



Mechanical, Automotive and Materials Engineering Department

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<http://www.uwindsor.ca/micronano>

Postdoctoral Researcher – MEMS Inertial Sensor

Position Description: MicroNano Mechatronics research lab from the Departments of Mechanical, Automotive and Materials Engineering at the University of Windsor is seeking an outstanding, highly motivated candidate for an immediate postdoctoral researcher opening working in the field of Microelectromechanical Systems (MEMS) based inertial sensors. The candidate will take a leading role in the characterizing and testing of MEMS based inertial sensors, resonators, accelerometers, and gyroscopes. It is part of a collaborative research project that is on-going between University of Windsor and a world-renowned manufacturer of MEMS devices. The projects aim to develop MEMS based high-precision and ultra-low damping inertial sensing systems that can operate in wafer-scale vacuum-sealed environment and packaging.

Main Responsibilities: The range of responsibilities include but are not limited to a) hands-on testing and characterization of MEMS inertial sensors, b) signal processing, data analysis and characterization of test results, c) interpret results, identify and propose design improvements, d) interface and liaison with the industrial partner, e) assist in device design and layout, f) provide feedback on test, analysis, design, write manuscripts and reports, publication and presentations of the research results. Within the duration of the project, the candidate is expected to travel out of province within Canada to work at the industrial partner organization.

Research Environment: MicroNano Mechatronic Lab at the University of Windsor is developing various innovative micro/nano fabrication methods and sensing systems with applications in motion, orientation, and position sensing. The group is innovating high-precision and ultra-sensitive micro/nano sensing devices. We provide an optimal multi-disciplinary research incubator for nurturing future researchers and professionals to take leadership roles in the emerging field of micro/nano-systems. Our partner organization is a leading MEMS industry in the world that provide innovative solutions to MEMS fabrication and packaging. For information about MicroNano Mechatronics Group, please visit <http://www.uwindsor.ca/micronano>

Qualifications: Should have PhD in Mechanical, Electrical, Microsystems or relevant field. Prospective candidates should have previous strong background and experience in testing and characterizing MEMS inertial sensors, gyroscopes, and accelerometers. Understanding of basic physics and working principles of MEMS inertial sensor design. Working knowledge of test equipment such as signal generator, oscilloscope, spectrum analyzer, lock-in amplifier, etc. Working with cross-functional engineering team including, design, circuits, fabrication, and packaging. Understanding of MEMS inertial sensor design, physics-based modeling, finite element analysis and layout editor. Basic understanding of MEMS fabrication processes. Strong written and verbal communication skills are required for this position, especially in the context of a highly collaborative effort. As part of the Postdoctoral training, the applicant will be required help supervise and train graduate and undergraduate students with varied disciplinary backgrounds.

The initial appointment will be for one year with possible extension. The position is expected to start in September 2021, however the start date is negotiable. Applications will be considered until the position is filled. The position is contingent on the Candidate approval from the partner organization and funding agency. For information on the position, interested candidates are encouraged to contact Prof. Jalal Ahamed (jahamed@uwindsor.ca). Please email a CV, brief of research interests, and contact of 3 professional references.

Institution: The University of Windsor is a comprehensive research and teaching institution with more than 15,500 students. We are a welcoming community committed to equity and diversity in our teaching, learning, and work environments. In pursuit of the University's Employment Equity Plan, members from the designated groups (Women, Aboriginal Peoples, Visible Minorities, Persons with Disabilities, and Sexual Minorities) are strongly encouraged to apply and to self-identify. Located on the scenic Detroit River waterfront in Canada's southernmost city, the University of Windsor provides a dynamic, supportive, diverse, and safe campus adjacent to urban amenities. For more information about the university, please visit the University website at <http://www.uwindsor.ca>