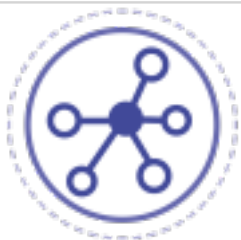


iCMCE²

Untargeted Molecular-level Analysis of Complex Systems: An opportunity to learn from sample complexity



This Chair aims to understanding of complex degradation / cycling processes of organic carbon in the environment and advance efforts for the judicious use of heavy petroleum fractions.

Over the past two decades, high field FT-ICR mass spectrometry has forever changed the utility and expectations of complex mixture analysis by mass spectrometry. The inherent high resolving power and high mass accuracy enable direct determination of elemental compositions to tens of thousands of individual components in complex mixtures by mass measurement alone.

Modern ionization methods facilitate the selective ionization of components based coarsely on chemical functionality, which combined with FT-ICR MS, reveals acidic, basic, and aromatic contributions to complex mixtures at a molecular level.

In this research plan, we will continue to pioneer petrochemical and environmental applications of the technology to aide in the understanding of complex degradation / cycling processes of organic carbon in the environment and advance efforts for the judicious use of heavy petroleum fractions.



Professor Rodgers received a B.S. in chemistry from the University of Florida in 1995, and a Ph.D. in analytical chemistry from Florida State University in 1999.

Following a postdoctoral appointment at Oak Ridge National Laboratory, he joined the Ion Cyclotron Resonance Program at the National High Magnetic Field Laboratory (NHMFL) as an Assistant Scholar-Scientist and a courtesy faculty member of the Department of Chemistry and Biochemistry at Florida State University.

He currently is the Director of the Future Fuels Institute, FSU Distinguished Scholar, and an Associate Editor of Energy and Fuels.