Vol. 12, No. 4, 2021
ISSN 2233-4203/ e-ISSN 2093-8950
EDITORIAL www.msletters.org | Mass Spectrometry Letters

Special Issue in Honor of Prof. Seung Koo Shin

We are delighted to publish this special issue honoring Prof. Seung Koo Shin, a respected teacher and a well-known and highly regarded physical chemist, on his retirement from the Pohang University of Science and Technology (POSTECH). He has been one of the core members of the Korean Society for Mass Spectrometry (KSMS), the publisher of Mass Spectrometry Letters (MSL). He served as the third president of KSMS from 2010 to 2011 and launched MSL in 2010.

Prof. Shin entered the Seoul National University (SNU) for his undergraduate studies in chemistry. He developed a passion for physical chemistry and pursued higher education in both experiments and theory. He received his M.S. degree in SNU with research on nuclear magnetic resonance (NMR) spectroscopy. He finished his Ph.D. in chemical physics at the California Institute of Technology (Caltech), where he joined the laboratory of Prof. Jack Beauchamp. His graduate studies were focused on ion chemistry and spectroscopy to discover thermochemical and dynamical aspects of gas-phase ions using Fourier Transform-Ion Cyclotron Resonance Mass Spectrometer (FT-ICR MS). It was not surprising that he chose to do research with FT-ICR MS as the FT-ICR technology was developed by a group of NMR experts who adopted techniques used in FT-NMR for manipulating and detecting ion motions in a homogeneous magnetic field. At Caltech, he made outstanding research accomplishments as a graduate student and received attentions among ion chemists in the west coast region of USA. For postdoctoral research, he joined the laboratory of Prof. Curt Wittig in the department of chemistry at the University of Southern California (USC), as a research associate. At USC, he studied photoinitiated reactions of weakly bonded molecular complexes using molecular beams and laser spectroscopy. Based on knowledge acquired in the three schools, he extended his curiosity-driven research from gas-phase ion chemistry to molecular dynamics.

He established his own research group in the department of chemistry at the University of California, Santa Barbara (UCSB) as an assistant professor. His group investigated ion-molecule reaction mechanisms of state- and/or energy-selected ions generated by multi-photon ionization with FT-ICR MS. After he moved to the department of chemistry at POSTECH, his academic research scope has significantly broadened to deal with chemical biology, nanochemistry and nano-optics using state-of-the-art methodology in physical chemistry such as high-resolution mass spectrometry, near-field scanning optical microscopy and single-molecule spectroscopy for the characterization of various nano-bio molecular activities and interactions. We notice, however, that the home page for his research group has always been http://fticr.postech.ac.kr, confirming that his research along his long academic career is deeply rooted on FT-ICR.

In this special issue, Prof. Shin contributed two articles. One is reporting his recent works on providing comprehensive explanation of the collision-induced dissociation of peptide ions by employing a Marcus-theory-type rate equation to account for the proton-transfer equilibria. The other article presents his perspectives on past, present, and future of mass spectrometry, delivering insights he gained from his long journey with MS. These two articles make this issue more special.

In February 2022, Prof. Shin will retire from the department of chemistry at POSTECH. We would like to express our sincere gratitude to Prof. Shin for his devotion to the KSMS, and we look forward to his continuous contribution to chemical and MS societies with his great insights and experiences.

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