

From molecular wires to organic semiconductors and back - some “don’t ask, don’t tell” of soft electronics

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Charge migration is a ubiquitous phenomenon with profound implications throughout many areas of chemistry, physics, biology and materials science. The long-term vision of designing functional materials with pre-defined molecular scale properties has triggered an increasing quest to identify prototypical systems where truly inter-molecular conduction pathways play a fundamental role. Such pathways can be formed due to molecular organization of various organic materials and are widely used to discuss electronic properties at the nanometer scale. Many of the mechanisms of charge migration in soft matter nanosystems are common to single molecule electronics and organic electronics. In this talk I will illustrate how recent important contributions of unimolecular electronics research can crossfertilize the field of organic electronics and vice versa how the recent breakthrough in engineering molecular materials in organic semiconductor could inspire new developments in molecular electronics.

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