

LICENSING OPPORTUNITY

SERIAL CYTOMETRY

THE TECHNOLOGY

U.S. Patent Application No.
US 2021/0302300 A1

NIST scientists have developed a microfluidic flow cytometer that is capable of robust and repeated measurements that provide first-of-their-kind uncertainty estimates, which supports better comparability and classification of cytometry data. The device measures single objects in flow several times along a microchannel with integrated waveguides that deliver and collect emitted, transmitted, and scattered light and provide additional details about object shape.

CONTINUOUS & DYNAMIC ADAPTABLE PRECISE

It solves a significant problem in basic and clinical medical research of making precise measurements of objects in flow like characterizing a sample containing fluorescently labeled cancer cells.

BENEFITS

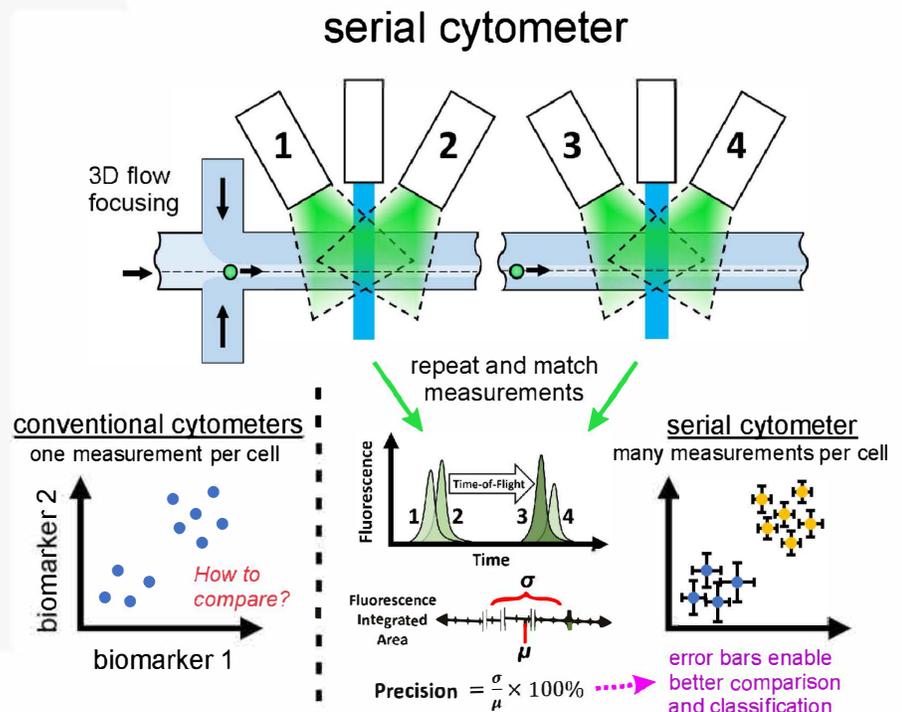
Only cytometer capable of per-object uncertainties

Better counting accuracy and classification of samples

Accounts for sources of uncertainty that might be related to the shape, deformability, stability, or activity of objects in a liquid sample.

Does not require a microscope

Compatible with on-chip sorting technologies



Serial cytometry involves making repeated measurements of single objects as they pass through multiple interrogation regions in a microfluidic channel. Integrated optical waveguides deliver and collect light from objects. Matching and analysis of signals from individual cells, for example, enable uncertainty estimates on the biomarker content of each cell, which enables better comparison and classification of cells and mixture of cells.

CONTACT

Technology Partnerships Office (TPO)
National Institute of Standards and
Technology Gaithersburg, MD 20899
licensing@nist.gov