



Multiple graduate and postdoctoral positions in data science in cell imaging

Multiple fully funded positions are immediately available for computational postdocs/graduate students in my lab as part of the super exciting and ambitious Wellcome Leap Δ Tissue program.

The research in our lab, established Oct. 2018 at Ben-Gurion University of the Negev (BGU), is in computational cell dynamics, at the interface of cell biology and computer science. We develop and apply a broad range of computational methods to produce biological insights along with specialized analytic tools that reveal hidden patterns in complex cell imaging data. The main research themes in the lab are multicellular information processing and interpretable AI in cell imaging, with specific focus on bridging the scales from single cell to multicellular behavior and decision making. This type of interdisciplinary research is enabled by close cooperation with experimental cell biologists all around the globe, an approach so far proving synergistically rewarding and exciting. The lab is affiliated with the Department of Software and Information Systems engineering, an applied computer science department with research spanning from machine learning, data science, cyber security and biomedical informatics.

Our lab is one of the 16 selected Delta Tissue (Δ Tissue) teams, a program funded by Wellcome Leap, a nonprofit organization that builds bold, unconventional programs that aim to deliver breakthroughs in human health. Δ Tissue aims to build a 'tissue time machine' platform for integrated predictive modeling of key cell and tissue states and transitions. Our part will involve developing and applying new data-driven methodologies for bottom-up modular characterization of disease tissue state via close collaboration with the top experimental teams selected to participate in Δ Tissue. This is a very rare opportunity for computational scientists to gain access to unique datasets with vast clinical significance, to develop technologies at the front of an emerging field, and potentially make real impact to human health!

Excellent candidates from a wide range of backgrounds and experiences will be considered. Priority will be given to candidates with a solid background in computer science or similar fields. Previous knowledge and/or experience in computer vision/image analysis, machine learning, extensive programming, microscopy and cell biology is an advantage. Start date is flexible within the next year, with preference to an early start, even remotely.

Ben-Gurion University of The Negev is located in Be'er Sheva, the southern capital of Israel at the outskirts of the desert. Rental costs in Be'er Sheva are affordable and with over 25,000 students the city is known by its vibrant student life. The campus is connected by a direct rail line to Tel Aviv (~hour commute) and easy access to the rest of our (very small) country. With seven top-notch universities in a two-hour commute radius, and many national and international conferences and meetings, Israel is a very attractive destination in terms of scientific environment.

Interested applicants should send a CV and a brief cover letter (please indicate explicitly why you are interested in the research and how your background provides a good fit). Feel free to contact me with any question.



Related information:

- Lab website: <https://www.assafzaritsky.com/>
- Assaf's Twitter account: <https://twitter.com/AssafZaritsky>
- Wellcome Leap: <https://wellcomeleap.org/>
- Δ Tissue: <https://wellcomeleap.org/delta-tissue/>
- "Dry" cell biology essay (2016): <https://www.nature.com/news/cell-biologists-should-specialize-not-hybridize-1.20277>
- Data science in cell imaging perspective (2021): <https://journals.biologists.com/jcs/article/134/7/jcs254292/238123/Data-science-in-cell-imaging>
- BGU for internationals: <https://in.bgu.ac.il/en/Global/Pages/default.aspx> and <https://in.bgu.ac.il/en/international/Pages/default.aspx>



Hiking at the Negev Desert



Lab photo (partial, not updated)