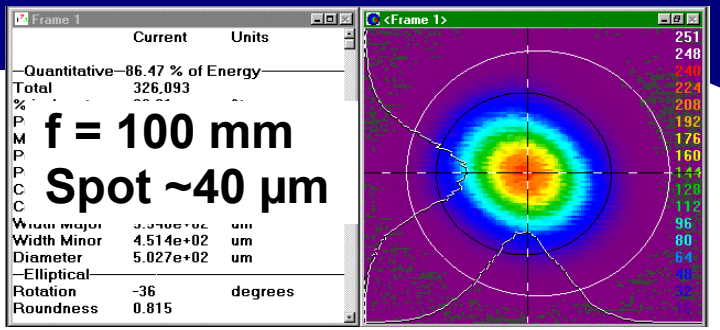
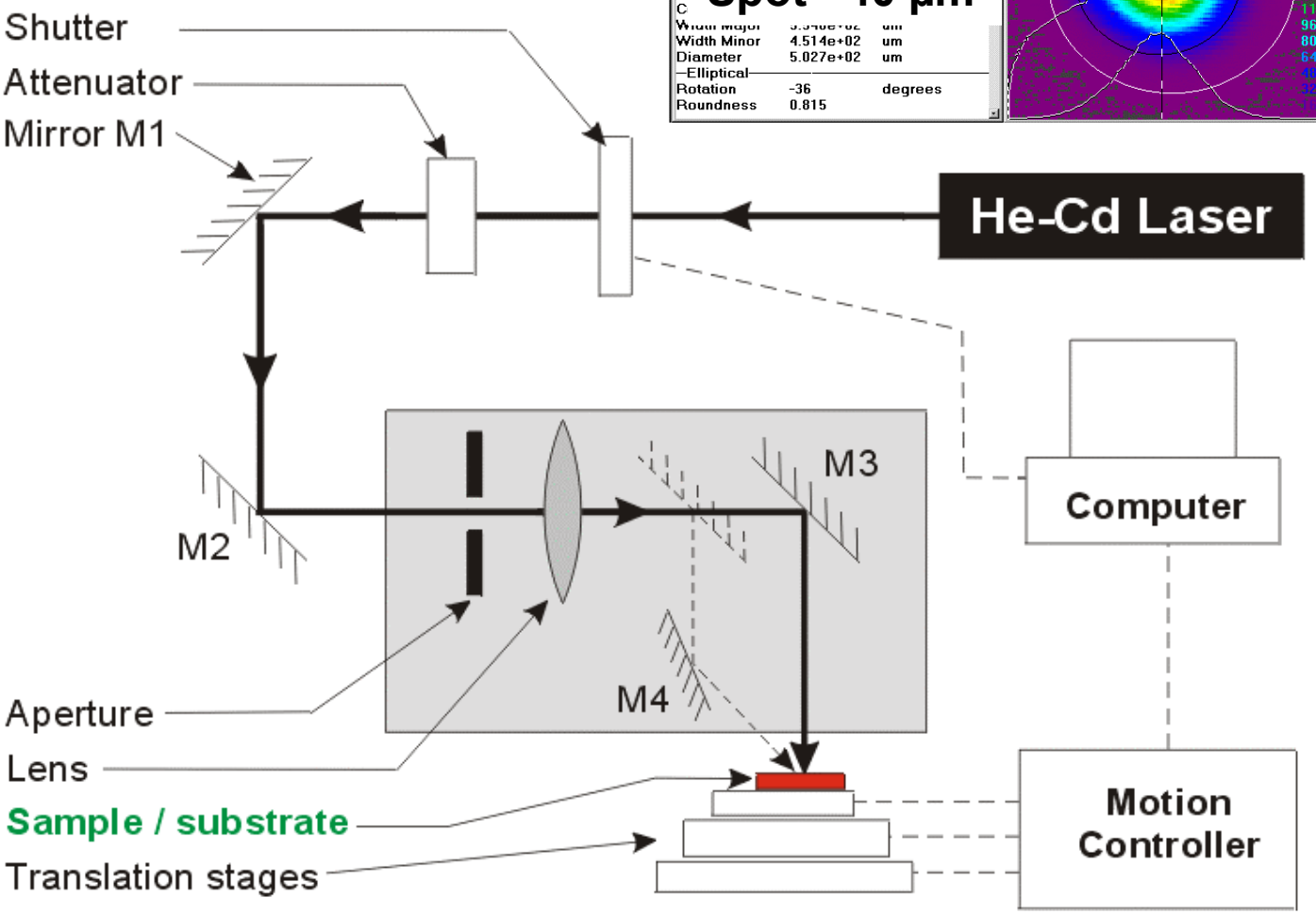
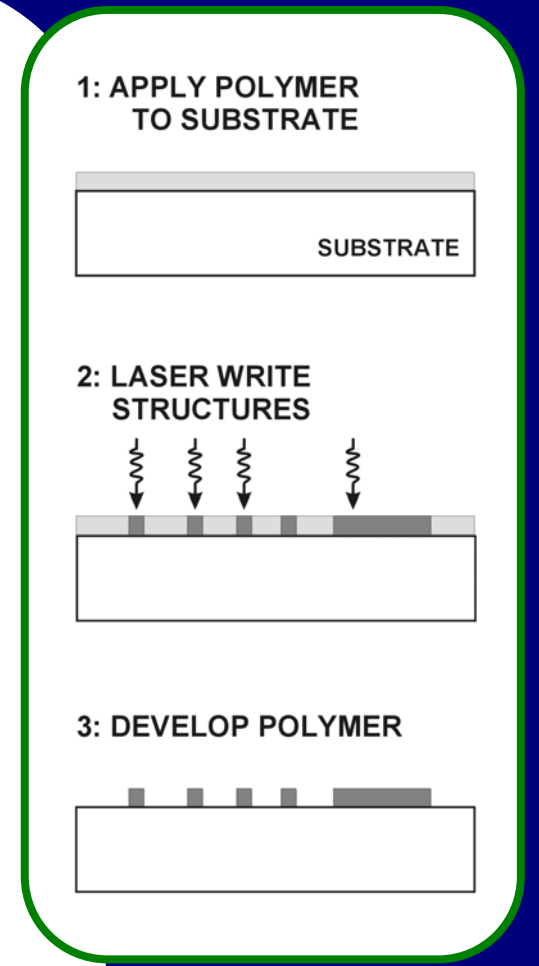
Direct Laser-writing of Polymer

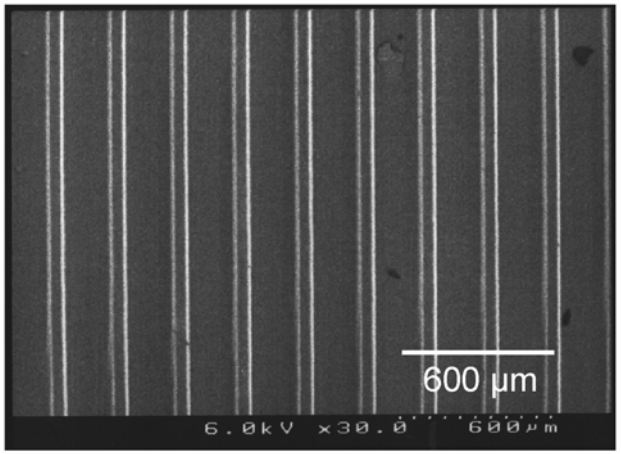


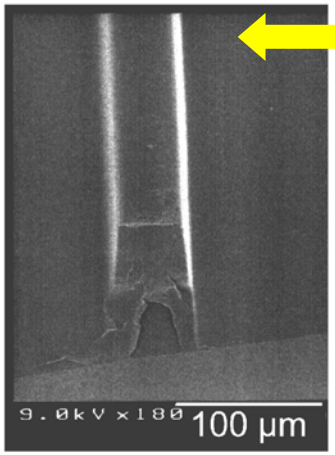
f = 100 mm
Spot ~40 µm





Polymer Waveguides

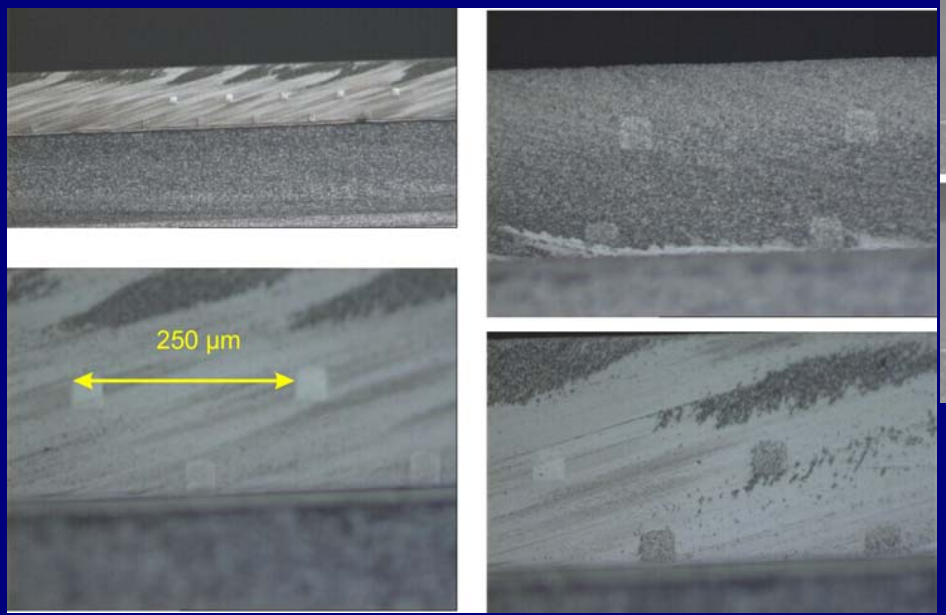


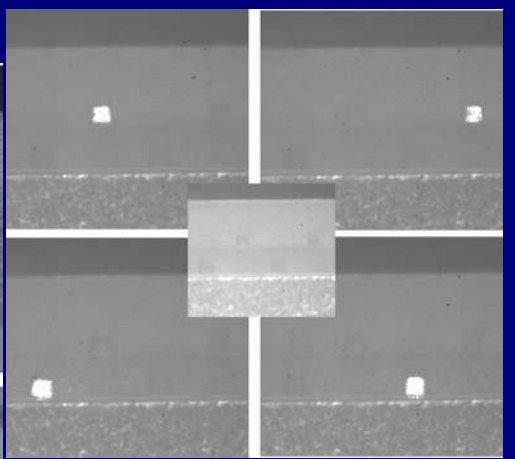


SEM images showing directly written, **unclad** polymer waveguides (~50 x 50 µm) on a glass substrate. The waveguides are on a 250 µm pitch and the cross section of one of the guides is shown on the left – it was cut using a razor blade.

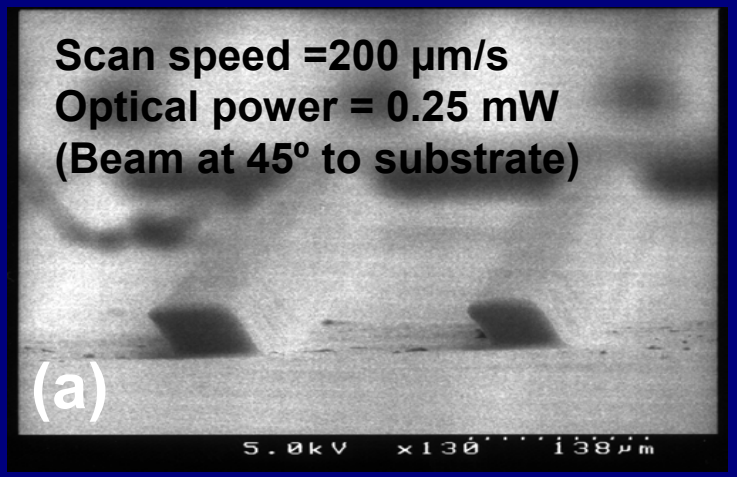
Optical Microscope images of stacked waveguides

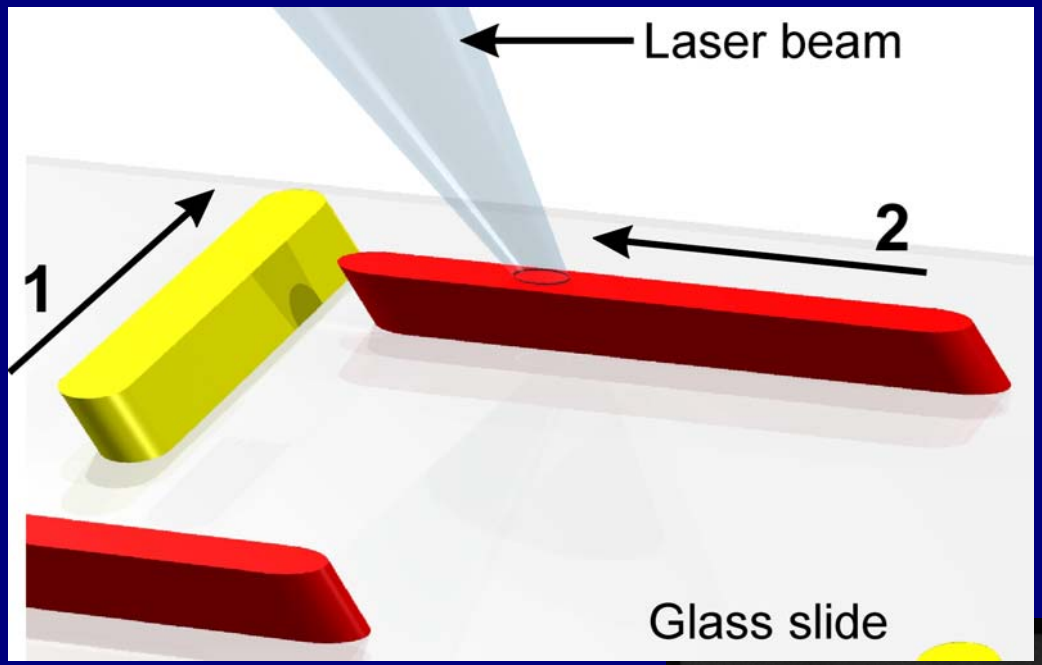
- Waveguide cores are ~ 36 µm X 36 µm
- Cladding applied using the doctor blading technique
- 0.5 mW, 500 µm/s

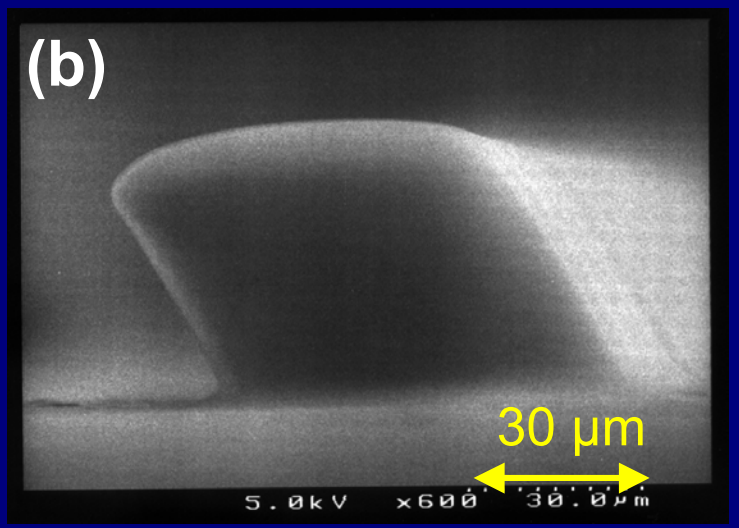


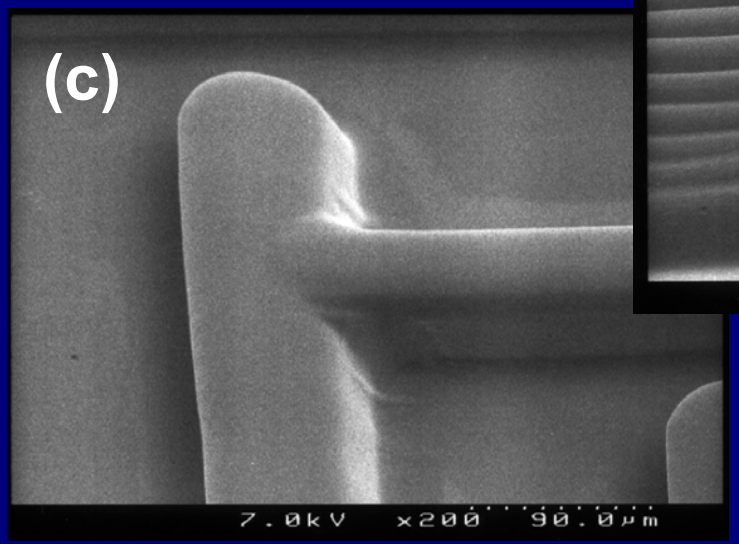


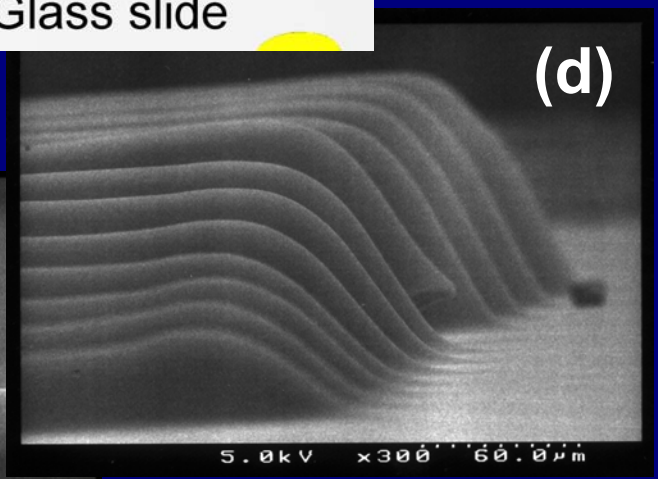
45º Polymer Structures







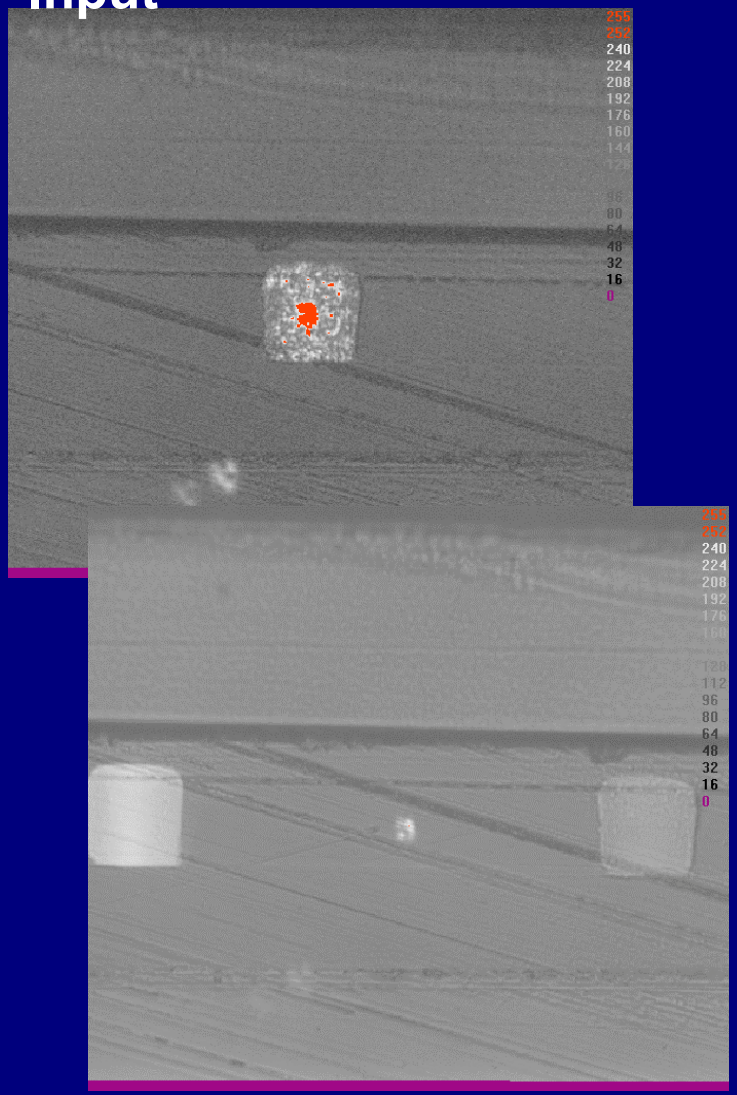




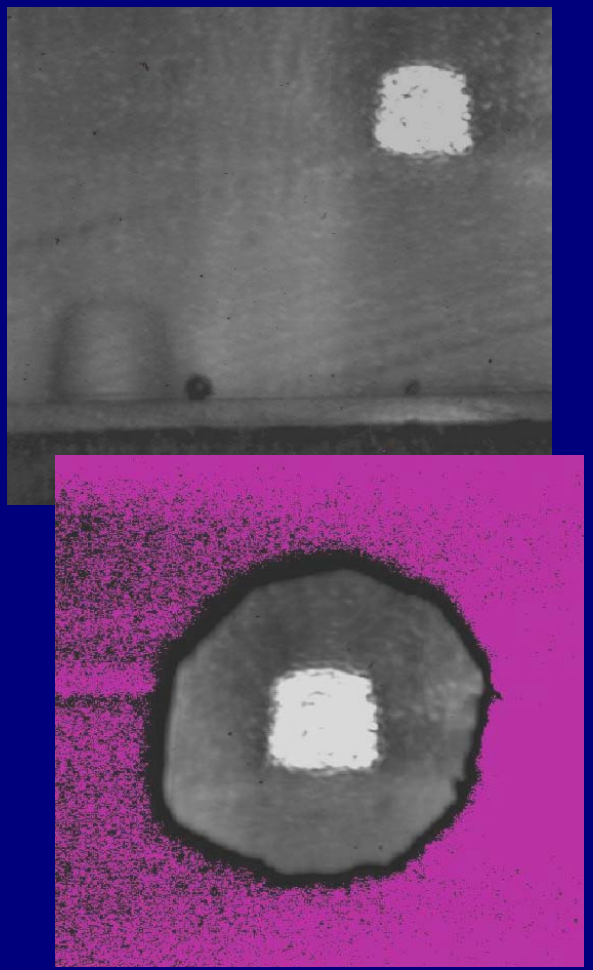
Characterisation: Waveguides & Mirrors

HERIOT WATT UNIVERSITY

Input



Output



star 3DLC

Characterisation of Bump Writing Process