

METROIND4.0&IoT

CALL FOR PAPERS for the Special Session on

TECHNOLOGIES FOR MONITORING AND PERFORMANCE AUGMENTATION OF WORKERS

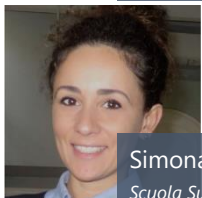
ORGANIZERS



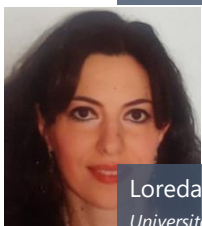
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ABSTRACT

Repetitive tasks and manual handling of loads are among the main causes of work-related musculoskeletal disorders (WRMSDs). Indeed, high-frequency repetitive activities or strenuous tasks may result in excessive mental and physical fatigue for the worker, and, in the long term, can cause physical strains, injuries, and permanent disabilities. Over the last few decades, novel technologies have been developed to monitor workers and identify conditions of high mental or physical stress at work. Worldwide several research teams are developing smart solutions for the continuous monitoring of workers to reduce the occurrence of risky conditions (e.g. by providing alert signals in case of detection of sleepiness, through haptic or acoustic interfaces), and for reducing or redistributing the load on the worker (e.g. through active or passive exoskeletons). All technological solutions should be easily deployed into the workplace environment, and be effective, safe, reliable, efficient, and ultimately acceptable for the users.

This special session aims at discussing innovative approaches and technologies for monitoring and supporting workers, such as but not limited to, wearable and contactless sensors, robotic and mechatronic platforms, exoskeletons.

TOPICS

Topics include, but are not limited to:

- Novel wearable and contactless sensors;
- Occupational exoskeletons;
- Systems and novel approaches for fatigue monitoring;
- Approaches and technologies for performance augmentation;
- Biomechanical and physiological assessment in working environments;
- Prevention of WRMSDs;
- Ergonomic assessment methods.



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