

Invitation to Contribute to the Special Issue on Genomic Cytometry in Cytometry, Part A

On behalf of Editor-in-Chief, Dr. Attila Tárnok, we would like to invite you to submit a manuscript for the Special Issue of Cytometry, Part A focused on Genomic *Cytometry in Cytometry, Part A*.

Recent advances in the ability to deeply characterise individual cells have been made possible with technologies that have generally been lumped under the heading of “single cell genomics”. The term itself however is potentially misleading. As these new techniques are designed to measure cells, whether this be at the protein, RNA, DNA or DNA conformation level, at the resolution of the single cell, we believe these techniques should be considered under the banner of Genomic Cytometry. Here we define genomic cytometry in two ways:

- 1) Genomic Cytometry is no different to standard cytometry except it uses a genomic readout (base pair sequences from created libraries) rather than fluorescence, mass or imaging.
- 2) Genomic Cytometry is the measurement of cells using nucleic acid base pair sequence as reporters. Whether these reporters are inherent in the cell – i.e. RNA/ DNA sequence or if known base pair sequences (genomic barcodes) are surrogates for other measures – i.e. unique molecular barcodes attached to antibodies or regions of conformational change, these techniques should be considered under the banner of Genomic Cytometry.

This Special Issue on Genomic Cytometry provides a valuable forum where scientists, engineers, developers and shared resource laboratory manager will be able to share their most recent findings and discuss challenges in the field. In addition to articles clearly explaining basic principles, advanced techniques, and applications of genomics cytometry. We are looking for clear and concise reviews of the current state of the field (particularly in relation to Cancer, Immunology, Development and non-Mammalian systems) as well as perspective from key opinion leaders as to the current state and future of this rapidly emerging field.

We have structured the issue to cover all aspects of Genomic cytometry and are seeking articles in the following areas:

Technology

- Single cell transcriptomics
- Single cell DNAseq
- Single cell epigenetics
- Oligo antibodies (CiteSeq, totalSeq, Abseq)
- Imaging genomic cytometry
- Combinatorial approaches – Multi-omics
- Technology for clinical applications
- Informatics analysis platforms
- Perspective review on technology and where it needs to be for wide adoption in research and clinical application.

- Associated technologies - microfluidics, gentle cell sorting, rapid enrichment and cell counting, automated sample prep etc.

Assays

- Any new assays in genomic cytometry
- Any new assays associated with Genomic cytometry – either upstream in sample prep or downstream in validation process

Biology

- Cancer
- Immunology
- Developmental
- Non-mammalian
- Normal function and Human cell atlas

Associated technologies and how they are used in genomic cytometry workflow

- Suggest a combined paper discussing the application of fluorescence and mass cytometry to single cell genomics/genomic cytometry assays as part of the validation approach.

Shared Resource Laboratory

- A SRL perspective for Genomic cytometry

The target submission date is **June 15th, 2019** with a publication date in **March 2020**. All manuscripts will be peer-reviewed, following standard practices of *Cytometry, Part A*. Each individual article of the special issue will be published online as soon as it is accepted.

For more information on *Cytometry, Part A* with regard to author guidelines and publication charges, please, refer to the journal website at <https://onlinelibrary.wiley.com/journal/15524930>. When ready, please submit your manuscript directly at the *Cytometry, Part A* manuscript submission site. Please state in your cover letter that the submission is intended for this Special Issue.

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