The research of Tulane University chemistry professor Bruce Gibb deals with a highly interdisciplinary area at the interface of organic chemistry, physical chemistry and biochemistry. (Photo by Paula Burch-Celentano)

Bruce Gibb, a chemistry professor in the Tulane University School of Science and Engineering, has been elected as a fellow of the prestigious Royal Society of Chemistry.

The United Kingdom-based organization brings together chemists from around the world to advance the chemical sciences and each year elects fellows who have made major contributions to chemistry and other related disciplines.

Gibb’s research deals with “aqueous supramolecular chemistry,” a highly interdisciplinary research area lying at the interface of organic chemistry, physical chemistry and biochemistry.

“We study both the formation processes leading to the resulting supramolecular entities and the properties of the entities themselves.”
“In the group we synthesize new molecules specifically designed to interact with themselves or other molecular entities through a range of non-covalent interactions,” he said. “Via a range of physical techniques, we study both the formation processes leading to the resulting supramolecular entities and the properties of the entities themselves.”

In doing so, the group hopes to learn about fundamental phenomena observed in aqueous solution, particularly the hydrophobic effect — why oil and water don’t mix — and the Hofmeister effect — why co-solute salts modulate the solubility of organic solutes.

Gibb, a native of Aberdeen, Scotland, has been a Tulane professor since 2012. He is co-editor-in-chief of Supramolecular Chemistry and is a regular contributor to Nature Chemistry.