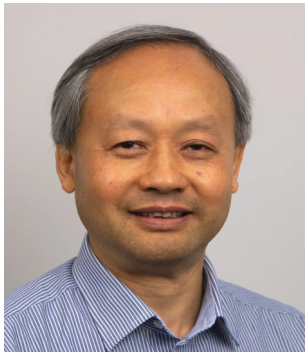


Professional Biography

Dr. Heng-Yong Nie is a Senior Research Scientist at Surface Science Western and an Adjunct Research Professor in the Department of Physics and Astronomy at Western University (London, Ontario, Canada). With over 25 years of continuous stewardship of Western's ToF-SIMS facility, Dr. Nie is a recognized authority in time-of-flight secondary ion mass spectrometry, surface and interface chemistry, and advanced materials characterization. He has authored more than 50 peer-reviewed publications specifically focused on ToF-SIMS (out of >120 total articles) in premier venues such as *Analytical Chemistry*, *Langmuir*, *Analyst, Biointerphases*, and *Nature Communications*.

Dr. Nie's research focuses on developing ToF-SIMS analysis methodologies, employing principal component analysis (PCA) to extract quantitative structural insights—such as polymer carbon density and cross-linking degree—from inter-ion intensity relationships. His work resolves complex interfacial mechanisms across self-assembled monolayers (SAMs), automative paint defects, solid-state battery electrolytes, image sensors, and biomaterial interfaces. Bridging fundamental science with real-world technological challenges, he has delivered approximately 2,000 industrial failure-analysis and surface-characterization reports across the automotive, semiconductor, and medical device sectors.

A dedicated educator and active community contributor, Dr. Nie has served as a guest editor and regular reviewer for over 45 international journals, chaired conference sessions, and mentored dozens of students and visiting international scholars. Having conducted scientific research across Canada, China and Japan, he brings a deeply multicultural perspective. Dr. Nie is strongly committed to broadening geographic and demographic representation within the SIMS community, advocating for targeted educational workshops, data-analysis tutorials, and active outreach to welcome emerging communities, including Canada and developing analytical centers.