## **Nanostructured Organic and Hybrid Semiconductors**

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Organic and hybrid semiconductors are attractive materials because they combine novel semiconducting optoelectronic properties with simple fabrication from solution. Their properties can be adjusted by changing the chemical structure, but for applications in photonics it is also very powerful to control their properties through wavelength scale structures. This enables the light-emission from organic light-emitting diodes to be directed, and distributed feedback lasers to be made. Such lasers are suitable for indirect electrical pumping by a nitride LED. In this talk I will show examples of these phenomena and illustrate how solution processing of organic semiconductors leads to extremely simple fabrication of working photonic devices such as lasers. In one example we show that solvent immersion imprint lithography provides a very simple way of making grating structures.