



European Biotechnology Thematic
Network Association (EBTNA)



“BIOTECHNOLOGY WEEK-2022 ”

The Department of Biotechnology of the University of Tirana, Albania is organizing the “Biotechnology Week-2022” in collaboration with the Academy of Sciences of Albania (Unit of Biotechnology & Genetics), the University of Ioannina, Greece, and with the support of EBTNA-European Biotechnology Thematic Network Association, MAGI Group for Diagnostics of Rare Genetic Diseases, Italy, University “Ben Gurion of Negev”, Israel, and other third local parties during 17-21st of October 2022.

The “Biotech Week” will be composed of two events, the 2nd EuroBiotech School, during which MSc students will be taught on innovative biotech applications, and the 4th ICAB-2022 International Conference to be held at the University of Ioannina, Greece.

Work-Plan for the “Biotech Week-2022”

17-21 October 2022	
Day 1 EuroBiotech School-2022	8:00-14:40 - Lectures/FSHN, UT 15:00-18:00 – Lab training at MAGI Srl Labs, Tirana
Day 2 EuroBiotech School-2022	8:00-14:15 - Lectures/FSHN, UT 15:00-18:00 – Lab training at MAGI Srl Labs, Tirana
Day 3 EuroBiotech School-2022	Environmental sampling and analysis at Bay of Vlora, Albania – Students and lecturers (organized trip).
Day 4 ICAB-2022	“International Conference on Applied Biotechnologies” in Collaboration with University of Ioannina, Greece. (Albanian and foreign invited lecturers - organized trip to Ioannina, Greece)
Day 5 ICAB-2022	“International Conference on Applied Biotechnologies” in Collaboration with University of Ioannina, Greece. Visits, Meetings at University of Ioannina, Greece. Return to Tirana, Albania. Visits to Historical Centres of interest (Cities of Berat and Gjirokastra).

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PROGRAM
2nd EUROBIOTECH SCHOOL LECTURES

17th of October 2022

8:00-8:30 Opening Ceremony

SENIOR RESEARCHER'S SESSION

- 8:30-9:30 Prof.Dr. Munis Dundar, EBTNA**
Applications of Biotechnology in Medicine. Covid-19 Vaccines.
- 9:30-10:30 Prof. Dr. Robert Marks, EBTNA**
Cementing diagnostic ideation with start-up spin offs.
- 10:30-10:45 Coffee Break**
- 10:45- 11:45 Prof.Dr. Shani Stern, Haifa University, Israel**
Using patient derived neurons to study neurodegenerative diseases.

YOUNG RESEARCHER'S SESSION

- 11:45-12:05 Idan Rosh, University of Haifa, Israel**
Reduced synaptic activity and hypoexcitability of dopaminergic neurons derived from Parkinson's disease patients with GBA1 mutations.
- 12:05-12:25 Utkarsh Tripathi, University of Haifa, Israel**
Using information theory to distinguish effects of VPA and lithium in bipolar disorder human derived neurons.
- 12:25-12:45 Gabriele Bonetti, MAGI Group, Italy**
Molecular pathways involved in primary lymphedema.
- 12:45-13:05 Kevin Donato, MAGI Group, Italy**
Translational research for the identification of therapeutic targets in the field of anorexia nervosa.
- 13:05-14:00 Lunch Break**
- 14:00-14:20 Kristjana Dhuli**
Study of the effects of natural molecules in vitro and at the bioinformatic level.
- 14:20-14:40 Maria Chiara Medori**
MAGI Balkans, a laboratory for the diagnosis of rare genetic diseases.
- 15:00-18:00 Lab Training at MAGI Srl Labs, Tirana**

PROGRAM
2nd EUROBIOTECH SCHOOL LECTURES

18th of October 2022

SENIOR RESEARCHER'S SESSION

- 8:30-9:30 Prof. Dr. Michele Samaja, MAGI, Italy**
Omics approaches to the study of physiological and pathological hypoxia.
- 9:30-10:30 Prof. Dr. Luca Valentini, University of Perugia, Italy**
3D printing ancient biopolymer and nanomaterials for ideal biological scaffold to provide structural support and the ability to change as the functional requirements of the target tissue change.
- 10:30-10:45 Coffee Break**

YOUNG RESEARCHER'S SESSION

- 10:45-11:15 Abraham Abey Paul, Ben Gurion of Negev University, Israel**
3D bioprinting hydrogel inks for biotechnological applications.
- 11:15-11:45 Calin Trif, Ben Gurion of Negev University, Israel**
Fiber-optic whole cell luminescent bioreporter biosensor for monitoring toxicity in sediments.
- 11:45-12:15 Frans Kokojka, Ben Gurion of Negev University, Israel**
Capture flow immunoassay for monitoring anti-drug antibody in patients suffering from acute intestinal inflammation.
- 12:15-12:45 Fu Yu, Ben Gurion of Negev University, Israel**
Fiber-optic genosensors in monitoring Covid-19 in sewage.
- 12:45-13:15 Kathelina Kristollari, Ben Gurion of Negev University, Israel**
Lateral flow immunosensor for monitoring acute kidney toxicity.

13:15-14:15 Lunch Break

15:00-18:00 Lab Training at MAGI Srl Labs, Tirana



PROGRAM OF LABORATORY TRAINING
DAYS 1-2 (17-18th October 2022, afternoon hours)
MAGI- Laboratories in Tirana

Genetic tests for low- and middle-income countries: a practical course

Day 1 (4hours)

Group A (5 students)

Group B (5 students)

Day 2 (4 hours)

Group A (5 students)

Group B (5 students)

PROGRAM

Working Instructions (IL)

- IL 7.5.1_01 Extraction of DNA from blood Mini Kit
- IL 7.5.1_04 Gel electrophoresis
- IL 7.5.1_05 PCR amplification of DNA

Forms

- Mod 7.5.1-02 Informed consent
- Mod 7.5.1-04 PCR amplification worksheet
- Mod 7.5.1-06 Report
- Mod 7.5.1-13 Clinical record of patient

Protocols

PROTOCOL 1: HYPERTENSION-INDUCED NEPHROPATHY (Associated gene ACE)

PROTOCOL 2: LACTOSE INTOLERANCE (Associated gene MCM6)

PROTOCOL 3: SPINAL MUSCLE ATROPHY (Associated gene SMN1)

References:

- 1) Precone V., Dundar M., Beccari T, Turanli ET., Cecchin S., Marceddu G., Manara E., Bertelli M.; *Quality assurance of genetic laboratories and the EBTNA practice certification, a simple standardization assurance system for a laboratory network*; The EuroBiotech Journal 2017, 4, 215–258;
- 2) Maltese PE, Poplavskaia E, Malyutkina I, Sirocco F, Bonizzato A, Capodicasa N, Nicoulina SY, Salmina A, Aksutina N, Dundar M, Beccari T, Cecchin S, Bertelli M. *Genetic tests for low- and middle-income countries: a literature review*. GenetMol Res. 2017 Feb 8; 16(1).

EuroBiotech School 2022

DAY 3

(19th of October 2022)

Environmental sampling and analysis at Bay of Vlora, Albania – Students and lecturers (organized trip)

Water samples will be analysed for:

- Physico-chemical properties (will be measured *in situ*)
- Trophic state (at Laboratories of Department of Biotechnology, University of Tirana, Albania)
- Presence of pathogenic microbes (at Laboratories of Department of Biotechnology, University of Tirana, Albania)
- Toxicity measured by in-field fiber optic biosensor (will be measured *in situ*)
- Pesticides and/or other organic compounds (samples will be transeferred to University of Ioannina, analysed, and results will be discussed in a special session of the ICAB-2022 conference).



International Conference on Applied Biotechnology-ICAB 2022

DAYS 3-4

University of Ioannina, Greece

19-20 October 2022

TOPICS

- Medical Biotechnology
- Industrial Biotechnology
- Agro-biotechnology
- Environmental biotechnology
- Blue-biotechnology
- Education in biotechnology

SOCIAL PROGRAM

DAY 5 (21st of October 2022)

On the way back to Albania, Tirana the group will visit cities of Gjirokastra and/or Berat.