

## Selcan Aydin Curriculum Vitae

The Jackson Laboratory  
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### EDUCATION

**PhD** Biology, Duke University, USA, 2017

**Advisor:** Dr. Nicolas E. Buchler

**MSc** Systems Biology, University of Heidelberg, Germany, 2011

**BSc** Biological Sciences and Bioengineering, Sabanci University, Turkey, 2009

### PROFESSIONAL APPOINTMENTS

**Postdoctoral Fellow** Munger Lab, The Jackson Laboratory, USA, 2018- Present

**Advisor:** Dr. Steven C. Munger

### PUBLICATIONS

1. Aydin S., Zhang T., Pham D., Skelly D. A., Pankratz M., Porter D. K., Keele G., Choi T., Gygi S., Reinholdt L. G., Baker C. L., Churchill G. A., Munger S. C., 2022 Genetic dissection of the pluripotent proteome through multi-omics data integration. (in prep).
2. Ortmann D., Brown S., Czechanski A., **Aydin S.**, Muraro D., Huang Y., Tomaz R. A., Osnato A., Canu G., Wesley B. T., Skelly D. A., Stegle O., Choi T., Churchill G. A., Baker C. L., Rugg-Gunn P. J., Munger S. C., Reinholdt L. G., Vallier L., 2020 Naive Pluripotent Stem Cells Exhibit Phenotypic Variability that Is Driven by Genetic Variation. *Cell Stem Cell* **27**: 470–481.e6.
3. Skelly D. A., Czechanski A., Byers C., **Aydin S.**, Spruce C., Olivier C., Choi K., Gatti D. M., Raghupathy N., Keele G. R., Stanton A., Vincent M., Dion S., Greenstein I., Pankratz M., Porter D. K., Martin W., O'Connor C., Qin W., Harrill A. H., Choi T., Churchill G. A., Munger S. C., Baker C. L., Reinholdt L. G., 2020 Mapping the Effects of Genetic Variation on Chromatin State and Gene Expression Reveals Loci That Control Ground State Pluripotency. *Cell Stem Cell* **27**: 459–469.e8.
4. Skelly D. A., Czechanski A., Byers C., **Aydin S.**, Spruce C., Olivier C., Choi K., Gatti D. M., Raghupathy N. M., Stanton A., Vincent M., Dion S., Greenstein I., Pankratz M., Porter D. K., Martin W., Qin W., Harrill A. H., Choi T., Churchill G. A., Munger S. C., Baker C. L., Reinholdt L. G., 2019 Genetic variation influences pluripotent ground state stability in mouse embryonic stem cells through a hierarchy of molecular phenotypes. *bioRxiv*: 552059.
5. **Aydin, S.** Understanding the Effects of Genetic Variation on Osmo-adaptation Dynamics Across *S. cerevisiae* using Bulk Segregant Analysis and Whole Genome Sequencing (2017). Duke University.
6. Rienzo A., Poveda-Huertes D., **Aydin S.**, Buchler N.E., Pascual-Ahuir A., Proft M. (2015). Different mechanisms confer gradual control and memory at nutrient- and stress-regulated genes in yeast. *Mol Cell Biol*, 35:3669–3683.

7. Pinna, F., Sahle, S., Beuke, K., Bissinger, M., \***Tuncay, S.**, D'Alessandro, L. A., Gaugaes, R., Raue, A., Timmer, J., Klingmüller, U., Schirmacher, P., Kummer, U., Breuhahn, K. (2012). A Systems Biology Study on NFκB Signaling in Primary Mouse Hepatocytes. *Frontiers in Physiology*, 3, 466.

## **AWARDS & HONORS**

2021, rstudio::global(2021) Diversity Scholar, RStudio  
2019, International Mammalian Genome Society Scholarship (IMGS) for Trainees, IMGS  
2018, Pyewacket Award, The Jackson Laboratory  
2016, Biology Grant in Aid, Biology Department, Duke University  
2016, Conference Travel Award, The Graduate School, Duke University  
2016, Graduate Student Training Enhancement Grant, Duke University  
2016, Summer Research Fellowship, The Graduate School, Duke University  
2015, 28<sup>th</sup> Fungal Genetics Conference travel award, Genetics Society of America  
2010, Fulbright Student Program PhD Grant, The Turkish Fulbright Commission

## **CONFERENCES & WORKSHOPS**

### **Selected Talks and Poster Presentations**

2021, Genetic dissection of the pluripotent proteome (talk), Complex Traits Consortium Meeting, September 1  
2020, Genetic dissection of the pluripotent proteome (poster), The International Symposium on Health Informatics and Bioinformatics, October 22-23  
2020, Proteomics reveals the role of translational regulation in ES cells (talk), Virtual TAGC and Trainee Symposium, April 16  
2019, Genetic modifiers of protein abundance in embryonic stem cells (poster), New York Stem Cell Foundation Conference, October 22  
2019, Genetic dissection of the embryonic stem cell proteome (talk), Complex Traits Consortium / Rat Genomics 17th Annual Meeting, June 11  
2019, Genetic dissection of the embryonic stem cell proteome (talk), JAX Scientific Symposium, May 7

### **International Conferences and Workshops**

2021, rstudio::global(2021) (participant), January 21-22  
2020, 28<sup>th</sup> Conference on Intelligent Systems for Molecular Biology, ISMB (participant), July 13-16  
2020, rstudio::conf(2020) (participant), January 29-30  
2020, rstudio::conf(2020) Introduction to Machine Learning with the Tidyverse Workshop (participant), January 27-28  
2018, Population, Evolutionary and Quantitative Genetics Conference (participant), May 13-16  
2016, Quantifying the effects of genetic variation on osmoadaptation dynamics (poster), 10th Annual q-bio Conference, July 27-30  
2016, Tenth Q-bio Summer School San Diego Campus (participant), July 10-22  
2015, Characterizing the effects of genetic variation on signaling dynamics (poster), 28<sup>th</sup> Fungal Genetics Conference, March 17-22  
2012, The Cell Cycle Meeting (participant) at Cold Spring Harbor Laboratory, May 15-19

2011, Generation of an ODE-based model for TNF $\alpha$ /NF- $\kappa$ B signaling in murine hepatocytes (poster), International Congress of Systems Biology, Aug 28 – Sept 1

## **RESEARCH EXPERIENCE**

2018-, Postdoctoral Fellow

Studying the influence of genetic variation on cell fate decisions, focusing on pluripotency maintenance in mouse embryonic stem cells under the supervision of Dr. Steve Munger.

2010-2017, Dissertation Project

Investigated the effects of genetic variation on signaling dynamics using osmo-adaptation in budding yeast as a model phenotype under the supervision of Dr. Nicolas E. Buchler and Dr. Paul M. Magwene in the Department of Biology, Duke University.

2010-2011, Master's Thesis Project

Modeled the Tumor necrosis factor (TNF)  $\alpha$  induced Nuclear Factor Kappa-light-chain-enhancer of activated B cells (NF $\kappa$ B) signaling using quantitative experimental data from primary murine hepatocytes. Mathematical modeling and parameter estimation under the supervision of Prof. Dr. Ursula Kummer in in Bioquant Research Institute at University of Heidelberg.

## **TEACHING EXPERIENCE**

2021, Many faces of Rmarkdown (Invited talk), R-ladies Dammam, April 21

<https://many-faces.netlify.app/>

2021, Data Organization, Cleaning, Analysis and Visualization in R, March 22 – 25 at Genentech

## **The Jackson Laboratory**

2021, Journal Club for Postbaccalaureate Researchers, September 2021 - January 2022

2020, R for Data Science: Explore, July

2020, R for Data Science: Wrangle, August

2020, Introductory R, June

2019, Teaching Assistant, Genetics 1

2019, Instructor, R for Data Science, March 25 & April 1

2019, Instructor, R for Reproducible Scientific Analysis, February 4 & 11

2018, Teaching Assistant, Human and Mammalian Genetics and Genomics: The 59th McKusick Short Course, July 16-27

## **Duke University, Teaching Assistant**

2017 Spring, BIO212L: General Microbiology

2016 Fall, BIO212L: General Microbiology

2016 Spring, BIO212L: General Microbiology

2015 Fall, BIO212L: General Microbiology

2015 Spring, BIO201L: Gateway to Biology: Molecular Biology

## **OUTREACH & LEADERSHIP**

2022, Member of Accessibility Committee at the Early Career Leadership Program run by Genetics Society of America

- 2021, Reviewer at the Peer Review Training Program run by Genetics Society of America
- 2021, Co-supervised JAX Summer Student Samantha Ardery with Dr. Steven Munger, The Jackson Laboratory, Bar Harbor, ME
- 2021, Treasurer and Secretary, Women in Science and Engineering, The Jackson Laboratory, Bar Harbor, ME
- 2021, Skype-a Scientist, Jan 15, 27
- 2021, Co-supervision of Tufts Graduate Student Sherrea Brown with Dr. Steven Munger, The Jackson Laboratory, Bar Harbor, ME
- 2020, Fark Yaratan Kadınlar (webinar), Nov 30
- 2020, Skype-a Scientist, Jan 9, Feb 18, Nov 9, 19
- 2020, Co-supervision of Tufts Graduate Student Luke Parsley with Dr. Steven Munger, The Jackson Laboratory, Bar Harbor, ME
- 2019, Co-supervised JAX Summer Student Stephanie Hoyt with Dr. Steven Munger, The Jackson Laboratory, Bar Harbor, ME
- 2018 - 2019, Treasurer, JAX Postdoc Association, The Jackson Laboratory, Bar Harbor, ME
- 2018, Co-supervised JAX Summer Student Benjamin Allan-Rahill with Dr. Steven Munger, The Jackson Laboratory, Bar Harbor, ME
- 2018, DNA Day Volunteer at Connors-Emerson School, Bar Harbor, ME
- 2015 - 2017, Treasurer, Women In Science and Engineering, Duke University, NC
- 2015, NC DNA Day Volunteer at Ridgecroft School, Ahoskie, NC
- 2014 - 2015, Mentored two undergraduate students at Duke University, NC
- 2011 - 2012, BOOST Science coach for 7<sup>th</sup> grade students at Duke University, NC

**LANGUAGES**

English (fluent)  
Turkish (native)

**REFERENCES**

Available upon request.