15:00

Beyond Parameters: A New Era of Spectral and Imaging Cytometry

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Abstract

Flow cytometry is evolving — not just in dimension, but in depth. What once relied on limited detection channels and abstract readouts is now redefined by two transformative approaches: spectral cytometry and imaging cytometry.

Spectral technology captures **the full emission profile of each fluorophore**, unlocking the potential to analyze over **40 markers simultaneously**. With automated autofluorescence extraction, rare event resolution, and reproducible, high-throughput performance, it brings **high-dimensional immunophenotyping and translational research** to a new level of clarity and flexibility.

Meanwhile, imaging cytometry takes us even further — from interpreting signals to **visualizing biology in motion**. By collecting **real, high-resolution images** of every cell in flow, it reveals subcellular localization, co-localization, morphology, and internalization events with exceptional accuracy. It's not about inferring complexity — it's about **seeing it.**

Together, these technologies offer **an unprecedented view of cellular identity and behavior**, combining statistical power with spatial truth.

Not just more data — **more meaning**.

Not just evolution — a new language for decoding life at single-cell resolution.

Speaker: Ana Vieira

Ana Vieira holds a degree in Clinical Analysis and Public Health from the Coimbra Health School of Technology and a Master's in Oncobiology from the Faculty of Medicine of the University of Lisbon.

Her first contact with flow cytometry occurred during her undergraduate studies, through an internship and research project in Professor Dr. Artur Paiva's laboratory at the Centre for Histocompatibility of the Centre.

She began her professional career in the flow cytometry unit at the Institute of Molecular Medicine (iMM) and later established and led the flow cytometry platform at the Champalimaud Foundation, supporting researchers in their projects.

Currently, she works as an Applications Scientist for Cytek Biosciences, providing support in Portugal and remotely assisting teams across Europe, the Middle East, and Africa.