

A close-up photograph of a precision manufacturing process, likely micro-machining, showing a small, cylindrical metal part being held by a fine tool. The background is blurred, showing concentric circles of a machine. The image is overlaid with a green diagonal band on the left and a blue diagonal band on the right.

european society for precision engineering and nanotechnology

Special Interest Conference:

**Micro/Nano Manufacturing
& 6th AET Symposium
on ACSM and Digital
Manufacturing**

17th - 19th September 2025

Université Paris-Saclay,
Paris-Saclay, France



Micro- and nano-scale manufacturing has been the subject of research and industrial focus over the past decades. In recent years, atomic and close-to-atomic scale manufacturing (ACSM) has emerged towards realising atomic-scale precision by addressing the digital nature of matters, i.e., an integer number of discrete atomic distances and associated quantum effects. Lithography-based technology forms the basis of micro-electro-mechanical systems (MEMS) manufacturing, and ultra-high precision manufacturing technologies have also been developed to cover micro-, nano- and atomic-scale dimensions and accuracies. These fundamentally different technologies are combined to exploit their strengths in advanced micro-nano-manufacturing process chains. An example can be found in the use of lithography-based technologies to establish nanostructures subsequently transferred to 2½D/3D geometries via micro moulding or thermal imprinting, or in micro-scale additive manufacturing processes combined with precision subtractive finishing. Micro manufacturing processes are the key enabling technologies to bridge the gap between the nano- and the macro-worlds, and to integrate different dimensional scales into mass-manufacturing processes, while digital technologies enable data exchange for process chain integration across the different scales. Accordingly, the Special Interest Conference on Micro/Nano Manufacturing in combination with the International Academy of Engineering and Technology Symposium on ACSM and Digital Manufacturing (AET) will focus on novel methodological developments in micro-, nano-, atomic-scale and digital manufacturing, i.e., on novel process chains including process optimisation, quality assurance approaches, metrology, process chain integration. The workshop will host keynotes and several presentations and posters covering the latest developments and research on these increasingly important topics. The conference will also host a training seminar covering aspects of micro/nano manufacturing in practice.

Topics

- Atomic and Close-to-atomic Scale Manufacturing
- Micro & Nano Manufacturing Technologies & Applications
- Precision Replication & Additive Techniques
- Ultraprecision Machining Technologies at Micro/Nano/Atomic Scales
- Assembly & Handling in the Micro and Nano Regime
- Metrology & Quality Control for Micro and Precision Parts and Nano/close-to-atomic Features
- Precision Measurement, Characterisation, and Instrumentation
- Digital Technologies for Precision Manufacturing

Key dates

1st May 2025	Delegate Registration Opens
12th May 2025	Short Abstract Submission Deadline
20th May 2025	Notification of Presentation Award (Oral/Poster)

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