EZGI KARAESMEN

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EDUCATION

The Ohio State University Columbus, OH, USA   08/2016 - Present
Doctor of Philosophy, – Pharmaceutical Sciences,
Areas of research: Pharmacogenomics & Statistical Genetics

State University of New York at Buffalo Buffalo, NY, USA   08/2014 - 06/2016
Roswell Park Cancer Institute Graduate Division
Master of Science, Interdisciplinary Natural Sciences - *via CanSys Program*
Areas of research: Cancer Molecular Biology & Bioinformatics

Université du Luxembourg Luxembourg City, Luxembourg   09/2013 - 07/2014
Master of Science, Integrated Systems Biology

Hacettepe University Ankara, Turkey   09/2008 - 07/2013
Bachelor of Science, Biology
Minor, Philosophy

ADDITIONAL EDUCATION

Advanced Graduate Certificate in Applied Biostatistics   08/2015 - 09/2016
State University of New York at Buffalo Buffalo, NY, USA

Computational Genomics Winter Institute   Feb 26-Mar 3, 2018
University of California at Los Angeles, Los Angeles, CA, USA

Advanced Gene Mapping   Jan 23-27, 2017
The Rockefeller University, New York, NY, USA

Analysis of NGS Data for Complex Traits Course   July 4-8, 2016
Max Delbrück Center for Molecular Medicine, Berlin, Germany

Georg-August-Universität Göttingen via Erasmus Programme   02/2011 - 07/2011
Undergraduate Study Abroad Semester, Göttingen, Germany

RESEARCH EXPERIENCE

Doctoral Research   03/2016 - Present
The Ohio State University, Columbus, OH, USA
College of Pharmacy, Division of Pharmaceutics and Pharmaceutical Chemistry
Thesis Adviser: Lara Sucheston-Campbell, PhD.

Conduct genome-wide association studies (GWAS) to determine the independent and joint effects of recipient and donor genetic variation associated with survival after HLA-matched unrelated donor Hematopoietic Stem Cell Transplantation (HSCT) in leukemia patients.

- Constructing Cox proportional hazard and competing risk models to test associations with clinical events.
- Determining interactions between genetic variants and agents used during treatment.
- Further evaluation of specific risk groups by stratification of clinical variables.

Master Thesis Research 08/2014 - 09/2015
Roswell Park Cancer Institute, Buffalo, NY, USA
Department of Pharmacology and Therapeutics
Thesis Adviser: Barbara Foster, PhD.
Thesis title: Retinoic Acid Receptors and LSD1 As Novel Targets For Prostate Cancer

Understanding the transcriptomic control of Retinoic Acid Receptors and LSD1 in prostate cancer to explore their potential as drug targets for prostate cancer treatment.

- Differential gene expression analyses on publicly available prostate cancer datasets (TCGA) and on human prostate cell line LNCaP-C42 under different gene knock-down conditions and drug treatments
- Dose response experiments with commercially available prostate cancer cell lines while targeting RAR-gamma, LSD1 or both

Student Assistant 05/2014 - 08/2014
Luxembourg Centre for Systems Biomedicine Metabolomics Department
Esch-sur-Alzette, Luxembourg
Supervisor: Karsten Hiller, PhD

Intern 01/2014 - 02/2014
Centre Recherche Public (CRP) - Santé, Proteomics Department,
Luxembourg City, Luxembourg
Supervisor: Bruno Domon, PhD

Undergraduate Summer Project 06/2012 - 08/2012
Hacettepe University, Ankara, Turkey
Evolutionary and Ecological Genetics Laboratory (EEGL)
Supervisor: Ergi Deniz Ozsoy, PhD Project Title: The genetic correlation between testicle and head sizes and its effect on mate selection in *Drosophila subobscura*.

PUBLICATIONS

1. Tang H, Hahn TE, **Karaesmen E**, Rizvi AA, Wang J, Paczesny S, Wang T, Preus L, Zhu Q, Haiman CA, Stram D, Pooler L, Sheng X, Van Den Berg D, Brock G, Webb A, Pasquini MC, McCarthy PL, Spellman SR, Sucheston-Campbell LE. Validation of genetic associations with acute GVHD and non-relapse mortality in DISCOVeRY-BMT. *Blood Adv.* Accepted

2. **Karaesmen E**, Hahn TE, Dile A, Rizvi AA, Wang J, Wang T, Haagenson M, Preus L, Zhu Q, Liu Q, Yan L, Liu S, Haiman CA, Stram D, Pooler L, Sheng X, Van Den Berg D, Brock G, Webb A, McCarthy PL, Pasquini MC, Spellman SR, Lee SJ, Paczesny S, Sucheston-Campbell LE Multiple functional variants in IL1RL1 region are pre-transplant markers for risk of GVHD and infection deaths. *Blood Adv.* Accepted

3. Rizvi AA, **Karaesmen E**, Morgan M, Preus L, Wang J, Sovic M, Hahn TE, Sucheston-Campbell LE. gwasurvivr: an R package for genome-wide survival analysis. *Bioinformatics.* 2018 Nov 5. PMID: 30395168.
   doi:10.1093/bioinformatics/bty920

4. **Karaesmen E**, Rizvi AA, Preus L, McCarthy PL, Pasquini MC, Onel K, Zhu X, Spellman S, Haiman CA, Stram DO, Pooler L, Sheng X, Zhu Q, Yan L, Liu Q, Hu Q, Webb A, Brock G, Clay-Gilmour AI, Battaglia S, Tritchler D, Liu S, Hahn TE, Sucheston-Campbell LE. Replication and validation of genetic polymorphisms associated with survival after allogeneic blood or marrow

transplant. *Blood* 2017 Sep 28;130(13):1585-1596. PMID: 28811306. doi:/10.1182/blood-2017-05-784637

5. Clay-Gilmour AI, Hahn T, Preus LM, Onel K, Skol A, Hungate E, Zhu Q, Haiman CA, Stram DO, Pooler L, Sheng X, Yan L, Liu Q, Hu Q, Liu S, Battaglia S, Zhu X, Block AW, Sait SN, **Karaesmen E**, Rizvi AA, Weisdorf DJ, Ambrosone CB, Tritchler D, Ellinghaus E, Ellinghaus D, Stanulla M, Clavel J, Orsi L, Spellman S, Pasquini, MC, McCarthy PL, Sucheston-Campbell LE. Genetic association with B-cell acute lymphoblastic leukemia in allogeneic transplant patients differs by age and sex. *Blood Adv.* 2017 Sep 8;1(20):1717-1728. PMID: 28811306. doi:10.1182/bloodadvances.2017006023

ORAL PRESENTATIONS

1. **Karaesmen E** (2019 Mar) *Introduction to Data Science with R.* Women in Analytics Conference, Columbus OH

2. **Karaesmen E**, Hahn ET, Dile A, Rizvi AA, Wang J, Wang T, Haagenson MD, Preus L, Zhu Q, Liu Q, Yan L, Liu S, Haiman C, Stram D, Pooler L, Cheng X, Van Den Berg D, Brock G, Webb A, McCarthy PL, Spellman SR, Lee JS, Paczesny S, and Sucheston-Campbell LE. Multiple Functional Donor Polymorphisms in IL1RL1 region Associate with Death Due to GvHD or Infection after Unrelated Donor Allogeneic Hematopoietic Stem Cell Transplantation (HCT) for AML and MDS. (2018 Dec) American Society of Hematology 60th Annual Meeting, San Diego, CA.

3. **Karaesmen E** (2018 Mar) *Data Cleaning and Manipulation with R.* Women in Analytics Conference, Columbus OH

4. **Karaesmen E**, Rizvi AA, Preus L, McCarthy PL, Pasquini M, Singh S, Singh SK, Onel K, Zhu X, Spellman S, Haiman CA, Stram DO, Pooler L, Sheng X, Zhu Q, Yan L, Liu Q, Hu Q, Webb A, Brock G, Clay-Gilmour AI, Battaglia S, Tritchler D, Liu S, Hahn T, Sucheston-Campbell LE. (2018 Feb). *Genome-Wide Significant Donor Genetic Associations with Death Due to Disease in AML and MDS Patients in the First 1 Year after BMT Are Not Modified By Conditioning Intensity or TBI.* 2018 BMT Tandem Meetings, Salt Lake City, UT.

5. **Karaesmen E**. (2017 Nov). *Personalized Medicine and Genomic Data Science.* Ohio DevFest, Columbus, OH.

6. **Karaesmen E**, Rizvi AA, Preus L, McCarthy PL, Pasquini MC, Onel K, Zhu X, Spellman S, Haiman CA, Stram DO, Pooler L, Sheng X, Zhu Q, Yan L, Liu Q, Hu Q, Webb A, Brock G, Clay-Gilmour AI, Battaglia S, Tritchler D, Liu S, Hahn T, Sucheston-Campbell LE. (2016 Dec). *Replication of Candidate SNP Survival Analyses and Gene-Based Tests of Association with Survival Outcomes after an Unrelated Donor Blood or Marrow Transplant: Results from the DISCOVeRY-BMT Study.* American Society of Hematology 58th Annual Meeting, San Diego, CA.

7. **Karaesmen E**, Rizvi AA, Preus L, McCarthy PL, Pasquini MC, Onel K, Zhu X, Spellman S, Haiman CA, Stram DO, Pooler L, Sheng X, Zhu Q, Yan L, Liu Q, Hu Q, Webb A, Brock G, Clay-Gilmour AI, Battaglia S, Tritchler D, Liu S, Hahn T, Sucheston-Campbell LE. (2016 Oct). *Visualizing genomic results for team science: an example from the DISCOVeRY-BMT study.* Inaugural The Ohio State University Pharmaceutics Retreat, Columbus, OH.

POSTER PRESENTATIONS

1. **Karaesmen E**, Rizvi AA, Sovic M, Wang J, Singh SK, Singh S, Wang T, Haagenson M, Dile A, Preus L, Spellman SR, Lee SJ, Hahn TE, Paczesny S, Sucheston-Campbell LE. Donor SNPs in IL1RL1, Strongly Correlated With Serum sST2 Concentration, Significantly Associate With Risk Of Acute GVHD Implications For Donor Selection. College of Pharmacy 13th Annual Research Day, Columbus, OH

2. Sucheston-Campbell LE, Preus L, McCarthy PL, Pasquini MC, Onel K, Zhu X, Spellman S, Haiman CA, Stram DO, Pooler L, Sheng X, Zhu Q, Yan L, Liu Q, Hu Q, Webb A, Brock G, Clay-Gilmour AI, Battaglia S, Tritchler D, Liu S, **Karaesmen E**, Rizvi AA, Hahn T. (2017, 04). *DISCOVeRY-BMT study: Variants Affecting Transplant and Disease Related Mortality in AML and MDS patients.* The Ohio State University Comprehensive Cancer Center Annual Scientific Meeting, Columbus, OH.

3. **Karaesmen E**, Battaglia S, Foster B. (2015, 07). *Retinoic acid receptors and LSD1 as Novel Targets for Castration Resistant Prostate Cancer.* Roswell Park Cancer Institute Retreat, Geneseo, NY.

PEER REVIEW

Biology of Blood and Marrow Transplantation Reviewer   11/2017 - Present

TEACHING EXPERIENCE

Understanding Injury Data with R, Data Science for Women Summer Camp   July 17 2019
I conducted a workshop with students in 8-10 grades. Interactive material is available here.

Teaching Assistant for Introduction to the Structure, Analyses and Interpretation of Genomic Data studies Course (PHR 8194)   Spring 2019

- Addition to assistantship, I also taught Data Vizualization Module giving a two lecture introduction to ggplot2 package in R.

Introduction to R Programming Workshops   2018 - Present

- Every year I organize multiple R programming workshops to raise funds for Pelotonia.
- This 12 hour workshop includes the introduction of R objects and functions, methods of data cleaning and visualization for beginners.
- Dates of past workshops:
    - April 22 - May 6, 2019
    - Sept 4 - 13, 2018
    - July 15 - Aug 8, 2017
    - June 8 - 29, 2017

Biocondutor Workshop at OSU   September 11-12 2017

- Organized a 2-day Bioconductor workshop hosted by Dr. Martin Morgan with over 100 attendees

PROGRAMMING SKILLS

R, UNIX/Linux, Bash/Shell, Shiny Apps, RMarkdown, LaTeX, Git, PLINK

FELLOWSHIPS/SCHOLARSHIPS/HONORS/AWARDS

- American Society of Hematology Abstract Achievement Award   Oct 2018
- [Pelotonia Gratuate Fellowship](#)   Aug 2018-Aug 2020
- First Place Graduate Student Poster   April 2018
  The Ohio State University College of Pharmacy 13th Annual Research Day
- Chang Ahn Travel Award   Jan 2018
  The Ohio State University College of Pharmacy
- Elected to Phi Kappa Phi Honor Society – Chapter 155   Sept 2017
- Travel Scholarship   July 2017
  BioC 2016: Where Software and Biology Connect, San Francisco
- Soroptimist International of Europe Scholarship   Aug 2014
- Cancer and Systems Biology (CanSys) Program   Feb 2014-Dec 2014
  between the University at Buffalo, Université du Luxembourg

LANGUAGES

- Turkish: Mother tongue
- English: Fluent
- German: Advanced
  Deuthches Sprachdiplom der Kultusministerkonferenz – Zweite Stufe (C1) May, 2008
- French: Intermediate
  Diplôme D'Études En Langue Française (DELF) B2 July, 2010

EXTRA-CIRRUCULAR

- Co-organizer of [R-Ladies Columbus](#)
- Raised over $4,000 for [Pelotonia](#), a large fundraising event for cancer research in Columbus, OH. Cycled 25 miles for ride event in 2017, 45 miles in 2018 and will be cycling 100 miles this year.