

SİNEM DEMİRKAYA-BUDAK
Assistant Project Manager and Lab Specialist
+90 536 951 1745 – sinemdemirkaya1@gmail.com
sinemdemirkayabudak.github.io

Work Experience

- 05.2018 – Ongoing
Assistant Project Manager and Lab Specialist, Seven Bridges Genomics Inc., Ankara, TURKEY
 - Performing next generation sequencing (NGS) in a national genome project with Illumina NovaSeq 6000 System.
 - Performing all laboratory processes for NGS like DNA isolation and library preparation, train and orient clients about all protocols from blood sample retrieval to NGS data generation.
 - Taking active role in optimizing and benchmarking of various bioinformatics tools and workflows on The Seven Bridges Platform.
- 01.2016 – 04.2018
Teaching & Research Assistant, TOBB University of Economics and Technology (TOBB ETU), Ankara, TURKEY
 - Studying effects of several SNPs on an eye disease utilizing DNA isolation techniques (salt-out and using commercial kit) from several sample types including whole blood, PCR/RFLP, real-time PCR and ELISA methods for investigating isolated DNA.
 - Researching, ordering and installing lab equipment to a central lab and guiding graduate students for using these equipment.
 - Preparing and submitting research projects, consent, ethics and phenotypic forms for projects including human subjects.
 - Teaching Molecular Biology and Genetics laboratory and Physics 101 laboratory classes.
- 07.2013 – 09.2013
Intern, Institute of Systematic Botany and Mycology, University of Munich (LMU München), Munich, GERMANY
 - Studying three species of Caricaceae for validating their phylogenetic relationships by utilizing chromosome counting technique (I was acknowledged for my contribution in this publication: <http://www.springer.com/br/book/9783658102661>).
 - Helping lab technicians with their regular workflow in several studies including sample collection, sample processing for chromosome counting, PCR, agarose gel electrophoresis, and chromosome counting with DAPI staining under fluorescent microscope.
- 10.2014 – 06.2015, 10.2012 – 01.2013
Special Tutor, <http://odevodtu.com>, Ankara, TURKEY
 - Tutoring primary and secondary education students in math and science classes.

Education

- 09.2018 – Ongoing
PhD, Medical Informatics, Middle East Technical University (METU)
CGPA: 3.75 / 4.00
- 01.2016 – 04.2018
Master's Degree, Biomedical Engineering, TOBB University of Economics and Technology (TOBB ETU)
CGPA: 4.00 / 4.00
 - Investigation of the relationship between clusterin genetic polymorphisms and clusterin level of tear and aqueous humor in pseudoexfoliation syndrome and glaucoma (Master thesis study).
- 09.2008 – 06.2015
BSc, Molecular Biology and Genetics, Middle East Technical University (METU)
CGPA: 2.57 / 4.00

- Spring 2014 – Laboratory practices of green microalgae (*Chlamydomonas reinhardtii*) to produce biodiesel from microalgae.
Middle East Technical University (METU), Ankara, TURKEY
- Fall 2013 – Physiological and biochemical response to boron toxicity in two barley cultivars (Zafer 160 and Tarm 92). To study the effects of boron toxicity; growth of root and shoot, antioxidant defense mechanism (Ascorbate peroxidase, Catalase, Glutathione reductase), relative water content, proline content, H₂O₂ content, malondialdehyde content, protein concentration and the pigment concentration are investigated.
Middle East Technical University (METU), Ankara, TURKEY
- Summer 2013 – Chromosome counting for three species of Caricaceae – *C. parviflora*, *J. caudata*, *J. heterophylla* – by using classical cytogenetic techniques and DAPI staining.
Institute of Systematic Botany and Mycology, University of Munich (LMU München), Munich, GERMANY
- 11.2011 – 06.2015
BSc, Business Administration (Open Education), Anadolu University
CGPA: 2.65 / 4.00
- 09.2004 – 06.2008
Mathematics and Science, Mehmet Akif Ersoy High School
Diploma grade: 93.78 / 100

Publications

- Can Demirdöğen B, **Demirkaya-Budak S**, Özge G, Mumcuoğlu T. 2019. Evaluation of Tear Fluid and Aqueous Humor Concentration of Clusterin as Biomarkers for Early Diagnosis of Pseudoexfoliation Syndrome and Pseudoexfoliative Glaucoma. *Current Eye Research*. <https://doi.org/10.1080/02713683.2019.1698055>
- Can Demirdöğen B, Koçan Akçin C, Göksoy E, Yakar G, Öztepe T, **Demirkaya-Budak S**, Oflaz S. 2019. Paraoxonase 1 (PON1) promoter (-107T/C) and coding region (192Q/R and 55L/M) genetic variations in pseudoexfoliation syndrome and pseudoexfoliative glaucoma risk. *Graefe's Archive for Clinical and Experimental Ophthalmology*. <https://doi.org/10.1007/s00417-019-04408-w>

Oral Presentations

- **Demirkaya S**, Can Demirdöğen B, Özge G, Mumcuoğlu T. Relationship between clusterin polymorphisms and pseudoexfoliation syndrome and glaucoma. In vitro Diagnostic Biomarkers Symposium. May 10-12, 2017. İzmir, Turkey (Oral presentation). *Turkish Journal of Biochemistry*. 2017; vol 42(S2): pp 52, S-12.
- **Demirkaya S**, Can Demirdöğen B, Özge G, Mumcuoğlu T. Analysis of the relation between clusterin rs11136000 polymorphism and pseudoexfoliation syndrome. TBD Biochemistry Days. November 2–5, 2016. Sivas, Turkey (Oral presentation). *Turkish Journal of Biochemistry*. 2016; vol 41 (S3), S036.

Poster Presentations

- **Demirkaya Budak S**, Can Demirdöğen B, Özge G, Mumcuoğlu T. The association between clusterin rs11136000 C/T single nucleotide polymorphism and clusterin protein level in tear fluid in pseudoexfoliative glaucoma risk. The 43rd FEBS Congress. July 7-12, 2018. Prague, Czech Republic. *FEBS Open Bio*. 2018; vol. 8 (S1): pp 255, P.09-147-Wed. doi:10.1002/2211-5463.124534
- **Demirkaya-Budak S**, Can Demirdöğen B, Özge G, Mumcuoğlu T. The Association between clusterin rs11136000 C/T single nucleotide polymorphism and pseudoexfoliative glaucoma risk. International Eurasian Conference on Biological and Chemical Sciences. April 26-27, 2018. Ankara, Turkey. *Eurasian Journal of Biological and Chemical Sciences*, Abstract Book 2018; pp 584.
- **Demirkaya Budak S**, Can Demirdöğen B, Özge G, Mumcuoğlu T. Evaluation of the effect of clusterin rs2279590 single nucleotide polymorphism in pseudoexfoliation syndrome risk and on clusterin protein level in aqueous humor. The 42nd FEBS Congress. September 10–14, 2017. Jerusalem, Israel. *The FEBS Journal*. 2017; vol. 284 (S1), pp 138, P.1.5-054. DOI: 10.1111/febs.14174

- **Can Demirdöğen B**, Yakar G, Göksoy E, **Demirkaya S**, Koçan C, Özge G, Mumcuoğlu T. Relationship between paraoxonase 1 (PON1) promoter (-107T/C) and coding region polymorphisms (192Q/R and 55L/M) and Pseudoexfoliation syndrome. The 42nd FEBS Congress. September 10–14, 2017. Jerusalem, Israel. The FEBS Journal. 2017; vol. 284 (S1), pp 144, P.1.5-073. DOI: 10.1111/febs.14174
- **Göksoy E**, **Demirkaya S**, Oflaz S, Özge G, Mumcuoğlu T, Can Demirdöğen B. Analysis of the relationship between PON1 (paraoxonase1) 192Q/R (rs662) polymorphism with pseudoexfoliation syndrome and pseudoexfoliative glaucoma. Erciyes Medical Genetics Days 2017. May 11–13, 2017. Kayseri, Turkey. Erciyes Medical Journal. 2017; vol 39, Issue 2, pp 13.
- **Demirkaya S**, Özge G, Mumcuoglu T, Can Demirdöğen B. Evaluation of rs11136000 single nucleotide polymorphism of clusterin gene in pseudoexfoliation syndrome risk. The 41st FEBS Congress. September 3-8, 2016. The FEBS Journal 283 (Suppl. 1), 2016; pp 375, P-08.02.5-006. DOI: 10.1111/ febs.13808(Abstract published in the FEBS Journal but the poster presentation could not be done because of the cancellation of the congress).

Certificates & Courses

- METU Certificate of High Honor: 2010 – 2011 Fall Semester
- Anadolu University Certificate of Honor: 2013 – 2014 Spring Semester
- Website Design: BELTEK – Technical Education Course of Gazi University/Ankara Metropolitan Municipality 12.04.2010 – 06.06.2010 (72 hours)

Languages

- Turkish (native)
- English (fluent)

Skills

- **Laboratory:** NGS, Light/Fluorescence Microscope, PCR/RFLP, Electrophoresis, Spectrophotometry/Fluorometer, Library preparation, Real-Time PCR, DNA isolation from several sample types w/ or w/o an automated system, ELISA
- **Programming:** Python, JavaScript, R, HTML, PostgreSQL
- **Bioinformatics tools:** Data analysis (BWA, GATK, Rabix), NGS data QC (FastQC, FastQ Screen, Cutadapt, Atropos, Fastp), data manipulation (SAMTools)
- **Softwares/OSes:** Docker, MS Office tools, Minitab, SPSS, MS Windows, macOS

Test Scores

- ALES (Academic Personnel and Postgraduate Education Entrance Exam) – 82,8
ÖSYM – 11.2017
- METU EPE (English Proficiency Exam) – 82,0
Middle East Technical University – 06.2018
- YDS (Foreign Language Test) – 87,5 (Class B)
ÖSYM – 04.2018

References

Doç. Dr. Birsen Can Demirdöğen
TOBB University of Economics and Technology, Ankara, TURKEY
Office: +90 312 292 4279 / Email: bcandemirdog@etu.edu.tr

Prof. Dr. A. Meral Yücel
Middle East Technical University, Ankara, TURKEY
Office: +90 312 210 5159 / Email: meraly@metu.edu.tr

Prof. Dr. Susanne S. Renner

Institute of Systematic Botany and Mycology, University of Munich (LMU München), Munich, GERMANY

Office: +49 89 17861-250 / Email: renner@lrz.uni-muenchen.de