

# Dilek Mercan, M.Sc.



**Affiliation: University Hospital Bonn**

## PhD Student

E-Mail: dilek.mercan@ukbonn.de, dilek.mercan@dzne.de  
Tel: 0228 287 11269/ 0228 433 02 349

## Research Expertise

Dilek Mercan received a dual Bachelor's degree from Istanbul University in Biology, Molecular Biology and Genetics. She completed her M.Sc. degree in Yeditepe University (Turkey). She studied the protective effects of mesenchymal stem cells derived factors on neurotoxic responses induced by amyloid  $\beta$ -(1-42), 6-OHDA and ketamine in mouse primary neurons and SH-SY5Y cells. Her PhD project, in Prof. Dr. Michael Heneka's research lab, focuses on how Locus Coeruleus-derived norepinephrine driven changes influence neuronal network function and microglial dynamics.

## Technical Expertise

Surgical procedures on mice (cranial window implantation, intracranial stereotaxic injections)

Optogenetics

2-photon *in vivo* microscopy and confocal microscopy

Molecular and cellular biology

Cell culture (primary neuron and microglia)

*In vitro* electrophysiology (Microelectrode arrays-MEA)

## Appointments / Positions Held

2010-2011 Research assistant at Yeditepe University, Department of Genetics and Bioengineering, Istanbul-Turkey

2009-2011, Lecturer for GBE 104 General Biology Laboratory at Yeditepe University, Department of Genetics and Bioengineering, Istanbul-Turkey

## Education / Training

- University of Bonn, Faculty of Mathematics and Natural Sciences, Bonn-Germany, PhD candidate, June 2013-present

- Yeditepe University, Department of Genetics and Bioengineering, Istanbul-Turkey, M.Sc., 2011

- Istanbul University, Faculty of Science, Department of Biology, Istanbul-Turkey, B.Sc., 2009

- Istanbul University, Faculty of Science, Department of Molecular Biology and Genetics, Istanbul-Turkey, B.Sc., 2009 (Double Major Program)

## Honors / Awards

2019, IITB travel grant for Neuroscience 2019, Chicago, USA  
2016, SFB 1089 Travel Grant for Neuroinflammation School-  
2016, Conil de la Frontera, Spain  
2011 Graduation from M.Sc. Program with Honors Degree  
2011 Poster Award, 1st Annual Congress on Stem Cell Research (with International Participation), 2011, Turkey  
2009-Graduation from Bachelor Program with Honors Degree (The 2nd best CGPA in the Department of Biology)

## Most Relevant Publications

1. **D. Mercan**, MT Heneka, Norepinephrine as a Modulator of Microglial Dynamics, **Nature Neuroscience** 2019 Nov;22(11):1745-1746, DOI: [10.1038/s41593-019-0526-9](https://doi.org/10.1038/s41593-019-0526-9)

2. D. Tejera\*, **D. Mercan\***, JM Sánchez-Caro, M. Hanan, D. Greenberg, H. Soreq, E. Latz, D. Golenbock, MT Heneka, Systemic inflammation impairs microglial A $\beta$  clearance through NLRP3 inflammasome; **EMBO J.** 2019 Sep 2;38(17):e101064, DOI: [10.15252/emboj.2018101064](https://doi.org/10.15252/emboj.2018101064) (\*These authors contributed equally to this work)

3. M.E. Yalvaç, A. Yarat, **D. Mercan**, A.A. Rizvanov, A. Palotás, F. Şahin; Characterization of the secretome of human tooth germ stem cells (hTGSCs) reveals neuro-protection by fine-tuning micro-environment; **Brain Behav Immun.** 2013 Aug; 32:122-30, DOI: [10.1016/j.bbi.2013.03.007](https://doi.org/10.1016/j.bbi.2013.03.007)

4. M.E. Yalvac, A. Yilmaz, **D. Mercan**, S. Aydin, A. Dogan, A. Arslan, Z. Demir, I.I. Salafutdinov, A.K. Shafigullina, F. Sahin, A.A. Rizvanov, A. Palotas; Differentiation and Neuro-Protective Properties of Immortalized Human Tooth Germ Stem Cells; **Neurochem Res.** 2011 Dec;36(12):2227-35, DOI: [10.1007/s11064-011-0546-7](https://doi.org/10.1007/s11064-011-0546-7)