

## **RAPID, LOW-COST PROTOTYPING OF CENTRIFUGAL MICROFLUIDIC DEVICES FOR EFFECTIVE IMPLEMENTATION OF VARIOUS MICROFLUIDIC COMPONENTS†**

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### **ABSTRACT**

A centrifugal microfluidic platform to develop various microfluidic operations – the first of its kind in South Africa – is presented. Rapid and low-cost prototyping of centrifugal microfluidic disc devices, as well as a set-up to test the devices using centrifugal forces, is described. Preliminary results show that various microfluidic operations such as fluidic valving, transportation, and microfluidic droplet generation can be achieved. This work provides a complete centrifugal microfluidic platform and the building blocks on which to develop a variety of microfluidic applications and potential products rapidly and at a low cost.