

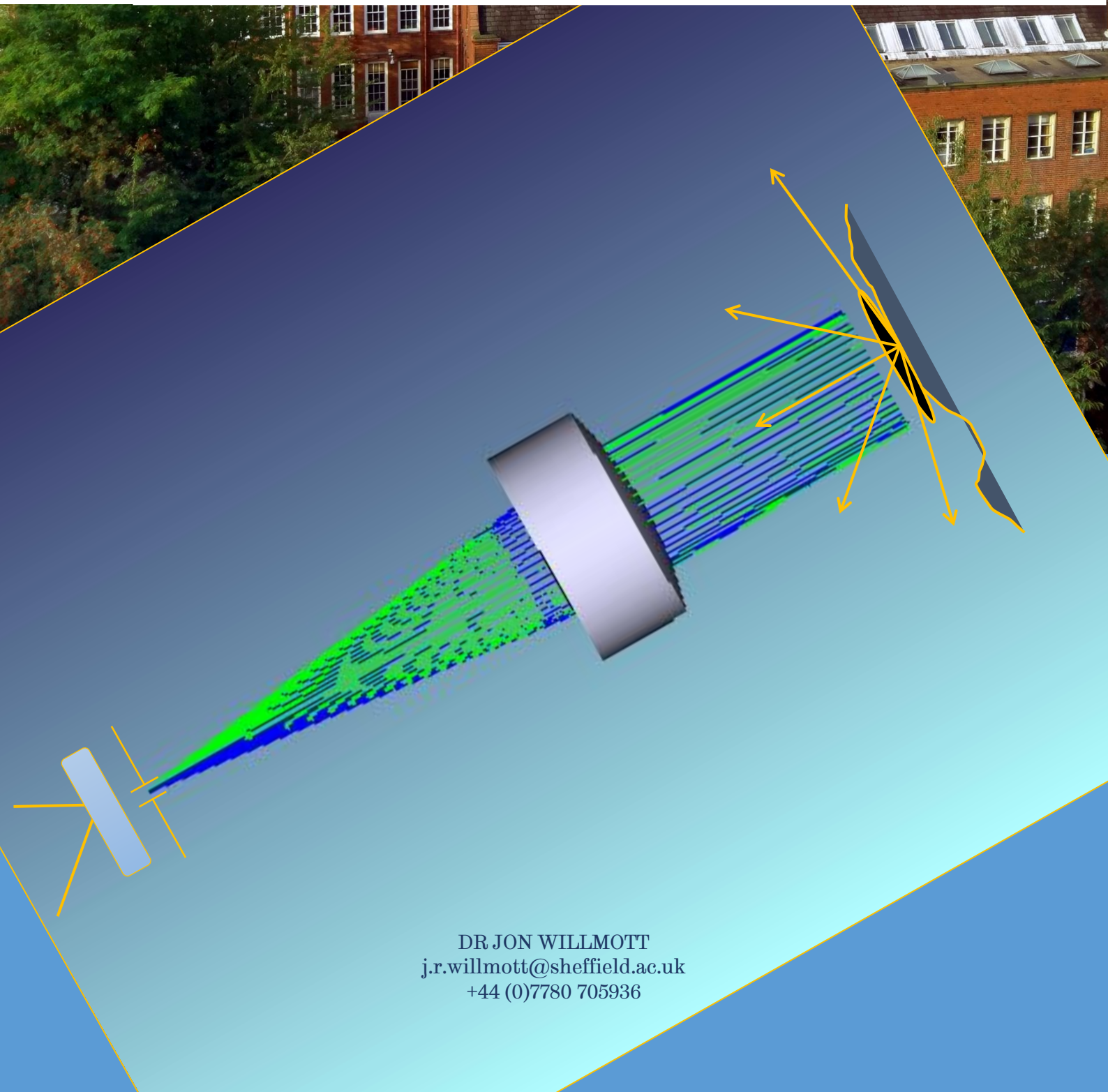


The
University
Of
Sheffield.



Sensor Systems Research Group

Department of Electronic and Electrical Engineering



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Printed Opto-Electronics

From initial experiments with printing wires between infrared detector pixels we have gone on to developed a full printed electronics capability.

Experience

- Printed interconnects
- Printed transistors
- Organic semiconductors
- Sintered nanoparticles

Research Capabilities

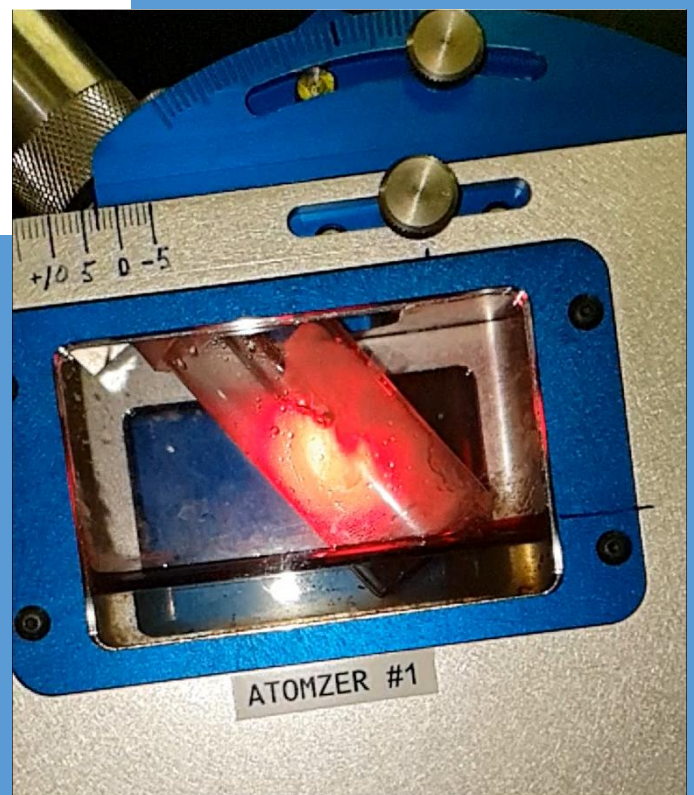
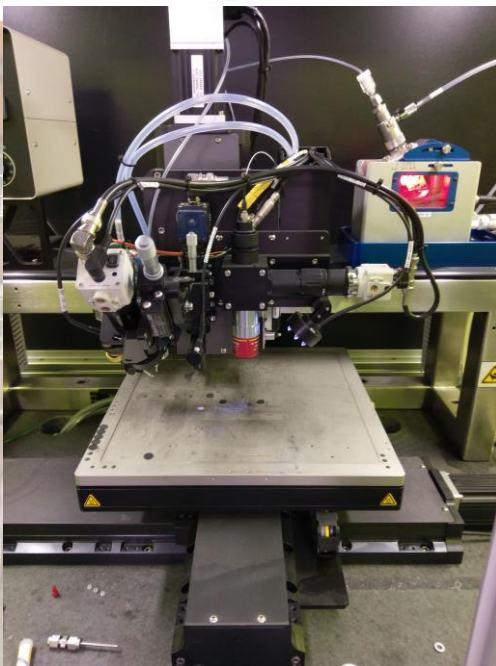
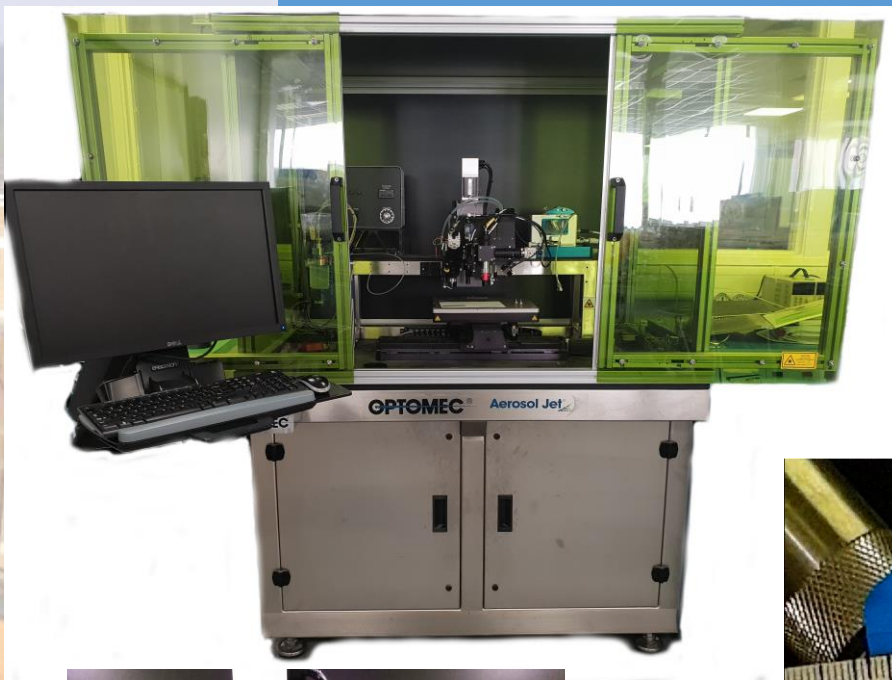
- Material optimisation
- Optimised feature sizes
- Wide range of printed device characterisation facilities

Engineering Capabilities

- Displays/Spatial Light Modulators
- Integrated lab on chip
- Integrated detection and amplification
 - Printed optical filters

Optomec Aerosol Jet 300

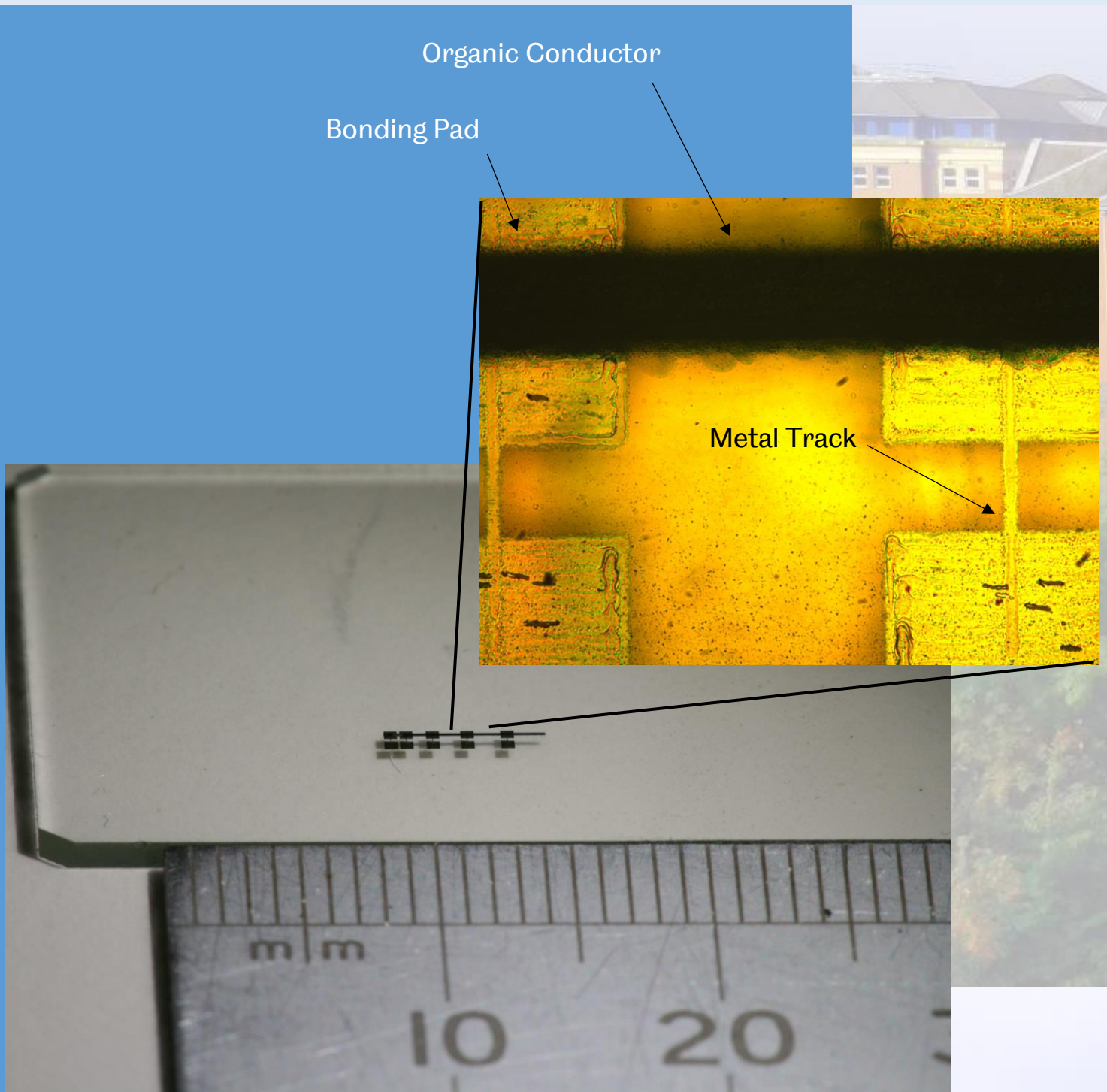
The AJ 300 can print metal and organic materials to a minimum feature size of around 10 microns wide and 100 nanometres high. Printed sensors, antennas and electronic components have been demonstrated.



<https://www.optomec.com/printed-electronics/aerosol-jet-printers/aerosol-jet-300-series-systems/>

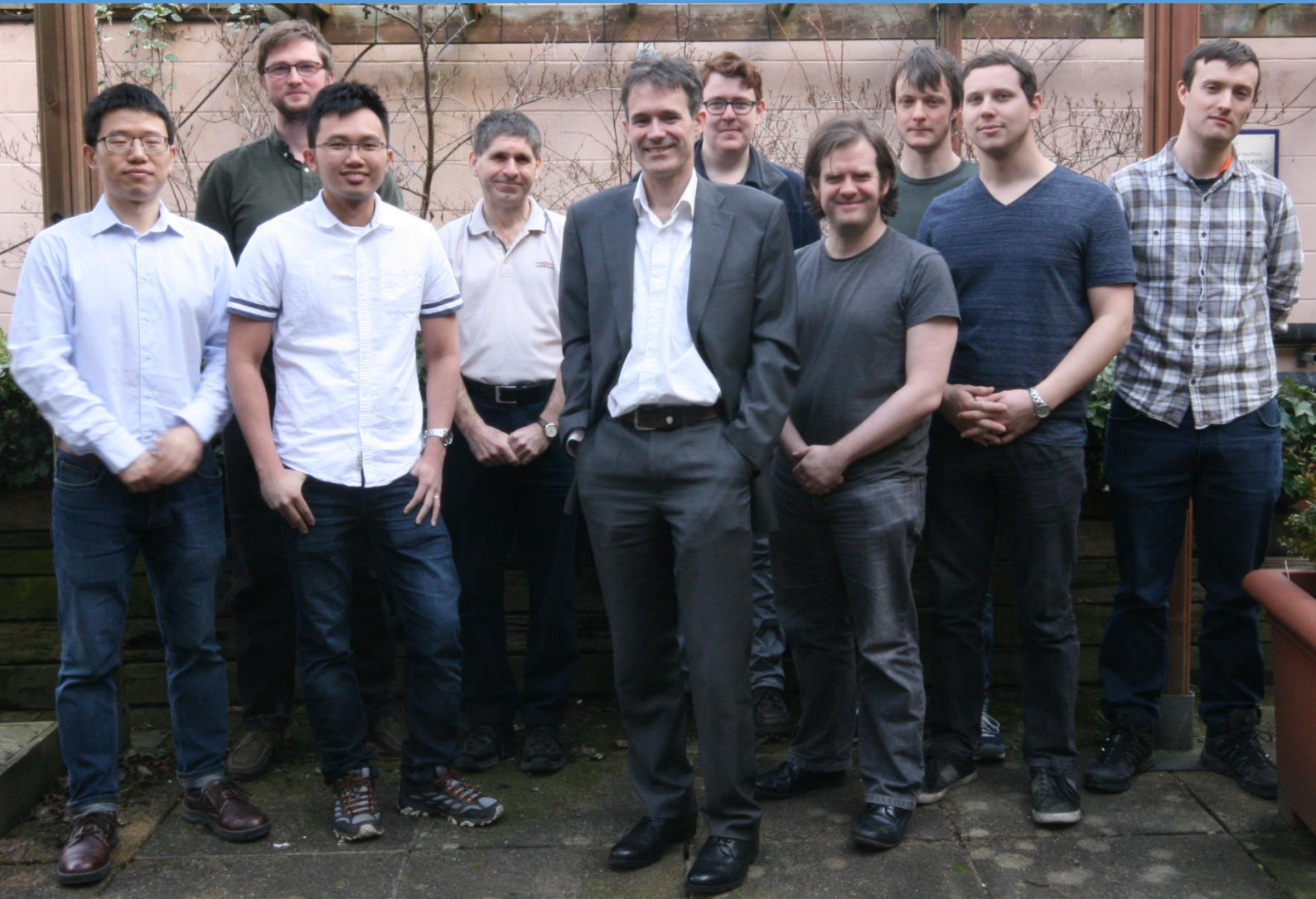
EXAMPLE: Organic Transistors

Transistor can be printed, consisting of metal drain and source contacts, organic conductor gate, polymer dielectric and organic semiconductor.



MEET THE TEAM

From left to right: Todd Zhu, Leigh Stanger, Cheong, Andy Heeley, Jon Willmott, Matt Davies, Matthew Hobbs, Nick Boone, Matt Grainger, Tom Rockett.



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