

Daniel Simon received his Bachelor's degree in Physics from the University of Georgia, Athens (USA) in 2000, where he participated in theoretical condensed matter research. In 2001, he began his graduate work in the Physics department at the University of California, Santa Cruz (USA). There, he joined the laboratory of Sue Carter, studying a range of topics in polymer-based electronics. In the Spring of 2007, he earned his PhD, based on polymer light-emitting electrochemical cells (LECs) and nanoparticle-based non-volatile memory. Later that year, he joined the Laboratory of Organic Electronics as a postdoctoral researcher, where he focused on converting an in vitro delivery technology for use in a living animal, and later for self-regulating artificial neuron functionality. Since 2011, Daniel has led – and significantly expanded – the Organic Bioelectronics group of the Laboratory of Organic Electronics, becoming Assistant Professor in 2013 and Associate Professor (docent) in 2016.

Assoc. Prof. Simon's research team focuses on the interface between (organic) electronic systems and biological signalling. Animals, plants, and all biological systems communicate in a language of ions and molecules. Modern technology, on the other hand, relies on a language of electrons. Organic electronic materials' unique properties can enable "bilingual" tools to bridge this gap. These materials possess a combination of both electronic and ionic/molecular conductivity, and they have thus emerged as excellent tools for developing hybrid technologies that effectively interface biological systems with modern electronic technology such as computers and mobile phones – thus the field of organic bioelectronics.

The Bioelectronics group investigates this transduction between electrical signals and ionic/molecular signals in electroactive surfaces, "iontronic" chemical delivery and circuitry, biosensors, mimicking neural function, and many other areas. The aim is to elucidate fundamental processes in biochemistry and physiology, as well as develop tools for next-generation therapies, human-machine interfacing, and blurring the border between living and technological systems.