

Handan Melike Dönertaş

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Leibniz Institute on Aging – Fritz Lipmann Institute
Beutenbergstraße 11, 07745 Jena, Germany

EDUCATION

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- 2016 - 2020** PhD Biological Sciences - University of Cambridge, Fellow of Darwin College
Supervisor: Prof Dame Janet Thornton, FRS
Thesis: Computational studies on ageing and age-related diseases
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- 2014 - 2016** MSc Biology - Middle East Technical University
Supervisor: Prof Mehmet Somel
Thesis: Meta-analysis of gene expression reversals in ageing brain
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- 2009 - 2014** BSc Molecular Biology and Genetics - Middle East Technical University

EXPERIENCE (since PhD)

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- Jan 2022 - current** EMBO Postdoctoral Fellow, FLI
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- May 2021 - Dec 2021** Postdoctoral Fellow, MPI-AGE
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- Jun 2020 - Apr 2021** Postdoctoral Fellow, EMBL-EBI

PROJECT (CO-)SUPERVISION

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- High School Science Projects** 2 EpiSTEM + 1 iGEM project teams
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- BSc, MSc, PhD students & projects** 8 students + 2 iGEM project teams
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FUNDING & AWARDS

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- 2023 - 2025** MSCA Postdoctoral Fellowship (terminated due to start as a group leader)
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- 2022 - 2024** EMBO Postdoctoral Fellowship
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- 2022 - 2026** Research Grant - CRC 1310: Predictability in Evolution
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- 2021** Young Researcher Grant - CRC 1310 Predictability in Evolution
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- 2018** Travel Fellowship - CSHL Meetings (Mechanisms of Aging 2018)
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- 2016 - 2020** PhD Fellowship - European Molecular Biology Laboratory
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- 2015** Travel Fellowship - EMBL Advanced Training Centre Corporate Partnership Programme (EMBL Cancer Genomics Conference)
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- 2015** Participation Fellowship - EMBnet (NETTAB & IB 2015)
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- 2014 - 2016** MSc Fellowship - The Scientific and Technological Research Council of Turkey 2211
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- 2013** ERASMUS+ Internship Grant
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- 2009 - 2014** BSc Fellowship - The Scientific and Technological Research Council of Turkey 2205

TEACHING EXPERIENCE

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- 2021** Workshop Instructor, *Bioinfoconference (Bioinformatics Society)*
→ *Introduction to R*
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- 2020** Workshop Instructor, *RSG Turkey Student Symposium*
→ *Data visualization with ggplot*
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- 2019** Workshop Instructor, *RSG Turkey Student Symposium*
→ *Introduction to Scientific Figure Design*
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- 2017** Co-coordinator, *EMBL PhD Core Course*
→ *Basic Teaching Module*
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2017 Lecturer, EMBL PhD Core Course

→ *Unix/Linux Basics; R Markdown; Advanced R*

2014 - 2016 Teaching Assistant, METU Biological Sciences

→ *Introduction to Biometry (R); Biometry (SPSS); Computational Biology Using R*

MISCELLANEOUS

Reviewer for International Journals Nature Aging, eLife, PLoS Computational Biology, Aging Cell, Aging, Aging and Disease, Journal of Cancer, BioSystems, The Journals of Gerontology: Series A, Molecular Brain

Member of Scientific Associations **The International Society for Computational Biology (ISCB) Member since 2014**
ISCB SC Vice-chair of the regional student groups (2019), ET Chair (2022+)
ISCB SC RSG Turkey Member (2013-2018), Chair (2017-2018)
Ecology and Evolutionary Biology Society Turkey (EkoEvo) Member since 2015

Conference and Event Organisation ISCBSC Webinar Series, ISCB SCS 2020 Virtual Symposium
RSG Turkey Webinars (2014 - 2019), RSG Turkey Student Symposium (2015, 2017, 2018)
EEBST 2015 (Annual Ecology and Evolutionary Biology Symposium in Turkey)

Outreach epiSTEM: Advisor in "Bir Deney Yapalım mı?" Programme and Guest Editor

Training activities Contributed 4 Chapters to the Turkish translation of the R for Data Science book
Writing a booklet including introductory-level notes for R programming in Turkish:

PRESENTATIONS (selected few in the last 5 years)

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- (Invited Talk) Cambridge Longevity Society, 2022 (virtual event)
 - (Invited Talk) ITU Journal Talks, 2022 (virtual event)
 - (Invited Talk) GTU BIOS Bioengineering Congress 2021, Gebze, Turkey (virtual due to Covid19)
 - (Invited Talk) IEEE GTU EMBS G.E.N.4 2021, Gebze, Turkey (virtual due to Covid19)
 - (Invited Talk) Aykut Kence Evolution Conference 2021, Ankara, Turkey (virtual due to Covid19)
 - (Selected talk) HIBIT 2020, Istanbul, Turkey (virtual due to Covid19)
 - (Selected talk) CSHL Mechanisms of Aging Conference 2020, NY, USA (virtual due to Covid19)
 - (Selected talk) ISMB 2020, Montreal, Canada (virtual due to Covid19)
 - (Selected talk) ISMB/ECCB 2019, Basel, Switzerland
 - (Selected talk) EEBST 2019, Ankara, Turkey
 - (Poster) CSHL Mechanisms of Aging Conference 2018, NY, USA
 - (Invited talk) RSG Turkey Webinar Series 2018
 - (Selected talk) Healthy Ageing: From Molecules to Organisms 2018, Cambridge, UK
 - (Invited talk) Wolfson College Data Science Seminars 2017, Cambridge, UK
 - (Selected talk) HIBIT 2017, Guzelyurt, Northern Cyprus

RESEARCH ARTICLES

* denotes equal contribution

1. Izgi, H., Han, D., Isildak, U., Huang, S., Kocabiyik, E., Khaitovich, P.*, Somel, M.*, & **Dönertaş, H. M.*** (2022). Inter-tissue convergence of gene expression during ageing suggests age-related loss of tissue and cellular identity. *eLife*, 11.
2. **Dönertaş, H. M.**, Fabian, D. K., Fuentealba, M., Partridge, L., & Thornton, J. M. (2021). Common genetic associations between age-related diseases. *Nature Aging*, 1(4), 400–412.
3. Yapar, E.*, Saglican, E.*, **Dönertaş, H. M.***, Özkurt, E., Yan, Z., Hu, H., Guo, S., Erdem, B., Rohlf, R. V., Khaitovich, P., & Somel, M. (2021). Convergent evolution of primate testis transcriptomes reflects mating strategy. In *bioRxiv* (p. 010553) (under review - Evolution)

4. Fabian, D. K., **Dönertaş, H. M.**, Fuentealba, M., Partridge, L., & Thornton, J. M. (2021). Transposable element landscape in *Drosophila* populations selected for longevity. *Genome Biology and Evolution*.
5. Fuentealba, M., Fabian, D. K., **Dönertaş, H. M.**, Thornton, J. M., & Partridge, L. (2021). Transcriptomic profiling of long- and short-lived mutant mice implicates mitochondrial metabolism in ageing and shows signatures of normal ageing in progeroid mice. *Mechanisms of Ageing and Development*, *194*, 111437.
6. Kılınç, G. M., Kashuba, N., Koptekin, D., Bergfeldt, N., **Dönertaş, H. M.**, Rodríguez-Varela, R., Shergin, D., Ivanov, G., Kichigin, D., Pestereva, K., Volkov, D., Mandryka, P., Kharinskii, A., Tishkin, A., Ineshin, E., Kovychev, E., Stepanov, A., Dalén, L., Günther, T., ... Götherström, A. (2021). Human population dynamics and *Yersinia pestis* in ancient northeast Asia. *Science Advances*, *7*(2), eabc4587.
7. Işıldak, U., Somel, M., Thornton, J. M., & **Dönertaş, H. M.** (2020). Temporal changes in the gene expression heterogeneity during brain development and aging. *Scientific Reports*, *10*(1), 4080.
8. Turan, Z. G., Parvizi, P., **Dönertaş, H. M.**, Tung, J., Khaitovich, P., & Somel, M. (2019). Molecular footprint of Medawar's mutation accumulation process in mammalian aging. *Aging Cell*, *348*, e12965.
9. Kedlian, V. R.*, **Dönertaş, H. M.***, & Thornton, J. M. (2019). The widespread increase in inter-individual variability of gene expression in the human brain with age. *Aging*.
10. Fuentealba, M., **Dönertaş, H. M.**, Williams, R., Labbadia, J., Thornton, J. M., & Partridge, L. (2019). Using the drug-protein interactome to identify anti-ageing compounds for humans. *PLoS Computational Biology*, *15*(1), e1006639.
11. **Dönertaş, H. M.**, Fuentealba Valenzuela, M., Partridge, L., & Thornton, J. M. (2018). Gene expression-based drug repurposing to target aging. *Aging Cell*, *17*(5), e12819.
12. Taskent, R. O., Alioglu, N. D., Fer, E., **Dönertaş, H. M.**, Somel, M., & Gokcumen, O. (2017). Variation and Functional Impact of Neanderthal Ancestry in Western Asia. *Genome Biology and Evolution*, *9*(12), 3516–3524.
13. Kılınç, G. M., Koptekin, D., Atakuman, Ç., Sümer, A. P., **Dönertaş, H. M.**, Yaka, R., Bilgin, C. C., Büyükkarakaya, A. M., Baird, D., Altınışik, E., Flegontov, P., Götherström, A., Togan, İ., & Somel, M. (2017). Archaeogenomic analysis of the first steps of Neolithization in Anatolia and the Aegean. *Proceedings. Biological Sciences / The Royal Society*, *284*(1867).
14. **Dönertaş, H. M.**, İzgi, H., Kamacıoğlu, A., He, Z., Khaitovich, P., & Somel, M. (2017). Gene expression reversal toward pre-adult levels in the aging human brain and age-related loss of cellular identity. *Scientific Reports*, *7*(1), 5894.
15. Kılınç, G. M., Omrak, A., Özer, F., Günther, T., Büyükkarakaya, A. M., Bıçakçı, E., Baird, D., **Dönertaş, H. M.**, Ghalichi, A., Yaka, R., Koptekin, D., Açıkan, S. C., Parvizi, P., Krzewińska, M., Daskalaki, E. A., Yüncü, E., Dağtaş, N. D., Fairbairn, A., Pearson, J., ... Götherström, A. (2016). The Demographic Development of the First Farmers in Anatolia. *Current Biology: CB*, *26*(19), 2659–2666.
16. **Dönertaş, H. M.***, Martínez Cuesta, S.*, Rahman, S. A., & Thornton, J. M. (2016). Characterising Complex Enzyme Reaction Data. *PloS One*, *11*(2), e0147952.

REVIEW ARTICLES

17. Fabian, D. K., Fuentealba, M., **Dönertaş, H. M.**, Partridge, L., & Thornton, J. M. (2021). Functional conservation in genes and pathways linking ageing and immunity. *Immunity & Ageing: I & A*, *18*(1), 23.
18. **Dönertaş, H. M.***, Fuentealba, M.*, Partridge, L., & Thornton, J. M. (2019). Identifying Potential Ageing-Modulating Drugs In Silico. *Trends in Endocrinology and Metabolism: TEM*, *30*(2), 118–131.

EDITORIALS

19. Kaya, Y., Karakulak, T., Saylan, C. C., Ravza Gür, E., Tatlıdil, E., Güleşen, S., Dinçaslan, F. B., & **Dönertaş, H. M.** (2022). Lessons from a ten-year-long journey: building a student-driven computational biology society across Turkey. *F1000Research*, 11(98), 98.
20. Cuypers, W. L.*, **Dönertaş, H. M.***, Grewal, J. K.*, Fatima, N., Donnelly, C., Mer, A. S., Krieger, S., Cuypers, B., & Rahman, F. (2021). Highlights from the 16th International Society for Computational Biology Student Council Symposium 2020. *F1000Research*, 10.
21. Shome, S., Parra, R. G., Fatima, N., Monzon, A. M., Cuypers, B., Moosa, Y., Coimbra, N. D. R., Assis, J., Giner-Delgado, C., **Dönertaş, H. M.**, Cuesta-Astroz, Y., Saarunya, G., Allali, I., Gupta, S., Srivastava, A., Kalsan, M., Valdivia, C., J Olguin-Orellana, G., Papadimitriou, S., ... Rahman, F. (2019). Global network of computational biology communities: ISCB's Regional Student Groups breaking barriers. *F1000Research*, 8.