Polymer/hybrid semiconductors – Elsa Reichmanis

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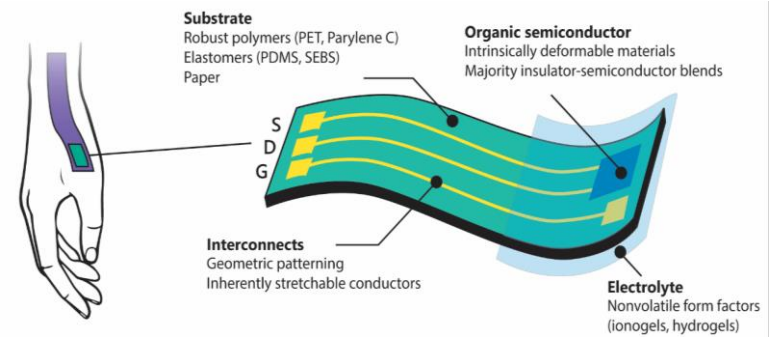
There is strong demand for new lightweight, flexible, large area, solution-processable organic electronics. These electronics provide low-cost solutions as organic transistors, LEDs, photovoltaics, biomedical devices and sensors. To meet this demand, new methods to design and develop robust materials and processes are required.

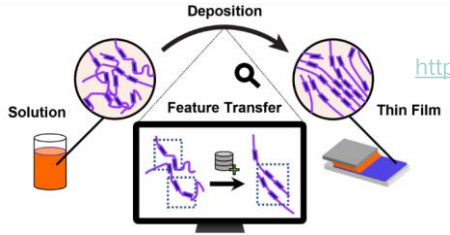
We are meeting this need by developing ways *to control* polymer/hybrid semiconductor organization at the molecular- through meso-scales for low-cost, mass-printed devices

To learn more:

- We use a range of characterization techniques to understand relationships between molecular structure, optical and charge transport properties in organic/polymer/hybrid semiconductors: DOI: 10.1021/acsmaterialslett.1c00320; 10.1021/acsaem.1c01882
- We develop materials informatics and high-throughput fabrication/characterization methods to design robust process protocols: DOI: 10.1021/acs.chemmater.2c01500; 10.1021/10.1021/acsami.1c20994
- We explore electron and ion transport in conjugated polymers for electrochemical transistors and sensors: DOI: 10.1021/acsmaterialslett.9b00373; 10.1039/D0TC03118F; 10.1021/acsapm.0c01255

https://doi.org/10.1039/D0TC03118F





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