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## Squeezing More Out of Light: Innovative Approaches to Time-Resolved Flow Cytometry

Tuesday, May 19, 2020 1:00 PM - 2:00 PM EDT

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### About This Webinar

In this webinar, presenter Giacomo Vacca, Ph.D., founder and president of Kinetic River, will discuss recent advances in time-resolved methods of flow cytometry and how these advances are being applied.

Flow cytometry has been a workhorse tool for cell analysis for over 50 years. Most flow cytometry applications involve continuous excitation of fluorescent tags and measure only the intensity of the emitted light. But there is another property of fluorescence emission that remains largely untapped in flow cytometry. Fluorescence lifetime — the average time it takes for a fluorophore to decay from its excited state — can be measured by exciting the sample with a brief pulse of light and monitoring the emission over time.

Such time-resolved techniques are common in microscopy, where fluorescence lifetime imaging microscopy (FLIM) has been used for decades. But while microscopy has the luxury of time, in flow cytometry, cells are resident in the excitation laser beam for only microseconds.

This webinar will address recent advances that have enabled the measurement of fluorescence lifetime in flow cytometry and will discuss some of the novel applications that this technique enables.

#### About the presenter:

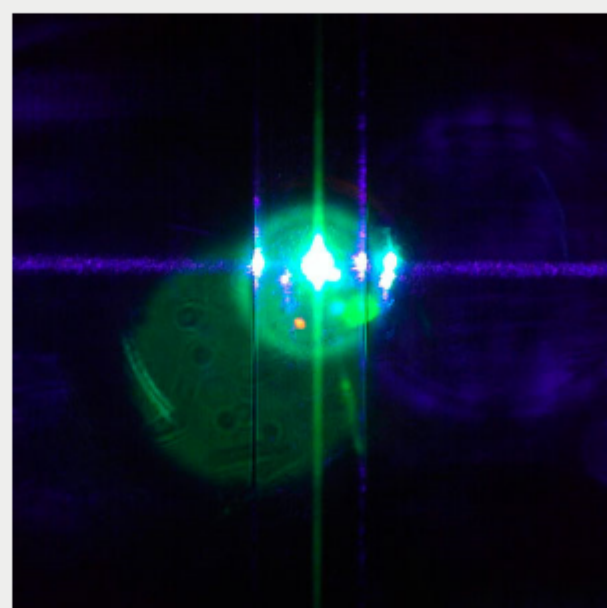
Giacomo Vacca, Ph.D., earned B.A. and M.A. degrees in physics from Harvard University and a doctorate degree in physics from Stanford University. With Nobel Prize winner Bob Laughlin, he developed a novel ultrafast light scattering technique for his dissertation. He has set up entire laboratories from scratch, started and led development programs, and generated intellectual property, with 85 patent applications and 53 patents issued to date. He has also led diverse interdisciplinary groups and managed IP portfolios.

At Abbott Labs, Vacca invented and developed Laser Rastering, a radically innovative concept in flow cytometry that yielded the fastest cell analysis rate in the world. In 2010 Vacca founded Kinetic River, a biophotonics design and product development company focusing on flow cytometry. Since 2017, Kinetic River has been awarded four competitive Small Business Innovative Research (SBIR) grants from the National Institutes of Health, totaling about \$2.2 million to date, to help develop innovative flow cytometry technologies. In 2013 Vacca cofounded BeamWise, a provider of optical system design tools. He is a senior member of SPIE and The Optical Society and a past Abbott Research Fellow.

#### Who should attend:

Researchers in the fluorescence lifetime microscopy field who want to understand how FLIM can be translated to the high-throughput realm of flow cytometry. Technicians, engineers, educators, lab managers, and other technical professionals in the life sciences, biomedical, and other optics-related fields. Anyone who is involved in life science research and biomedical diagnostics, or who is interested in learning from an expert about the latest advances in flow cytometry, will benefit from this one-hour webinar, which will include Q&A.

This webinar is sponsored by Hamamatsu Corporation.



### Mark Your Calendar

**Date: Tuesday, May 19, 2020**

**Time: 1:00 PM - 2:00 PM EDT**

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