

## Tyler J. Burns

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### EXPERIENCE

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- PRESIDIO LABS Berlin, Germany  
**CTO and co-founder** 1/23-8/23  
Built out the analytical pipelines necessary for providing bioinformatics support services for academic laboratories. Developed teaching curricula to help students and postdocs learn bioinformatics.
- BURNS LIFE SCIENCES CONSULTING GMBH Berlin, Germany  
**CEO and founder** 3/20-present  
Biology and bioinformatics support, research, and education. Projects have included domains of flow and mass cytometry, single-cell sequencing, high-dimensional imaging, spatial transcriptomics, multi-modal data integration, and biosecurity.
- FREELANCE Berlin, Germany  
**Consultant** 9/17-3/20  
Bioinformatics and computational biology support for industry. Projects focused on high-dimensional single-cell analysis. Developed numerous data analysis pipelines accordingly.
- GERMAN RHEUMATISM RESEARCH CENTER Berlin, Germany  
**Computational biologist** 9/17-11/18  
Developed analysis pipelines for mass cytometry data. Individual analysis projects included biological interpretation of results. Regularly gave institute-wide seminars and talks.

### EDUCATION

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- Stanford University School of Medicine, Stanford, CA  
*PhD*, Cancer Biology. Thesis laboratory: Garry Nolan 9/11-8/17
- Stanford University, Stanford, CA  
*BA with Honors*, Human Biology 9/05-12/08

### SELECT PUBLICATIONS, PATENTS, SOFTWARE

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My academic research focused on developing novel methods for flow and mass cytometry, both on the wet-lab and dry-lab side. This included a method for detecting nuclear localization (SLA), and a method for KNN-based analysis and visualization of mass cytometry data (Sconify).

#### Select Publications

- **Burns, T. J.**, Frei, A. P., Gherardini, P. F., Bava, F. A., Batchelder, J. E., Yoshiyasu, Y., et al. (2017). High-throughput precision measurement of subcellular localization in single cells. *Cytometry Part A*, 1–9. <http://doi.org/10.1002/cyto.a.23054>
- **Burns, T. J.**, Nolan G. P., Samusik N. (2018) Continuous visualization of multiple biological conditions within single cell data. *BioRxiv*.

- Budzinski L, Schulz AR, Baumgart S, **Burns T**, Rose T, Hirsland H, Mei HE (2019) Osmium-Labeled Microspheres for Bead-Based Assays in Mass Cytometry. *Journal of Immunology*. May 15;202(10):3103-3112. doi: 10.4049/jimmunol.1801640.
- Burns M, Schulz AR, Kunkel D, Hönig M, Warth S, Bengsch B, **Burns T**, Reinhardt J, Grützkau A, Yaspo ML, Sodenkamp J, Hoffmann U, Mei HE. (2020) Mass Cytometry-A Tool for the Curious: Networking in Berlin. *Cytometry Part A*. Aug;97(8):764-767. doi: 10.1002/cyto.a.24015

### Patents

- Karen Sachs, Mohammed N. Al-Quaraishi, Solomon Itani, Garry P. Nolan, Sean C. Bendall, **Tyler J. Burns** Compressed Sensing for Simultaneous Measurement of Multiple Different Biological Molecule Types in a Sample. Patent number US20140106976A1.

### Software

- **Burns, T. J.** (2018) Bioconductor Package “Sconify.” A toolkit for performing KNN-based statistics in flow and mass cytometry data.