

# Organic Nanomaterials Laboratory

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## Nanotechnology Group

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### Introduction:

Electroluminescent organic materials have several properties beneficial for photonic applications: They can replace inorganic semiconductors at lower cost because they are more easily processed. They have high fluorescence efficiencies (> 60%) and, as a group, their emission wavelengths span the entire visible spectrum. In this regard, electroluminescent devices based on organic materials have considerable potential for use in, for example, large area light-emitting display technology.

### Facilities:

The Organic Nanomaterials Laboratory incorporates a dedicated MBraun glovebox optimised for solution processing of organic polymeric and oligmeric materials. The 6m<sup>3</sup> facility consists of two individual boxes connected by an antechamber, an inert atmosphere maintained at < 0.1 ppm H<sub>2</sub>O and < 0.1 ppm O<sub>2</sub>, and a suite of processing equipment for fabrication and electro-optical characterisation of organic optoelectronic devices:

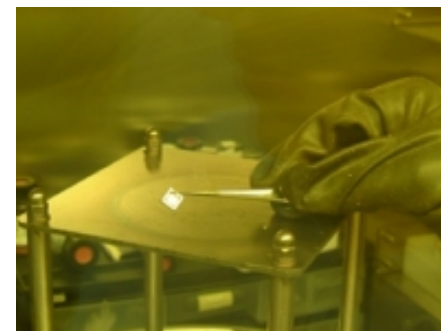
- Integrated resist spinner
- Vacuum oven
- Autocore 500 High vacuum metal thermal evaporator
- In situ electro-optical test station (interfaced to external characterisation system)
- In situ electrical probe station



MBraun glovebox facility



Autocore 500 High vacuum thermal evaporator



Organic device post-thermal anneal

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