

Burak Ogan Mancarci

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oganm.com

Education

- 2013-2022 (expected)** **MSc, Bioinformatics;** University of British Columbia (Vancouver, Canada)
Thesis title: Identification/validation of cell type marker genes of the brain and their use in estimating cell type proportions in brain samples.
- 2009-2013** **BSc, Molecular Biology And Genetics;** Bilkent University (Ankara, Turkey)

Research Experience

- 2014 - present** **MSc Student at UBC Micheal Smith Laboratories** - Supervisor: Dr. Paul Pavlidis
- Identification/validation of cell type marker genes of the brain and their use in estimating cell type proportions in brain samples (github.com/PavlidisLab/neuroExpressoAnalysis).
 - Development of a web application to visualize gene expression in brain cell types (neuroexpresso.org).
- 2013** **Rotation at BC Children's Hospital** - Supervisor: Dr. Wyeth Wasserman
- Analysis of CAGE data for detection of microRNA transcription start sites.
- 2013** **Rotation at Simon Fraser University** - Supervisor: Dr. Fiona Brinkman
- Analysis of antisense transcription in genomic islands.
- 2012** **Summer internship at University of Zurich** - Supervisor: Dr. Barbara Tschirren
- Selective mating of Japanese quails and computational analysis of various properties of quail and tit eggs.
- 2011** **Summer internship at Harvard Medical School** - Supervisor: Dr. George Daley
- Reprogramming of murine and human cells via viral vectors.

Teaching Experience

- 2018** **Teaching Assistant for Statistical Methods for High Dimensional Biology course (STAT 540) at UBC** - Instructors: Sara Mostafavi, Paul Pavlidis
- 2016** **Teaching Assistant for Exploratory Data Analysis course (STAT 545) at UBC** - Instructor: Dr. Jenny Brian

2015 **Teaching Assistant for Exploratory Data Analysis course (STAT 545) at UBC -**
Instructor: Dr. Jenny Brian

2015 **Instructional Skills Workshop at UBC - iswnetwork.ca**

Publications

Lim, N., Tesar, S., Belmadani, M., Poirier-Morency, G., **Mancarci, B.O.**, Sicherman, J., Jacobson, M., Leong, J., Tan, P. and Pavlidis, P. (2021). Curation of over 10 000 transcriptomic studies to enable data reuse. Database, 2021.

Zhuang, B., **Mancarci, B.O.**, Toker, L. and Pavlidis, P. (2019). Mega-analysis of gene expression in mouse models of Alzheimer's Disease. Eneuro, 6(6).

Tripathy, S.J., Toker, L., Bomkamp, C., **Mancarci, B.O.**, Belmadani, M., and Pavlidis, P. (2018). Assessing Transcriptome Quality in Patch-Seq Datasets. Front. Mol. Neurosci. 11.

Toker, L., **Mancarci, B.O.**, Tripathy, S., and Pavlidis, P. (2018). Transcriptomic evidence for alterations in astrocytes and parvalbumin interneurons in bipolar disorder and schizophrenia subjects. Biological Psychiatry.

Mancarci, B.O., Toker, L., Tripathy, S.J., Li, B., Rocco, B., Sibille, E., and Pavlidis, P. (2017). Cross-Laboratory Analysis of Brain Cell Type Transcriptomes with Applications to Interpretation of Bulk Tissue Data. ENeuro 4.

Tripathy, S.J., Toker, L., Li, B., Crichlow, C.-L., Tebaykin, D., **Mancarci, B.O.**, and Pavlidis, P. (2017). Transcriptomic correlates of neuron electrophysiological diversity. PLOS Computational Biology 13, e1005814.

Horvath, G.A., Demos, M., Shyr, C., Matthews, A., Zhang, L., Race, S., Stockler-Ipsiroglu, S., Van Allen, M.I., **Mancarci, O.**, Toker, L., et al. (2016). Secondary neurotransmitter deficiencies in epilepsy caused by voltage-gated sodium channelopathies: A potential treatment target? Mol. Genet. Metab. 117, 42–48.

Onder, T.T., Kara, N., Cherry, A., Sinha, A.U., Zhu, N., Bernt, K.M., Cahan, P., **Mancarci, B.O.**, Unternaehrer, J., Gupta, P.B., et al. (2012). Chromatin-modifying enzymes as modulators of reprogramming. Nature 483, 598–602.

Software

NeuroExpresso: A web application for visualization of gene expression data in brain cell types. Available at neuroexpresso.org.

markerGeneProfile: An R package for calculation of marker gene profiles as described in **Mancarci et al. (2017)**. Available at github.com/PavlidisLab/markerGeneProfile.

VASCO: A web application for visualization of gene expression data from single cell RNA sequencing experiments. Developed for HackSeq 2016. Available at hackseq.github.io/vasco.

Viral Voyager: A web application for visualization and analysis of metavirome data collected for the Tara Oceans Project. Developed for HackSeq 2018. Available at oganm.com/shiny/taracyc.

Impact Replays: A web application for visualization play-by-play data from football games. Developed for SportsHack hackaton. Available at daattali.com/shiny/cfl.

eggstractor: Software to automate extraction of shape and pigmentation related information from quail eggs. Developed for 2012 summer internship under Barbara Tschirren. Available at github.com/oganm/eggstractor.

Misc. Bioinformatics related R packages: I maintain R packages aimed at making life easier for myself and other bioinformaticians. See github.com/topics/ogan-bio for a full list.

Misc. D&D related repositories: I maintain R packages and web applications to be used while playing Dungeon's and Dragons, a popular tabletop roleplaying game. See github.com/topics/ogan-dnd for a full list.