



CAT 2024

18th CIRP Conference on Computer Aided Tolerancing

19th - 21th JUNE 2024, Huddersfield, UK

SMART Specification & Verification

Chair

Prof Dame X. Jane Jiang

University of Huddersfield, UK

Co-Chair

Prof Paul J. Scott

University of Huddersfield, UK

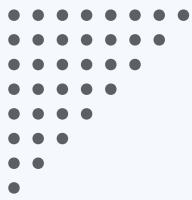
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Topics

- The progress in the fields of dimensional and geometrical tolerancing, dimensional metrology, product life management, standardisation;
- How to improve the smartness of specification and verification in the context of smart manufacturing (Industrie 4.0);
- New methods (AI-based, etc.) and advanced technologies to address such challenge are particularly welcomed.

Scientific Themes

SPECIFICATION AND STANDARDISATION

- Tolerance specification of ISO GPS system
- Tolerance system and management
- New specification and standardisation challenges in the smart era (smart specification, smart standards...)

TOLERANCING IN THE SMART ERA

- Tolerance design
- Tolerance analysis and synthesis, tolerance modelling, assembly and variation simulation
- Digital twin for geometrical quality
- New tolerancing challenges (additive manufacturing, tolerances for freeform geometries, smart tolerancing system...)

QUALITY CONTROL, VERIFICATION AND METROLOGY

- Modeling and measuring geometrical deviations
- Measurement uncertainty
- Micro- and Nanometer Metrology
- On/in-line Metrology
- Machine learning in metrology
- New geometrical metrology challenges (additive manufacturing, freeform geometries, computed tomography, ...)

TRAINING AND TEACHING

- Tolerancing, AI-assisted training tools, ...