World Academy of Science, Engineering and Technology
International Journal of Bioengineering and Life Sciences
Vol:8, No:02, 2014

# The Development of Micro Patterns Using Benchtop Lithography for Marine Antifouling Applications

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**Abstract :** Development of micro topographies usually begins with the fabrication of a master stamp. Fabrication of such small structures can be technically challenging and expensive. These techniques are often used for applications where patterns only cover a small surface area (e.g. semiconductors, microfluidic channels). This research investigated the use of benchtop lithography to fabricate patterns with average widths of 50 and 100 microns on silicon wafer substrates. Further development of this method will attempt to layer patterns to create hierarchical structures. Photomasks consisted of patterns printed onto transparency films with a high resolution printer and a fully patterned 10cm by 10cm area has been successfully developed. UV exposure was carried out with a self-made array of ultraviolet LEDs that was positioned a distance above a glass diffuser. Observations under a light microscope and SEM showed that developed patterns exhibit an adequate degree of fidelity with patterns from the master stamp.

**Keywords :** lithography, antifouling, marine, microtopography
**Conference Title :** ICBBB 2014 : International Conference on Biomechanics, Biophysics and Bioengineering
**Conference Location :** Kuala Lumpur, Malaysia
**Conference Dates :** February 13-14, 2014