Biodiversity Webinar

Organized by:

Islamic World Academy of Sciences (IAS) and
Turkish Academy of Sciences (TÜBA)

25 September 2021

Register in advance for this meeting:

https://zoom.us/meeting/register/tJcsfu6pqzojGNEER_AFEJZGWu2wcncWMjk1

ORGANIZERS

Islamic World Academy of Sciences (IAS)
Amman - Jordan
www.iasworld.org

Scientific institutions have always played a major role in promoting science and technology and in influencing the general state of development of any society.
In response to the need for an international organisation that can undertake such a task, the Islamic World Academy of Sciences (IAS) came into being as an independent, non-political, non-governmental and non-profit making organisation of distinguished scientists and technologists dedicated to the promotion of all aspects of science and technology in the Islamic world.

The establishment of the Islamic World Academy of Sciences (IAS) was proposed, by the Organisation of Islamic Cooperation; OIC Standing Committee on Scientific and Technological Co-operation (COMSTECH), and approved by the Fourth Islamic Summit held at Casablanca, in 1984. Upon the invitation of Jordan, the Founding Conference of the Academy was held in Amman (Jordan) in October 1986.

Turkish Academy of Sciences (TÜBA)
Ankara - Turkey
http://www.tuba.gov.tr

The Turkish Academy of Sciences (Turkish: *Türkiye Bilimler Akademisi* – TÜBA) is an autonomous scholarly association aimed at promoting scientific activities in Turkey. Although it is attached to the office of the Prime Minister and is largely funded by the government, it maintains financial and administrative autonomy. The academy is headquartered in Ankara.

In addition to conferring awards and fellowships to distinguished scientists, the academy is also responsible with determining scientific priority areas and proposing policies and needed changes in legislation to the government. The implementation and management of actual research programs is carried out by TUBITAK.

CONFERENCE PROGRAM

SATURDAY 25 SEPTEMBER 2021

10:00-10:10	Welcome note by Prof. Abdullah Al Musa, *Director General, Islamic World Academy of Sciences (IAS), Jordan.*
10:10-10:20	Welcome note by Prof. Muzaffer Şeker, *President, Turkish Academy of Sciences (TUBA), Turkey.*
10:20-11:00	Importance of Circular Economy for Biodiversity *Prof. İsmail Koyuncu, Professor, Environmental Engineering Department, Istanbul Technical University, Turkey.*
11:00-11:40	Wild Edible Fruit Biodiversity in Turkey *Prof. Sezai Ercisli, Professor, Agricultural Faculty Department of Horticulture, Ataturk University, Turkey.*
11:40-12:20	Anatolian Aquatic Biodiversity in the Face of Climate Change and Intensifying Anthropogenic Pressures *Dr. Korhan Özkan, Assistant Professor, Institute of Marine Sciences, Middle East Technical University, Turkey.*

Schedule is in Time Zone (GMT+3).

IMPORTANCE OF CIRCULAR ECONOMY FOR BIODIVERSITY

ISMAIL KOYUNCU
TÜBA Principal Member
Professor, Environmental Engineering Department, Istanbul Technical University, Turkey
MEMTEK, National Research Center on Membrane Technologies, Turkey

Prof. Koyuncu was born in 1974 and graduated from Antalya high school in 1990. He had a B.Sc., M.S. and Ph.D degrees in Environmental Engineering Environmental Engineering Department of Istanbul Technical University, in 1995, 1997 and 2002, respectively. He has completed a-year-post doctorate studies at Rice University, USA in 2003 and 2-months-post doctorate studies in Belgium. He also worked as a visiting professor at Rice University for one year in 2004. He worked as a Research Assistant in Istanbul Technical University between 1996-2004 and is currently working as a Professor in Environmental Engineering Department of Istanbul Technical University.

He worked as a Dean of graduate school, Senate and Board Member of Istanbul Technical University between 2012-2018. Now, he is the president of Istanbul Technical University and Director of National Research Center on Membrane Technologies. He is also member of Turkish Academy of Sciences since 2012.

He was awarded with The Scientific and Technological Research Council of Turkey (TUBITAK) Young Scientist Award (2008) and Economic Cooperation Organization (ECO) International Award 2009 (in the field of Environment).

Research areas are water and wastewater treatment and reuse, advanced water treatment technologies, membrane technologies, environmental nanotechnology, environmental effects of nanoparticles, hydraulics of water and wastewater treatment plants.

He has more than 150 journal papers and 200 conference presentations. He is married with 3 children.

ABSTRACT

Many disciplines are shifting towards technologies that enable resource recycling and the circular economy. In the Environmental Engineering discipline, besides conventional treatment methods, resource-generating processes such as water recovery, recovery of chemicals and rare elements, minimum energy consumption and maximum energy production have gained importance and become indispensable. The importance of this situation will become much more noticeable in terms of biodiversity in the coming period. In this direction, it is important to research, develop and apply technologies and new processes. Training programs should be revised accordingly.

WILD EDIBLE FRUIT BIODIVERSITY IN TURKEY

SEZAI ERCISLI
Professor, Agricultural Faculty Department of Horticulture, Ataturk University, Turkey

A study, conducted by Stanford University and published in the journal PLOS Biology, ranked 60,000 among the 100,000 most influential academics in the world. 195 people from Turkey were included in the list of 100,000 people in the world. Dr. Ercisli was ranked 86th among 195 academics from Turkey who were included in the list. https://www.herkesebilimteknoloji.com/gunun-yorumu/en-etkili-195-bilim-insanimiz-tam-liste-ve-hbt-bu-sayi-28-sayfa

Education

Doctorate, Atatürk Üniversitesi, Fen Bilimleri, Bahçe Bitkileri, Turkey1992 -1996.
Post Graduate, Ataturk University, Fen Bilimleri Enstitüsü, Bahçe Bitkileri Anabilim Dalı, Turkey1990-1992.
Under Graduate, Ataturk University, Ziraat Fakültesi, Bahçe Bitkileri, Turkey 1985-1989.

Research Areas

Agricultural Sciences, Agriculture, Garden Plants, Fruit Breeding and Breeding, Drupaceous Fruits (apricots, plums, cherries, peaches, etc.), Berries, Biotechnology and Genetics.

Academic Titles / Tasks

Professor, Ataturk University, Ziraat Fakültesi, Bahçe Bitkileri, 2006-Present.
Associate Professor, Ataturk University, Ziraat Fakültesi, Bahçe Bitkileri, 2000-2005.
Assistant Professor, AtaturkUniversity, ZiraatFakültesi, Bahçe Bitkileri, 1996-2000.

Academic and Administrative Experience

Head of Department, Ataturk University, Ziraat Fakültesi, Bahçe Bitkileri, 2020-Present.
Vice Rector, Ataturk University, 2016-2020.

ABSTRACT

Turkey is accepted one of the richest countries in terms of wild edible fruits. Wild edible fruits are highly valued fruit crops for their unique flavors, textures, and colors. In recent years, wild edible fruits have been shown to provide significant health benefits because of their high antioxidant content, vitamins and minerals, fiber, folic acid, etc. In addition to fresh consumption, wild edible fruits are widely used in beverages, ice cream, yogurt, jams, jellies and many other food products. A number of wild edible fruits are used by rural and tribal populations and significantly contribute to their livelihood. The use of non-cultivated foods, of which wild fruits form a part, as a diet supplement, or as a coping mechanism in times of food shortage, provides an important safety net for the rural poor especially in underdeveloped countries. There is now a greater awareness that products from the wild edible fruits may support household subsistence and also that income may be created from their sale, either in raw or processed forms. This awareness has prompted a research on the diversity of species that are used and their relation to the socio-economic status of those who use them. Wild edible fruits are important constituents of biodiversity. The aim of this study is to compare the morphological, biochemical and molecular biodiversity among wild edible fruits and cultivated ones grown in Turkey.

ANATOLIAN AQUATIC BIODIVERSITY IN THE FACE OF CLIMATE CHANGE AND INTENSIFYING ANTHROPOGENIC PRESSURES*

KORHAN ÖZKAN

Assistant Professor, Institute of Marine Sciences, Middle East Technical University, Turkey

Dr. Özkan is an Ecologist with focus on community, aquatic and avian ecology. Current research focus on catchment ecology including freshwater and sea interactions; ecology of high latitude (polar) and altitude food-webs; experimental ecology (mesocosms); seabird ecology and conservation. Assistant professor at the Institute of Marine Sciences, Middle East Technical University, Member of Administrative Board, Institute of Marine Sciences, METU since 2015 and Member of Administrative Board, EKOSAM, METU since 2018.

PhD (Denmark) on modelling community assembly and MSc (Turkey) on experimental limnology. Strong experience on scripting for ecological statistics using R and spatial analyses using ArcGIS. Led and participated in >15 months fieldwork on antarctic/arctic lakes, experimental limnology (mesocosms), ecosystem monitoring and avian communities in Turkey, Denmark, Greenland, Antarctica as well as Mediterranean, Marmara and Black Seas. Experienced in limnological lab work (chemistry and stable isotope analyses, zoop-lankton identification). Supervised 1 Post-Doc, 4 PhD (continuing), 3 MSc, and >10 undergraduate students. Teaching graduate and undergraduate courses on aquatic ecology, statistics (using R) and GIS. Published 24 manuscripts (10 first-author/first-authored by my students) with 855 Google scholar citations and 10 finished manuscripts in different stages of submission. Co-authored nine scientific reports and 66 presentations. Accomplished scuba diver, birdwatcher and nature photographer.

ABSTRACT

Anatolia hosts a diverse and unique aquatic biodiversity largely shaped during the glacial cycles of the Querternary period. The warm and arid nature of the Mediterranean Climate makes this region especially sensitive to the pressures on water resources. Increasing human population and demand on the water resources in the region have resulted in complex pressures on the aquatic ecosystems and their biodiversity. Our recent research on the Konya Closed Basin (KCB) revealed the dramatic consequences of unchecked water use on these sensitive ecosystems. KCB hosts the largest Turkish freshwater lake, Lake Beyşehir, in the upstream, and the iconic saline Lake Tuz in the downstream of the basin. Using published as well as our own ground-truth and remote sensing data, we the elucidated the changes in land use, crop production, ground-/surface water levels and climate, as well as the consequent degradation in the lake water surface area, salinity, and biodiversity (water bird and fish) during the past 40 years of KCB. KCB is intensively farmed, and crop production has increased substantially, especially since 2000 with mainly water thirsty crops. This, combined with climate warming, has led to a substantial reduction of the groundwater level (up to 1 m/year) as well as of the surface area of the lakes and wetlands, followed by salinisation, complete loss of aquatic ecosystems. Three globally threatened water bird species face extinction in the basin, while 18 out of 62 breeding species have already been lost. Similarly, KCB has 38 fish species of which 74% of endemic, and 61% of those are currently considered threatened or near threatened. Modelling projections using various climate and land use scenarios indicate serious additional reductions in water level in the future due to climate change, which will cause serious damage to the lake ecosystems and the services that they provide.

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* *Co-authors: Erik Jeppesen, Meryem Beklioğlu, Zuhal Akyürek, Gültekin Yılmaz Mehmet Arda Çolak, İbrahim Kaan Özgencil, Melisa Metin, Mustafa Korkmaz , Serhat Ertuğrul, Melisa Soyluer, Tuba Bucak*