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Assembly of a Novel Micro Dispenser for Applications in Microfluidics[1] HARJYOT MOHAR, ANNIE O, VICTOR HERNANDEZ, ARTURO ESTRADA, LEONEL MUNOZ, SEWAN FAN, LAURA FATUZZO, STEVEN JIMENEZ, Hartnell College — Recently there has been tremendous interest in applying inkjet printing technology in diverse fields of biology, chemistry, medicine and nano-technologies. Two popular techniques are frequently employed to make reliable atomized liquid droplets: piezo inkjet and thermal inkjet techniques. In this presentation, we describe our design and construction for a novel drop-on demand (DOD) droplet dispenser using the piezo inkjet technique that is simple to construct and operate and makes use of readily available components. The droplet dispenser can be easily fitted with cost effective glass nozzles. It can be reliably tuned to produce consistent droplet sizes in the micron range. Also, we describe a camera imaging system that is constructed to measure the ejected droplet velocities. Through the terminal velocities reached by the droplets and using Stokes' law for fluid drag force, this imaging system also makes independent measurement possible for the dispensed drop diameters.

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