**4th IFToMM Symposium on**
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**University of Udine, Udine, Italy**

# "Motion planning and operation of industrial robots"

Motion planning is a fundamental issue for robotic applications and automation in general. The ability to generate trajectories with given features is a key point to ensure significant results in terms of quality and ease of performing the required motion, especially at the high operating speeds necessary in many applications. A proper and accurate design of the trajectory might improve the robot performance in terms of energy efficiency, productivity, motion accuracy and safety. Such challenges have fostered a thriving research field aimed at developing new algorithms, models, methodologies and experimental activities.

Accordingly, this track aims at reporting on the latest research in the field by covering topics including, but not limited to:

- Motion planning and trajectory planning for industrial robots
- Motion planning for vibration reduction
- Energy-efficient robot operation
- Model free and model-based motion planning
- Motion planning for parallel kinematics robots and mechanisms
- Path planning and obstacle avoidance
- Path planning for autonomous robots
- Online trajectory generation
- Robot motion tracking and control
- Task scheduling for efficient production
- Robot operation for sustainable production
- Motion planning of lightweight and cable-based robots

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