GÜLCE YALÇIN

PHD CANDIDATE IN FRESHWATER ECOLOGY | MARINE BIOLOGIST, M.SC.

DATE OF BIRTH: 07/09/1990 I CITIZENSHIP: Citizen of Turkey

OBJECTIVE

Climate Change and Anthropogenic Impacts in Shallow Lakes, Microbial Loop, Mesocosm Research

EXPERIENCE

RESEARCHER • METU, ECOSYSTEM IMPLEMENTATION AND RESEARCH CENTER (EKOSAM), http://ekosam.metu.edu.tr/en • 02.2020-TODAY
Major Tasks: long term lake monitoring and ecological research, develop and follow-up of scientific projects
RESEARCH PROJECT ASSISSTANT /PHD CANDIDATE • METU, BIOLOGICAL SCIENCES, LIMNOLOGY LAB., http://limnology.bio.metu.edu.tr/• 11.2017-TODAY
Thesis Advisor: Prof. Meryem Beklioğlu
Major Tasks: investigating climate change and anthropogenic impacts on microbial loop communities using mesocosm research
EXTERNAL MARINE ENVIRONMENTAL CONSULTANT • Danish Hydraulic Institute (DHI) POLAND • 06.2017-12.2018
Manager: Dr. Frank Thomsen frth@dhigroup.com
Major tasks: community ecology, modelling, statistical clustering for species identification
MARINE BIOLOGIST • Danish Hydraulic Institute (DHI) www.dhigroup.com • 04.2016-08.2017
Manager: Dr. Frank Thomsen frth@dhigroup.com
Major tasks: community ecology, modelling, statistical clustering for species identification of Baltic Sea Cetaceans, noise impact assessment
RESEARCH ASISTANT-MSC STUDY • Marine Biology and Fisheries Department, METU- IMS, www.ims.metu.edu.tr • 09.2013-12.2015
Focus of Thesis: Distribution and Diversity of Black Sea Cetaceans and Marine Mammal Acoustics
Thesis Advisor: Prof. Ali Cemal Gucu

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SCIENTIFIC PUBLICATIONS

SCIENTIFIC ARTICLES

IN PREP

1. **Gülce Yalçın**, Dilvin Yildiz, Maria Calderó Pascual, Melisa Metin, Sinem Yetim, Yiğit Şahin, Maria-Eleni Parakatselaki, Nur Filiz, Nusret Karakaya, Emmanuel D. Ladoukakis, Valerie Mccarthy, Stella A. Berger, Kemal Ali Ger , Erik Jeppesen, Meryem Beklioğlu. *Quality Matters: Response of Microbial Loop to Different Dissolved Organic Carbon (Doc) Sources As A Climate-Induced Pulsed Disturbance*.

2. Dilvin Yildiz, **Gülce Yalçın,** Maria Calderó Pascual, Melisa Metin, Sinem Yetim, Pinar Kavak, Nur Filiz, Maria Spoljar, Sanja Gottstein, Valerie Mccarthy, Jens Nesjtgaard, Erik Jeppesen, Kemal Ali Ger, Meryem Beklioğlu. *The Quality of Allochthonous Dissolved Organic Carbon Source Determines The Fate Of Freshwater Zooplankton: Mesocosm Approach To Pulse Disturbance*

2022

Dilvin Yıldız*, **Gülce Yalçın* (joint first authors)** Boris Jovanović, David S. Boukal, Lucie Vebrová, Derya Riha, Jelena Stanković, Dimitrija Savić-Zdraković, Melisa Metin, Yasmin Naz Akyürek, Deniz Balkanlı, Nur Filiz, Djuradj Milošević, Heidrun Feuchtmayr, Jessica A. Richardson, Meryem Beklioğlu (2022-**submitted**).Effects of a microplastic mixture differ across trophic levels and taxa in a freshwater food web: in situ mesocosm experiment. Science of the Total Environment

2021

Calderó-Pascual, M., Yıldız, D., **Yalçın, G**. et al. The importance of allochthonous organic matter quality when investigating pulse disturbance events in freshwater lakes: a mesocosm experiment. Hydrobiologia (2021). https://doi.org/10.1007/s10750-021-04757-w

2020

Jelena Stanković, Djuradj Milošević, Dimitrija Savić-Zdraković, **Gülce Yalçın,** Dilvin Yildiz, Meryem Beklioğlu, Boris Jovanović, Exposure to a microplastic mixture is altering the life traits and is causing deformities in the non-biting midge Chironomus riparius Meigen (1804), Environmental Pollution, Volume 262, 2020, 114248, ISSN 0269-7491, https://doi.org/10.1016/j.envpol.2020.114248.

2015

Saydam G., Cetacean Distribution in the Southern Black Sea: An Acoustic Approach (Published Master Thesis), Graduate School Of Marine Sciences, Middle East Technical University, 2015 September

CONFERENCES

2021

1. **Gülce Yalçin**, Dilvin Yildiz, Melisa Metin, Sinem Yetim, Maria Caldero Pascual, Nusret Karakaya, Kemal Ali Ger, Erik Jeppesen, Meryem Beklioğlu, Impacts Of Different Quality Of Dissolved Organic Carbon (Doc) Pulse Disturbance On Microbial Loop: A Mesocosm Research, 2nd International Aquatic Mesocosm Research (Aquacosm) Symposium, On-line, 2021 April
2. **Gülce Yalçın,** Dilvin Yıldız, Melisa Metin, Sinem Yetim, Maria Caldero Pascual, Nusret Karakaya, Kemal Ali Ger, Erik Jeppesen, Meryem Beklioğlu, Response of microbial loop to different quality of

dissolved organic carbon (DOC) pulse disturbance, 10th International Shallow Lakes Conference, On-line, 2021 March

3. Dilvin Yıldız, Maria Caldero Pascual, **Gülce Yalçın**, Melisa Metin, Sinem Yetim, Nur Filiz, Pınar Kavak, Kemal Ali Ger, Valerie McCarthy, Erik Jeppesen, Meryem Beklioğlu. Effects of DOC quality on zooplankton community structure: a mesocosm experiment. 2nd International Aquatic Mesocosm Research (AQUACOSM) Symposium. APRIL, 2021
4. Sinem Yetim, Melisa Metin, Dilvin Yıldız, **Gülce Yalçın**, Maria Caldero Pascual, Claudia Fiorentin, Meryem Beklioğlu, Kemal Ali Ger. Effects of dissolved organic carbon and zooplankton grazing pressure on bacteria and ciliates. 2nd International Aquatic Mesocosm Research (AQUACOSM) Symposium. APRIL, 2021.
5. Melisa Metin, Sinem Yetim, Dilvin Yıldız, **Gülce Yalçın**, Maria Caldero Pascual, Claudia Fiorentin, Meryem Beklioğlu, Kemal Ali Ger. Combined bottom-up effects of DOC and top-down effects of zooplankton with contrasting traits on phytoplankton biomass and composition. 2nd International Aquatic Mesocosm Research (AQUACOSM) Symposium. APRIL, 2021
6. Maria Caldero Pascual, Dilvin Yıldız, **Gülce Yalçın**, Melisa Metin, Sinem Yetim, Mikkel Rene Andersen, Kemal Ali Ger, Meryem Beklioğlu, Valerie McCarthy.Characterisation and impact of different allochthonous organic matter additions in a mesocosm experiment investigating pulse disturbance events in Mediterranean shallow lakes. 2nd International Aquatic Mesocosm Research (AQUACOSM) Symposium. APRIL, 2021.
7. Dilvin Yıldız, Maria Caldero Pascual, **Gülce Yalçın**, Melisa Metin, Sinem Yetim, Nur Filiz, Pınar Kavak, Kemal Ali Ger, Valerie McCarthy, Erik Jeppesen, Meryem Beklioğlu. Effects of DOC quality on zooplankton community structure: a mesocosm experiment. 10th International Shallow Lakes Conference, Brazil, MARCH, 2021.
8. Melisa Metin, Sinem Yetim, Dilvin Yıldız, **Gülce Yalçın**, Maria Caldero Pascual, Claudia Fiorentin, Meryem Beklioğlu, Kemal Ali Ger. Combined bottom-up effects of DOC and top-down effects of zooplankton with contrasting traits on phytoplankton biomass and composition. 10th International Shallow Lakes Conference, Brazil, MARCH, 2021.
9. Sinem Yetim, Melisa Metin, Dilvin Yıldız, **Gülce Yalçın,** Maria Caldero Pascual, Claudia Fiorentin, Meryem Beklioğlu, Kemal Ali Ger. Effects of dissolved organic carbon and zooplankton grazing pressure on bacteria and ciliates. 10th International Shallow Lakes Conference, Brazil, MARCH, 2021
10. Maria Caldero Pascual, Dilvin Yıldız, **Gülce Yalçın,** Melisa Metin, Sinem Yetim, Mikkel Rene Andersen, Kemal Ali Ger, Meryem Beklioğlu, Valerie McCarthy. Characterisation and impact of different allochthonous organic matter additions in a mesocosm experiment investigating pulse disturbance events in mediterranean shallow lakes. 10th International Shallow Lakes Conference, Brazil, MARCH, 2021

2019

1. **Gülce Yalçın**, Dilvin Yildiz, Boris Jovanovic, Derya Öztürk, Lucie Vebrová, David Boukal, Djuradj Milošević, Dimitrija Savić, Jelena Stanković, Jessica Richardson, Heidrun Feuchtmayr, Melisa Metin, Deniz Balkan, Yasmin Akyürek & Meryem Beklioğlu, In-situ Mesocosms Experiment for Investigating Impacts of Microplastics on Food Web of Shallow Lakes, ASLO, 2019 February
2. Dilvin Yıldız, **Gülce Yalçın**, Meryem Beklioğlu. Mesocosm experiment on effects of microplastic on freshwater zooplankton community. Ecology and Evolutionary Biology Symposium 2019. JULY, 2019, Ankara, Türkiye.

3. Dilvin Yıldız, **Gülce Yalçın**, Boris Jovanovıc, Derya Öztürk, Lucie Vebrova, David Boukal, Djuradj Mılosevıc, Dimitrija Savıc, Jelena Stankovıc, Jessica Rıchardson, Heidrun Feuchtmayr, Meryem BEKLIOĞLU. First in-situ mesocosms experiment for investigating impacts of microplastics on the littoral food web. 11th Symposium for European Freshwater Sciences (SEFS), JULY, 2019, Zagreb Hırvatistan.
4. Jelena Stanković, Boris Jovanović, Dimitrija Savić Zdravković, Djuradj Milošević, Meryem Beklioğlu, **Gülce Yalçın**, Dilvin Yıldız Influence of mixture of microplastic particles (MP) on non-biting midges of Chironomus riparius in a laboratory setup, 11th Symposium for European Freshwater Sciences, Zagreb, Croatia, 2019 May
5. Heidrun Feuchtmayr, Jessica Richardson, David Boukal, Meryem Beklioglu, **Gülce Yalçın**, Dilvin Yıldız, Boris Jovanovic, Derya Öztürk, Lucka Veb, Ami Weir, Uptake and transfer of microplastics in freshwater organisms: a mesocosm experiment, Plastics in the environment workshop, Wallingford, UK, 2019 February

2018

B.Jovanovich, J.Stankovic, D.Milosevic, D.Savic, A.Savic, **G.Yalcin**, D.Yildiz, D.Öztürk, L.Vebrova, D.Boukal, M.Beklioglu. "Comparative Indoor Outdoor Study Microplastic Effects on Non-Biting Midges (Diptera: Chironomidae) (Poster Presentation at ASLO meeting, 2018, Puerto Rico)

2015

Saydam G., Gucu A.C., Cetacean Distribution in Southern Black Sea: An Acoustic Approach Using A Methodology Combining Active And Passive Acoustics, 29th Annual Conference Of European Cetacean Society, 2015 Malta

2014

Saydam G., Gucu A.C., Ok M., Sakinan S., Sahin E, Tutar O. Population Viability Analysis Of Mediterranean Monk Seal (Monachus Monachus) And Significance Of Dispersal In Survival (Northeast Mediterranean Sea), 28th Annual Conference Of European Cetacean Society, 2014 Liège

PROJECTS

2020-2023, METU, TUBITAK 1001 (Acronym: R3-DOC, Project No:119Y265)

Within the context of my PhD qualification exam, I wrote this project under the advisory of Prof.Dr. Meryem Beklioğlu, Prof. Emmanuel Manolis Ludakakis and Prof. Efe Sezgin. Project aims to investigate Resistance, Recovery and Resilience of Freshwater Communities to the terrestrial Dissolved Organic Carbon (t-DOC).

2018-2021, AQUAcosm: EU network of mesocosms facilities for research on marine and freshwater ecosystems open for global collaboration.

AQUACOSM is funded by the first international call (EU H2020-INFRAIA) to coordinate research, develop common best practices and open both freshwater and marine large-scale research infrastructures (mesocosms) for international cross-discipline participation. My PhD is funded by Aquacosm project and I was employed as a researcher in the mesocosm facility in Turkey.

2016-2017, DHI-Poland (Completed Project): Marine Mammal and Noise Impact Assessment Projects (Limited detail due to Confidentiality)

I performed noise impact assessment in EIA projects as Marine mammal specialists. Projects involved the effects of offshore wind farms, pipelines and nuclear power plants on harbor porpoises in the Baltic Sea. For the specific tasks performed please see the experience section.

2014- 2015, METU, TUBITAK (Completed Project): Viability assessment of northeastern Mediterranean Monk seal population

Eastern Mediterranean coastal region is scanned for possible suitable habitats and photo-traps are set to build data set for photo-ıd study of Monk Seals. I participated in the process of setting photo-traps in caves with free diving, data analysis (PVA) and reporting.

2014- 2015 METU, Stock Assessment of Black Sea Anchovy Using Acoustic Method and Establishing a Monitoring Model for National Fisheries Data Collection Program, TUBITAK – KAMAG 110G124 (Completed Project):

The project was designed to observe anchovy stocks for fisheries management. I participated in trawling process (50 days cruise with RV Bilim 2); length measurement of fishes on deck, data analysis and reporting/editing. During the cruises of this project, I collected data for my thesis; I observed cetaceans from upper deck and deployed C-POD on stations.

2013-2015 TUBITAK: Present monitoring the changes in demersal fish stocks in fishing area of Erdemli – Mersin (the northeastern Mediterranean)(Completed Project):

The project was designed to provide time series data on demersal fish stocks and habitat. Possible roles of Lessepsian species in the ecosystem was assessed in – 1-2days/month cruises 2 years with R/V Lamas.

2013-2014 METU, TUBITAK 113B221: I know my Sea I protect my Sea (Completed Project):

The project was designed to increase awareness, knowledge and consciousness on sea ecosystem in elementary-high school level children. I participated as a lecturer and I produced several biological illustrations for training purposes.

EDUCATION

PHD STUDENT• 2017 • LIMNOLOGY LAB, BIOLOGICAL SCIENCES, MIDDLE EAST TECHNICAL UNIVERSITY

M.SC• 2015 • MARINE BIOLOGY AND FISHERIES DEPARTMENT, INSTITUTE OF MARINE SCIENCES, MIDDLE EAST TECHNICAL UNIVERSITY

Student Performance Award, Academic year of 2013-2015 ; C.GPA: 3.93/ 4.00

BS • 2013 JUNE• DEPARTMENT OF BIOLOGY, MIDDLE EAST TECHNICAL UNIVERSITY, ANKARA, TURKEY

Graduated as Honor Student, ranked sixth among Biology graduates of academic year 2012-2013, CGPA: 3.32/4.00

TRAININGS

2018 September, Izmir TR, Aegean school for computational ecology and evolution, 7 days:
The school brought together researchers and students actively working in the fields of ecology and evolution from both sides of the Aegean Sea. The school included lectures and practices covering both fundamental models and most recent developments across a diverse range of topics, including population genomics, comparative phylogenetics, and theoretical and experimental ecology.

2018 July, Izmir TR, R workshop, 2 days:
In the workshop given by EkoEvo (Ecology and Evolotionary Society of Turkey), data analysis and community biology methods in R were covered.

2017 May, Mousehole UK, C-POD Workshop, 2 days:
In the workshop given by Nick Tregenza, C-POD-F and C-POD were covered in addition to the data interpretation and analysis.

2017 March, Exeter UK, Marine Acoustics Training by Seiche, 4 days:
The lectures by V. F. Humprey were focused on physical properties of sound, nature of noise, while lectures given by P. Lepper were on marine mammal biology and models that are used to measure underwater acoustics (transmission loss). Furthermore, mitigation techniques for underwater noise, environmental regulations, Environmental Impact Assessments (EIAs), guidelines, emerging studies and technologies in the Marine Acoustics field were covered.

2016, DHI-Turkey, MIKE 11-Ecolab Training, 2days:
The course given by Dr. Arne Hammrich was focused on ecological modelling with Ecolab and Mike 11.

2014, September, Valencia Spain, Tenth European Seminar on Marine Mammals: Biology and Conservation, 5 days
This course was mainly focused on the aspects of management and strategies for species conservation, including marine protected areas, at European and world scales. There were practical demonstrations of laboratory techniques applied to the research on marine mammals; such as Line transect analysis and acoustic approaches.

References

PHD ADVISOR: Prof. Meryem Beklioğlu, METU Biology (PROFESSOR) AND EKOSAM (DIRECTOR), meryem@metu.edu.tr
PHD CO-ADVISOR: prof. erik jeppesen, aarhus university and METU EKOSAM, ej@ecos.au.dk

DHI MANAGER: Dr. Frank Thomsen, Senior Expert In Noise Related Impact Assessment, Business Development Manager, DHI, frth@dhigroup.com
MSC: Asst Prof. Bariş Salihoğlu, Director of METU-IMS, baris@ims.metu.edu.tr
MSC: Dr. Peter Evans, Sea Watch Foundation Founder and Director & Honorary Senior Lecturer In Bangor University, peter.evans@bangor.ac.uk

COMPUTER SKILLS

-Statistical analysis and Data visualization using R and Python at intermediate level
and using SPSS at beginner level
-CPOD software (C.POD.exe, Chelonia Ltd., Cetacean Monitoring Systems) for cetacean vocal analysis – at advanced level
-Matlab for noise propagation modelling at beginner level
-ArcGIS at intermediate level for mapping
- Echoview software (SIMRAD EK60, Scientific echo sounder, SIMRAD EK System) for fisheries acoustic Analysis at advanced level
-MIKE products: Ecolab, MIKE11, Underwater Acoustic Simulator (UAS) at beginner level

HOBBIES

Scuba Diving (PADI Advanced Scuba Diver, 5 years) & swimming, Yoga, Camping, Artistic Drawing, Piano (4 years) and Singing (Member at university voice chorus, department of music and fine arts; chief: Tuncay Doğu and Anchorus Chorus; chief: Cihan Selçuk).