# Tyler J. Burns

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## EXPERIENCE

PRESIDIO LABS                                                         Berlin, Germany
**CTO and co-founder**                                               1/23-Present
Building out the analytical pipelines necessary for providing bioinformatics support services for academic laboratories. Developing teaching curricula to help students and postdocs learn bioinformatics. Building out a team of bioinformaticians who execute these tasks accordingly.

BURNS LIFE SCIENCES CONSULTING GMBH                                  Berlin, Germany
**CEO and founder**                                                  3/20-present
Bioinformatics and computational biology support for industry. Projects have included analysis flow and mass cytometry, single-cell sequencing, high-dimensional imaging, spatial transcriptomics, and multi-modal data integration. Tasks include marketing, sales, finances, managing outsourced work, product research and development.

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

**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

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, Hirseland 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.