# 3D printed chemical analysis devices

3D printing presents a new capability to make and manufacture a range of components. It is the perfect for research, as the flexibility in design and the speed of fabrication allow rapid turnaround of multiple designs in a day, this allowing a fail-fast, fail-frequently approach to development. It is also ideally suited for small-volume manufacturing, which is particularly attractive when creating a new market, as the demand is not there to cover the significant translation and commercialisation costs that exist with traditional manufacturing methods. This project will explore the use of 3D printing to create chemical analysis devices using multi-material 3D printing to create highly integrated and sophisticated components for point-of-collection measurement. Pumps, flow-cells, valves, and other functional units will be designed, evaluated and integrated into a single device, printed with a single printer for point-of-collection environmental, medical, forensic and/or industrial applications.

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