Tying together technological and conceptual advances of the past decades, this seminal book introduces the novel approach of chemical cytometry – the biochemical analysis of cell constituents at the single cell level. As such, it combines recently developed methods for the handling of single cells, the separation of their components, and the detection and analysis of biomolecular species with application examples from cell biology, neurobiology and molecular medicine.

The editor has succeeded in acquiring contributions from the recognized leaders in the field, resulting in a complete and authoritative overview for both developers as well as users of these new methods.

From the Contents:

- Ultrasensitive detection of low-copy molecules from single cells
- Microfluidic technology for single-cell analysis
- On-chip electroporation and electrofusion for single-cell engineering
- Electrochemical determination of enzyme activity in single cells
- Single cell mass spectrometry
- Optical sensing arrays for single-cell analysis
- Metabolic cytometry and cell signaling studies

And many more

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