

Nedim Tüzün

Current position

9/2024 – **Postdoctoral fellow**, Marie Skłodowska-Curie Postdoctoral Fellowship
Project title: “Eco-evolutionary dynamics under light pollution”
Host: Dr. Dagmar Frisch
Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin, Germany

Academic achievements

9/2022 – 8/2024 **Postdoctoral fellow**, Alexander von Humboldt Foundation fellowship
Project title: “Urban eco-evolutionary dynamics in freshwater systems”
Host: Prof. Dr. Luc De Meester
IGB, Berlin, Germany

3/2022 – 8/2022 **Postdoctoral fellow**, IGB Postdoctoral fellowship
Project title: “Urban eco-evolutionary dynamics in freshwater systems”
Host: Prof. Dr. Luc De Meester
IGB, Berlin, Germany

10/2021 – 2/2022 **Research fellow**, Laboratory of Aquatic Ecology, Evolution and Conservation
KU Leuven (University of Leuven), Leuven, Belgium

10/2018 – 10/2021 **Postdoctoral fellow**, Research Foundation Flanders (FWO) fellowship
Project title: “Eco-evolutionary dynamics of the extended pace-of-life syndrome in a range expanding damselfly”
Host: Prof. Dr. Robby Stoks
KU Leuven (University of Leuven), Leuven, Belgium

5/2014 – 5/2018 **PhD**, Laboratory of Aquatic Ecology, Evolution and Conservation
Thesis title: “Effects of urbanisation on the ecology and evolution of a damselfly”
Promoter: Prof. Dr. Robby Stoks
KU Leuven (University of Leuven), Leuven, Belgium

10/2011 – 9/2013 **MSc**, Munich Graduate School for Evolution, Ecology and Systematics (EES)
Thesis title: “Coping with social environment: aggression in response to relative opponent size in field crickets”
Promoter: Prof. Dr. Niels Dingemans
Ludwig-Maximilian University (LMU), Munich, Germany

Publications

(see also Google Scholar profile: <https://scholar.google.be/citations?user=VznYvzUAAA&hl=en>)

- Kahsay A., **Tüzün N.**, Brehm-Benedix M., Münzner K., Glenn M. & De Meester L. (2025). Benchmarking toxic effects on *Daphnia magna* of the *Prymnesium parvum* strain causing the 2022 Oder River fish kill. *Hydrobiologia*.
- Tüzün N.**, Hölker F. & De Meester L. (2025). Artificial light at night intensifies effects of a parasitic flatworm on the water flea *Daphnia magna*. *Biology Letters* 21, 20250373.
- Theys C., Jorissen S., Janssens L., **Tüzün N.**, Decaestecker E., Verheyen J. & Stoks R. (2025). The gut microbiome shapes latitudinal differences in host immunity and pathogen load in a damselfly. *Journal of Animal Ecology* 94, 2130–2145.
- Tüzün N.**, De Meester L. & Hölker F. (2025). Eco-evolutionary feedbacks under artificial light at night. *iScience* 28, 112616.
- Tüzün N.**, Lemke N., Diez Y.L., Artois T. & Monnens M. (2025). Tiny Killers: First Record of Rhabdocoel Flatworms Feeding on Water Flea Embryos. *Ecology and Evolution* 15, e71277.
- Theys C., Verheyen J., Janssens L., **Tüzün N.** & Stoks R. (2023) Effects of heat and pesticide stress on life history, physiology and the gut microbiome of two congeneric damselflies that differ in stressor tolerance. *Science of The Total Environment*, 875, 162617.
- Theys C., Verheyen J., Delnat V., Janssens L., **Tüzün N.** & Stoks R. (2023) Thermal and latitudinal patterns in pace-of-life traits are partly mediated by the gut microbiome. *Science of The Total Environment*, 855, 158829.
- Stoks R. & **Tüzün N.** (2022) Coping with the complexity of interacting stressors, interacting responses, and their feedback loops. *Current Opinion in Insect Science*, 53, 100949.
- Tüzün N.** & Stoks R. (2022) A fast pace-of-life is traded off against a high thermal performance. *Proceedings of the Royal Society B*. 289, 20212414.
- Wang Y.J., **Tüzün N.**, Sentis A. & Stoks R. (2022) Thermal plasticity and evolution shape predator–prey interactions differently in clear and turbid water bodies. *Journal of Animal Ecology*, 91, 883–894.
- Brans K.I*., **Tüzün N.***, Sentis A., De Meester L. & Stoks R. (2022) Cryptic eco-evolutionary feedback in the city: urban evolution of prey dampens the effect of urban evolution of the predator. *Journal of Animal Ecology*, 91, 514-526. (* joint first authors)
- Tüzün N.** & Stoks R. (2021) Lower bioenergetic costs but similar immune responsiveness under a heatwave in urban compared to rural damselflies. *Evolutionary Applications*, 14, 24–35.
- Wang Y.J., Sentis A., **Tüzün N.** & Stoks R. (2021) Thermal evolution ameliorates the long-term plastic effects of warming, temperature fluctuations and heat waves on predator–prey interaction strength. *Functional Ecology*, 35, 1538– 1549.
- Tüzün N.**, Savaşçı B.B. & Stoks R. (2021) Seasonal time constraints shape life history, physiology and behaviour independently, and decouple a behavioural syndrome in a damselfly. *Oikos*, 130, 274–286.
- Tüzün N.**, De Block M. & Stoks R. (2020) Live fast, die old: oxidative stress as a potential mediator of an unexpected life-history evolution. *Oikos*, 129, 1330–1340.
- Theys C., Verheyen J., **Tüzün N.** & Stoks R. (2020) Higher mean and fluctuating temperatures jointly determine the impact of the pesticide chlorpyrifos on the growth rate and leaf consumption of a freshwater isopod. *Chemosphere*, 273, 128528.
- Tüzün N.***, Debecker S.* & Stoks R. (2020) Strong species differences in life history do not predict oxidative stress physiology or sensitivity to an environmental oxidant. *Journal of Animal Ecology*, 89, 1711– 1721. (* joint first authors)

- Wang Y.J., Stoks R., Sentis A. & **Tüzün N.** (2020) Support for the climatic variability hypothesis depends on the type of thermal plasticity: lessons from predation rates. *Oikos*, 129, 1040–1050.
- Van Dievel M., **Tüzün N.** & Stoks R. (2019) Latitude-associated evolution and drivers of thermal response curves in body stoichiometry. *Journal of Animal Ecology*, 88, 1961–1972.
- Verheyen J., **Tüzün N.** & Stoks R. (2019) Using natural laboratories to study evolution to global warming: contrasting altitudinal, latitudinal, and urbanization gradients. *Current Opinion in Insect Science*, 35, 10–19.
- Tüzün N.***, Op de Beeck L.*, Oliarinony R., Van Dievel M. & Stoks R. (2018) Warming under seminatural outdoor conditions in the larval stage negatively affects insect flight performance. *Biology Letters*, 14, 20180121. (* joint first authors)
- Tüzün N.** & Stoks R. (2018) Evolution of geographic variation in thermal performance curves in the face of climate change and implications for biotic interactions. *Current Opinion in Insect Science*, 29, 78–84.
- Tüzün N.** & Stoks R. (2018) Pathways to fitness: carry-over effects of late hatching and urbanisation on lifetime mating success. *Oikos*, 127, 949–959.
- Tüzün N.** & Stoks R. (2017) Carry-over effects across metamorphosis of a pesticide on female lifetime fitness strongly depend on egg hatching phenology: a longitudinal study under seminatural conditions. *Environmental Science & Technology*, 51, 13949–13956.
- Tüzün N.**, Müller S., Koch K. & Stoks R. (2017) Pesticide-induced changes in personality depend on the urbanization level. *Animal Behaviour*, 134, 45–55.
- Tüzün N.***, Op de Beeck L.*, Brans K.I., Janssens L. & Stoks R. (2017) Microgeographic differentiation in thermal performance curves between rural and urban populations of an aquatic insect. *Evolutionary Applications*, 10, 1067–1075. (* joint first authors)
- Stoks R., Verheyen J., Van Dievel M. & **Tüzün N.** (2017) Daily temperature variation and extreme high temperatures drive performance and biotic interactions in a warming world. *Current Opinion in Insect Science*, 23, 35–42.
- Brans K.I., Jansen M., Vanoverbeke J., **Tüzün N.**, Stoks R. & De Meester L. (2017) The heat is on: Genetic adaptation to urbanization mediated by thermal tolerance and body size. *Global Change Biology*, 23, 5218–5227.
- Tüzün N.***, Op de Beeck L.* & Stoks R. (2017) Sexual selection reinforces a higher flight endurance in urban damselflies. *Evolutionary Applications*, 10, 694–703. (* joint first authors)
- Janssens L., **Tüzün N.** & Stoks R. (2017) Testing the time-scale dependence of delayed interactions: A heat wave during the egg stage shapes how a pesticide interacts with a successive heat wave in the larval stage. *Environmental Pollution*, 230, 351–359.
- Gyulavári H.A., **Tüzün N.**, Arambourou H., Therry L., Dévai G. & Stoks R. (2017) Within-season variation in sexual selection on flight performance and flight-related traits in a damselfly. *Evolutionary Ecology*, 31, 21–36.
- Tüzün N*.**, Debecker S.*, Op de Beeck L. & Stoks R. (2015) Urbanisation shapes behavioural responses to a pesticide. *Aquatic Toxicology*, 163, 81–88. (* joint first authors)
- Deveci O., Sukan A., **Tüzün N.** & Kocabas E.E.H. (2010) Chemical composition, repellent and antimicrobial activity of *Schinus molle* L. *Journal of Medicinal Plants Research*, 4, 2211–2216.

Presentations at international meetings

2026	ASLO-SIL Joint Meeting
2025	British Ecological Society (BES) Annual Meetings
2018 - 2024	The Society for Experimental Biology (SEB) Annual Meetings
2023	British Ecological Society (BES) Aquatic Ecology Group Meeting
2017,2018,2019	Congress of the European Society for Evolutionary Biology (ESEB)
2018	Gordon Research Conferences (GRC) - Mechanisms and Outcomes of Predator-Prey Interactions (<i>poster presentation</i>)
2017*	British Ecological Society (BES) Annual Meetings (*invited talk)
2016	Annual Meeting of the Ecological Society of America (ESA)

Invited seminars

6/2025	“Light pollution in freshwater ecosystems: eco-evolutionary responses of <i>Daphnia</i> and its interactors”, Seminar Series, Department of Biology, KU Leuven, Belgium.
1/2025	“Urban Ecology and Evolution: How Organisms Survive in the City”, Seminars in Evolution and Ecology, Freie Universität Berlin, Germany.
6/2023	“Eco-evolutionary dynamics in the city”, Evolutionary Biology Department Seminars, University of Bielefeld, Germany.

Presentations as public outreach

11/2024	Berlin Science Week 2024, “Disturbed Waters: Light and Noise Interferences”, (Demonstration of color-dependent phototaxis of <i>Daphnia</i>), Berlin, Germany
2/2017	Vlaamse libellenstudiedag (organised by the Flemish Dragonfly Association), Mechelen, Belgium
3/2016	35. Jahrestagung der Gesellschaft deutschsprachiger Odonatologen, GdO (organized by the German Dragonfly Association), Mainz, Germany

Awards & Funding

6/2018	FWO Travel grant , ESEB conference (Montpellier, France)
1/2018	FWO Travel grant , GRC conference (Ventura, CA, USA)
10/2013	EES Young Researcher Prize, Best Master Talk , LMU, Munich, Germany

Organization of conference sessions

7/2025	“Biotic interactions in freshwater ecosystems under global change”, SEB conference (Antwerp, Belgium)
7/2024	“Urban evolutionary dynamics and species interactions”, The 3rd Joint Congress on Evolutionary Biology (Montreal, QC, Canada)
7/2023	“Bright nights with dark consequences: the evolutionary ecology of coping with light pollution”, SEB conference (Edinburgh, UK)

- 8/2022 “Unravelling the interplay between plasticity and evolution during rapid global change”, **ESEB conference** (Prague, Czech Republic)
- 7/2022 “Carry-over effects of global change stressors across metamorphosis: mechanisms and consequences”, **SEB conference** (Montpellier, France)

Invited contributions for book chapters

- Sentis, A., Kaunisto, K., Chari, L., Morrill, A., Popova, O., Pomeranz, J., Boukal, D., **Tüzün, N.** & Stoks, R. (2023) Trophic ecology, in *Dragonflies and damselflies: Model organisms for ecological and evolutionary research*, Second Edition (editors: Córdoba-Aguilar, A., Beatty, C.D., Bried, J.T. & Suárez-Tovar, C.M.), Oxford University Press.
- Stoks, R., Janssens, L., Delnat, V., Swaegers, S., **Tüzün, N.** & Verheyen, J. (2022) Adaptive and maladaptive consequences of developing in changing environments, in *Development strategies and biodiversity - Darwinian fitness and evolution in the Anthropocene* (editors: Costantini, D. & Marasco, V.), Springer Publishing.

Guest editor

Special issue in the journal of *Current Opinion in Insect Science* (October 2022). Theme: Global change biology. (co-edited with Prof. Dr. Robby Stoks)

Role in Societies

I serve as the Deputy Convenor for the special interest group “**Animal Ecophysiology**” for the Society for Experimental Biology (SEB) (since 7/2023).

Reviewing activity

I am actively contributing as a reviewer for prestigious journals in my field, including *Trends in Ecology & Evolution*, *Ecology Letters*, *Proceedings for the Royal Society B*, *Philosophical Transactions of the Royal Society B*, *Journal of Animal Ecology*, *Functional Ecology*, *Evolutionary Applications* (in total 42 verified reviews for 24 journals, as of 31/10/2025).

See full list: <https://www.webofscience.com/wos/author/record/1401084>

Teaching activities

I have supervised the practical sessions for the Master’s courses **Advanced Biological Data Analysis** (2017 – 2020) and **Behavioural and Advanced Ecology** (2017, 2018) at KU Leuven, Belgium. I am teaching part of the Master’s course **Freshwater Ecology** (main lecturer: Franz Hölker) at the Freie Universität Berlin, Germany (since 2022; lecture titles: Urban evolution, Climate change and evolution). I am teaching a 16h-lecture series (remote) on ‘Urban Biology’ as part of the **summer school at Shandong University**, China (since 2024).

Student supervision

PhD (co-supervision) **Bruna S. Silva**, IGB & Universidade de Aveiro, 2025 – *ongoing*

Title: “Ecological Impacts of Urban Light Pollution on Daphnia: a multi-stressor approach”

Charlotte Theys, KU Leuven, 2019 – 2025

Title: “Evolutionary ecology of geographic patterns in stress tolerance in a damselfly host and its gut microbiome”

Ying-Jie Wang, KU Leuven, 2017 – 2021

Title: “Effects of global warming on trophic interactions in pond food webs”

I am currently acting as a day-to-day supervisor of 3 PhD students at IGB.

In addition, I have acted as supervisor for 5 completed Master theses (2 international).