Registration**

9:00am - 9:20am **Opening Ceremony**

9:20am - 10:00am **Prof Jianjun Shi**
Machine Learning Enabled Quality Improvement in Smart Manufacturing Systems

10:00am - 10:40am **Prof Kaibo Liu**
Spotiphy Enables Single-cell Spatial Whole Transcriptomics via Generative Modeling

10:40am - 11:10am **Coffee Break**

11:10am - 11:50am **Prof Samuel Kou**
Generate Diverse Protein Conformations through AlphaFold

11:50am - 12:30pm **Prof Yao Xie**
Learning High-dimensional Distributions via Flow-based Generative Models

12:30pm - 2:00pm **Lunch Break**

Day 1 - PM session

2:00pm -2:40pm **Prof Vijay Nair**
Machine Learning and Generative AI Applications in Banking

2:40pm - 3:20pm **Prof Wei-Yin Loh**
A Regression Tree Approach to Explainable AI and Machine Learning

3:20pm - 3:50pm **Coffee Break**

3:50pm - 4:30pm **Prof Elsayed A. Elsayed**
Modeling and Quantifying System Availability and Resilience

4:30pm - 5:10pm **Prof Suk Joo Bae**
Prognostic Health Management (PHM) and Predictive Maintenance (PdM) for Complex Systems

5:10pm - 5:20pm **Closing**

14 June 2025

Day 2 - AM session

9:15am - 9:55am **Prof Ignacio E. Grossmann**
Digital Supply Chains: Advanced Optimization Models for Integrating Information, Financial, and Material Flows

9:55am - 10:35am **Prof David Coit**
Effective Predictive Maintenance at the Intersection of Machine Learning and Operations Research

10:35am - 11:05am **Coffee Break**

11:05am - 11:45am **Prof Marios Polycarpou**
Connecting AI to the Cyber-Physical World: Risks, Opportunities and Challenges

11:45am - 12:25pm **Prof Seoung Bum Kim**
The Evolution of Process Monitoring – From Control Charts to Deep Learning

12:25pm - 2:00pm **Lunch Break**

Day 2 - PM session

2:00pm -2:40pm **Prof Dennis K. J. Lin**
AI, BI & SI—Artificial, Biological and Statistical Intelligences

2:40pm - 3:20pm **Prof William H. Woodall**
The Effect of AI on the Scientific Publication Process

3:20pm - 3:50pm **Coffee Break**

3:50pm - 5:00pm **Panel Discussion**
Future of AI Science and Engineering

5:00pm - 5:10pm **Closing**

Updated on 5 June 2025