

Country level Workshop of IUBS Project partners

(1) FINLAND : Country Level Workshop (reported by Prof. Elina Oksanen, *University of Eastern Finland (UEF) Finland*)

The country level workshop focusing on digital online learning and teaching collaborations in biology was organized on 10-11 November, 2022, at Konnevesi Research station.

- The program and language of the workshop was mainly Finnish. Plant biology was a part of the workshop.
- In the workshop, online materials were presented for several online courses. There has been two focus areas in the online courses and video materials:
 - The importance of agricultural and forest biodiversity in sustainable development
 - The chemical biodiversity of the plants and chemical plant defence

- **The course materials can be visited here:**

Open access link : <https://digicampus.fi/course/view.php?id=3789>

The YouTube -videos are available here (they are included in the course and form a major part of the materials).

https://www.youtube.com/watch?v=0_4Fy5QEHfM

<https://naturalchemistry.utu.fi/luonnollista-kemiaa/introduction>

- **There were 40 participants in the national Finnish workshop, some of them through online connections, including 16 women and 10 young scientist participants.** The detailed personal information and data of the participants cannot be shared due to Finnish security regulations.

In European level, a series of online plant science seminars have been organized by EPSO (European Plant Science Organization), available for the Finnish biology students:

<https://epsoweb.org/events/epso-events/>

- In total, 18 seminars have been organized during 2021-2022.
- For example, **on 15th December 2022 two talks exploring “Remote sensing for increased agricultural sustainability” were presented.**

(2) BANGLADESH : Country Level Workshop (reported by Prof. Dr. Mirza Hasanuzzaman, *Sher-e-Bangla Agricultural University, Dhaka, Bangladesh*)

The aim of the project was to enable the researchers with up-to-date methodologies and technologies in conducting plant research related to environmental problems and climate change.

The focus of the workshop was –

1. To establish methods for screening pollution-tolerant and climate-resilient crops.
2. To identify the pollution tolerant and climate resilient plants in different climatic and edaphic environments.
3. To understand the science of pollution-tolerant and climate-resilient plant species.

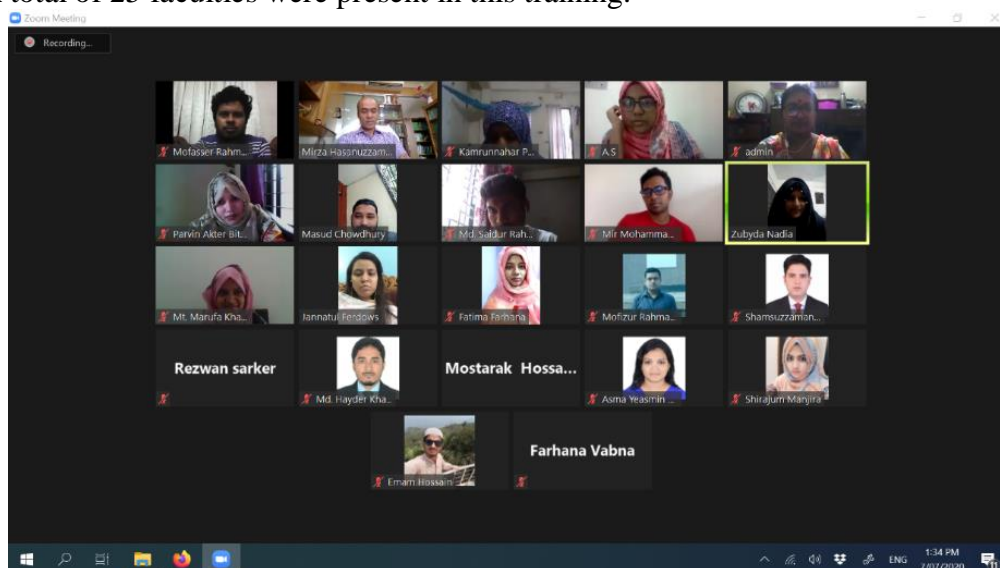
4. Development of publication for environmental research and education.

As capacity building and action training workshops organized one online training for faculty members of Sher-e-Bangla Agricultural University and another physical workshop-cum-seminar on environmental stress physiology.

1. Training workshop on research methodology and scientific writing on plant and environmental science and pollution research on 7-10 July 2020

The objective of the training workshop was to train young Lecturers of Sher-e-Bangla Agricultural University regarding climate change research and scholarly writing. Due to the pandemic the mode of the training was online using Zoom platform.

A total of 25 faculties were present in this training.



Some of the participants in the training workshop on research methodology and scientific writing on plant and environmental science and pollution research

All of the 25 participants were young (Scientists younger less than 35) among them 13 were women. Nationalities and names of people participating in the program:

Name	Nationality	Young (*), Women (‡)	Name	Nationality	Young (*), Women (‡)
Mofasser Rahman	Bangladeshi	*	Shamsuzzaman	Bangladeshi	*
Kamrun Nahar	Bangladeshi	*‡	Rezwan Sarker	Bangladeshi	*
Salma Sarkar	Bangladeshi	*‡	Mostarek Hossain	Bangladeshi	*
Banalata Das	Bangladeshi	*‡	Asma Yesmin	Bangladeshi	*‡
Parvin Akter	Bangladeshi	*‡	Sirajum Munira	Bangladeshi	*‡
Abdul Awal Chowdhury Masud	Bangladeshi	*	Farhana Vabna	Bangladeshi	*
Md. Saidur Rahman	Bangladeshi	*	Anisur Rahman	Bangladeshi	*
Md. Mahabub Alam	Bangladeshi	*	Md. Rakib Hossain Raihan	Bangladeshi	*
Zubaida Nadia	Bangladeshi	*‡	Md. Delwar Hossain	Bangladeshi	*
Taufika Islam Anee	Bangladeshi	*‡	Mira Rahman	Bangladeshi	*‡
Jannatul Ferdows	Bangladeshi	*‡	Khussboo Rahman	Bangladeshi	*‡
Farzana Nowroz	Bangladeshi	*‡	Ayesha Siddika	Bangladeshi	*‡
Mofizur Rahman	Bangladeshi	*			

2. Seminar on the “Effect of Climate Change and Environmental Pollution on Agriculture” on 14 September 2022

A seminar was organised on “Effect of Climate Change and Environmental Pollution on Agriculture” in which some young faculties and members of the Sher-e-Bangla Agricultural University Science Club participated.

The purpose of that seminar was to make the faculties and students aware about various aspects of climate change and environmental pollution. Prof. Hasanuzzaman gave a lecture on “Plant responses to metal/metalloid toxicity”.



Both of the programs were very effective and all of the participants were benefited by learning the research methodology and research communications in the field of climate change and environmental pollution.

(3) SPAIN and USA : Analyses of Phylogenetic and Phylogenomic Data Sets of Lichens on 7-9 June, 2022. It was a combined workshop on Lichens by Prof. Thorsten Lumbsch, USA and Prof. P.K. Diwakar at Faculty of Pharmacy, Complutense University of Madrid, Madrid, Spain (reported by Prof. P.K. Diwakar)

This workshop was open to master’s and Doctoral students, post-Doctoral fellows, research scientists and lecturers, both directly related or not to research in lichens. The aim of this workshop is to introduce phylogenetic and phylogenomic concepts and how to apply these analyses by using the Linux command line. During the first sessions of the course, the participants learned the history of phylogenetic methods and about traditional molecular marker regions which were used for decades to estimate the relationships of organisms. Then they learned basic but powerful Linux commands to manage the folder structure, handle large files, and install and execute programs. After they were comfortable in the Linux command line environment, they applied this new knowledge for phylogenetic reconstruction. At the end of the course

they discussed the advantages and problems of this new era of sequencing technologies.

There were 30 participants in the workshop. The detailed personal information and data of the participants is shared below.

Name	Nationality/Position	Gender	AREA
Ruth del Prado Millán	Spain/Associate Professor	Female	BOTANY, LICHENOLOGY
Ana Aramburu Cuberta	Spain/PhD. Student	Female	BOTANY, Environmental sciences
Guillermo Amo de Paz	Spain/Assistant Professor	Male	BOTANY, LICHENOLOGY
María Prieto Álvaro	Spain/Associate Professor	Female	BOTANY, Environmental sciences
Ana María Millanes Romero	Spain/Associate Professor	Female	BOTANY, Environmental sciences
Núria Beltrán Sanz	Spain/PhD. Student	Female	BOTANY, LICHENOLOGY
Sandra Freire Rallo	Spain/PhD. Student	Female	LICHENOLOGY
Soumi Srimani	Spain/PhD. Student	Female	BOTANIC, LICHENOLOGY
ISABEL MARÍA UREÑA VACAS	Spain/PhD. Student	Female	PHARMACOLOGY
ANGELA AGUADO LARA	Spain/Master student	Female	BOTANY
Pablo García Moro	Spain/Master student	Male	EVOL BIOL APPLIED TO PLANTS
MARIO BENITEZ PRIAN	Spain/Master student	Male	BOTANY
Íñigo Vicente Hernández	Spain/Under graduate student	Male	ANIMAL DIVERSITY
Raúl Sánchez García	Spain/Under graduate student	Male	ANIMAL DIVERSITY
Marta Sánchez Gómez-Serranillos	Spain/Assitant Professor	Female	PHARMACOLOGY
CARMINA RODRIGUEZ FERNANDEZ	Spain/Associate Professor	Female	MICROBIOLOGY AND DIVERSITY
FEDERICO NAVARRO GARCIA	Spain/Associate Professor	Male	SOIL MICROBIOME
Andrea Fernández Gutiérrez	Spain/Postdoc	Female	GENETIC
Belén González Bertolín	Spain/PhD. Student	Female	PARASITOLOGY
ALMUDENA PERONA REQUENA	Spain/Associate Professor	Female	ANTIADHESIVE THERAPY USING CARBOHYDRATES STRTC.
Helena Blanca	Spain/Postdoc	Female	BOTANY
María Sanz	Spain/PhD. Student	Female	BOTANY
Ester Sevillano	Spain/PhD. Student	Female	FOOD SCIENCE
NURIA PEÑA VIDAL	Spain/PhD. Student	Female	FOOD SCIENCE
Irene Lafuente Orte	Spain/PhD. Student	Female	FOOD SCIENCE
Irma Castro Navarro	Spain/PhD. Student	Female	FOOD SCIENCE
Marta Pérez Rodrigo	Spain/PhD. Student	Female	MICROALGA PHYSOLOGY
Beatriz Lara Espinar	Spain/Postdoc	Female	BOTANY, Environmental sciences
Carmen Alvarez Gutierrez	Spain/PhD. Student	Female	BOTANY, Environmental sciences
Sergio Muriel Marín	Spain/PhD. Student	<u>Male</u>	LICHENOLOGY



2. CHINA : Country Level Workshop (reported by Prof. Xinli Wei, State Key Laboratory of Mycology, Chinese Academy of Sciences, Beijing China on 1st August 2022)

The objective of the workshop was to train participants on the mechanism of arid tolerance undertaken by plants and plant-associated lichens etc., to develop resilience methods to evaluate and screen tolerant traits in them against the climate change.

A total of 30 professors/assistant Professors/researchers participated in the workshop.

