Organic electronics: opportunities and challenges

Oana D. Jurchescu, Department of Physics, Wake Forest University, Winston Salem, NC

Increased interest in organic semiconductors is motivated by their promise to deliver new versatile electronic devices, with various functionalities, by combining diversity, flexibility, and light weight with the ease of processing and low cost. An intense effort is involved both in chemically tailoring different molecular properties, and in control of defects, to increase the electronic mobility and obtain improved device performance.

In this presentation, I will give an overview of the research interests and capabilities of the "Organic Electronics" group at Wake Forest University. Our research covers a variety of fundamental and applied topics on organic materials and devices, with emphasis both on single crystals and thin-films. Particular focus is on developing novel materials and patterning methods, as well as investigating the structure-processing-property relationship that governs the physical processes in organic semiconductors.