

# Curriculum Vitae

Tunahan Ergünay

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## PERSONAL INFORMATION

**E-mail:** tunahan.ergunay@unito.it

**Address:** Molecular Biotechnology Center (Lab 10) Via Nizza 52,  
10126, Torino (TO), Italy

**Languages:** Turkish (native) and English

## EDUCATION

**2022-2025,** Ph.D. in Medical Physiopathology (Eng.), University of Turin,  
Italy

**2019-2022,** M.Sc. in Molecular Biology & Genetics (Eng.), Bogazici  
University, Turkiye

**2014-2019,** B.Sc. in Molecular Biology & Genetics (Eng\*), Gebze  
Technical University, Turkiye

\*Education language at least 30% English

## WORK EXPERIENCE

**2024,** Reviewer, PLOS ONE

**2019-2022,** Teaching assistant, *Laboratory lessons for BSc. students,*  
Biochemistry laboratory and Cell biology laboratory, Bogazici University,  
Turkiye

**2018,** Research intern, *Analysis of cancer tissues from osteosarcoma and  
liposarcoma patients,* Stem Cell and Gene Therapies Research & Applied  
Center, Kocaeli University, Turkiye, PI: Prof. Yusufhan Yazır

**2018,** Research intern, *Investigation of upstream and downstream pathways  
of SIK2 protein and its role in ER stress,* Obesity and Diabetes laboratory,  
Gebze Technical University, Turkiye, PI: Prof. Ferruh Özcan

**2017,** Research intern, *Characterizing bacterial specimens from Sea of  
Marmara,* Bacteriology laboratory, Gebze Technical University, Turkiye  
PI: Asst. Prof. Sonay Özkan

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## PROJECTS

**2022-2025**, Ph.D. thesis, *Klotho engineered extracellular vesicle in chronic kidney disease preclinical models*, PI: Prof. Benedetta Bussolati

**2019-2022**, MSc. thesis, *Investigation of The Effects of SUMO Modification Two Critical Proteins: A Pathogenic NEK1 Mutant That Drives ALS Pathogenesis and The CRISPR-Associated Cas9 Protein*, PI: Assoc. Prof. Umut Şahin

## PUBLICATIONS

**Ergunay T.**, Collino, F., Bianchi, G. et al. “Extracellular vesicles in kidney development and pediatric kidney diseases”. *Pediatr Nephrol* (2023).  
<https://doi.org/10.1007/s00467-023-06165-9>

**Ergünay T.**, Ayhan, Ö., Celen, AB. et al. “Sumoylation of Cas9 at lysine 848 regulates protein stability and DNA binding”. *Life Sci Alliance* (2022).  
<https://doi.org/10.26508/lsa.202101078>

## ORAL PRESENTATIONS

Poster: **Ergunay T.**, Arena M., Brossa A. et al. “Klotho peptide engineered extracellular vesicles prevent epithelial-mesenchymal transition (EMT) and fibrosis in kidney cells via TGF- $\beta$  inhibition”. 2<sup>nd</sup> MOVE symposium (2024), Belgrade.

## FUNDING AND SCHOLARSHIPS

**2022-2025**, Doctoral scholarship funded by Ministry of Education, University and Research (MIUR), Italy

**2020-2022**, Project support (119N095), “SUMO-related pathogenesis of Nek1-related Amyotrophic Lateral Sclerosis (ALS) and its role in a potential treatment”, Scientific and Technological Research Council of Türkiye (TUBITAK), Türkiye

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## **PUBLISHED ARTWORKS**

April 2022, Journal cover, Life Science Alliance, vol: 5, n:4

## **MEMBERSHIPS**

2024-..., Italian Society of Extracellular Vesicles (EVIta)

## **SKILLS**

### **Wet lab:**

Cell culture techniques (passaging, transfection, transduction and CRISPR),

Cell lines (HEK-293, HK-2, HeLa and ciPTEC)

Extracellular vesicle studies (isolation, characterization, analysis, uptake assays and MACSplex),

Protein-based assays (Immunoprecipitation, immunofluorescence, immunoblot, flow cytometry, proximity ligation assay, ELISA and reporter assays),

Microscopy (fluorescence and confocal microscopy)

Nucleic acid studies (RNA and DNA isolation, PCR, RT-PCR, qPCR, primer design and site directed mutagenesis)

Functional studies (wound-healing, transwell migration assay)

Mouse behavioral assays (footprint and hanging wire)

### **Software:**

Data analysis tools (ImageJ, Graphpad Prism, Image Lab, FlowJo)

Sequence design tools (Benchling, Snapgene and Jalview)

Protein modelling (PyMOL)

Microsoft Office

Adobe Photoshop

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## **SUPERVISED STUDENTS**

**2023-...**, Maryam Karami, MSc. student, University of Turin, Italy

**2021-2022**, Egemen Sahin, BSc. student, Bogazici University, Turkiye

**2021**, Musa Celik, BSc. student, Bogazici University, Turkiye

## **REFERENCES**

### **Prof. Benedetta BUSSOLATI**

PhD. Thesis advisor  
Dept. of Medical Sciences  
University of Turin, Italy  
M: benedetta.bussolati@unito.it  
P: +39 011 670 6453

### **Assoc. Prof. Umut ŞAHİN**

MSc. Thesis advisor  
Dept. of Molecular Biology, Genetics and  
Bioengineering  
Sabanci University, Turkiye  
M: umut.sahin@sabanciuniv.edu  
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### **Prof. Ferruh ÖZCAN**

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