

# AGENDA

## ECOBIA

### Summer school in eDNA Metabarcoding

### Ljetna škola iz metabarkodiranja okolišne DNK

Venue/Mjesto održavanja: University of Tuzla/Univerzitet u Tuzli

Faculty of Natural Sciences and Mathematics/Prirodno-matematički fakultet (Urfeta Vejzagića  
4, 75 000 Tuzla),

Faculty of Technology/ Tehnološki fakultet (Urfeta Vejzagića 8, 75 000 Tuzla)

Moderators/Moderatori: Florian Leese, Vesna Bratovčić, Vedad Pašić, Jasmina Kamberović,  
Robin Schütz, Till-Hendrik Macher, Adisa Ahmić, Edina Hajdarević, Darja Husejnagić, Alen  
Bajrić, Samira Huseinović

Monday 5<sup>th</sup> September 2022/ponedjeljak, 5.9.2022.

<b>Summer school in eDNA Metabarcoding</b>	
<i>Project: Development of master curricula in ecological monitoring and aquatic bioassessment for Western Balkans HEIs (ECOBIA)</i>	
Introduction in eDNA monitoring, Technical preparations for eDNA sampling, DNA extraction and amplification, Field sampling Moderator: Prof Edina Hajdarević PhD	
	<b>Lecture Hall Amphitheater 2, Faculty of Technology/ Amfiteatar 2, Tehnološki fakultet Urfeta Vejzagića 8, 75 000 Tuzla</b>
09.00 – 09.30	<b>Registration</b> <i>Registracija učesnika</i>
09.30 – 09.40	<b>Welcome Speech by the Management of the University of Tuzla</b> <i>Uvodno obraćanje ispred menadžmenta Univerziteta u Tuzli</i>  <b>Prof Vesna Bratovčić, PhD, vice-rector of the University of Tuzla/ Prof.dr. Vesna Bratovčić, Prorektorica Univerziteta u Tuzli</b>
09.40- 09.50	<b>Introductory words on behalf of the consortium of the Erasmus Ecobias project</b> <i>Uvodno obraćanje u ime Erasmus Ecobias konzorcija</i>  <b>Prof Ljubica Vasiljević, PhD, the leader of the project Ecobias at the University of East Sarajevo</b> <i>Prof.dr. Ljubica Vasiljević, voditelj projekta Ecobias na Univerzitetu Istočno Sarajevo</i>

09.50 – 10.10	<p><b>Introductory words by the Management of the Faculty of Natural Sciences and Mathematics, UNTZ, presentation of the sponsors and the Summer school organizational team</b>  <i>Uvodno obraćanje menadžmenta Prirodno-matematičkog fakulteta, predstavljanje sponzora i organizacijskog tima ljetne škole</i></p> <p><b>Prof Vedad Pašić, PhD, Dean of the Faculty of Natural Sciences and Mathematics UNTZ</b>  <i>Prof.dr. Vedad Pašić, Dekan Prirodno-matematičkog fakulteta, UNTZ</i></p> <p><b>Prof Isat Skenderović PhD, Head of the Department of Biology UNTZ</b>  <i>Prof.dr. Isat Skenderović, voditelj Odsjeka za biologiju Univerziteta u Tuzli</i></p>
10.10 – 10.45	<p><b>General introduction in eDNA monitoring</b>  <i>Osnove okolišne DNK i monitoringa</i></p> <p><b>Prof Jasmina Kamberović PhD, the leader of the project Ecobias at the University of Tuzla</b>  <b>Prof Adisa Ahmić PhD, UNTZ member of the project Ecobias</b>  <b>University of Tuzla</b></p>
10.45 – 11.00	Break
11.00 – 11.45	<p><b>Technical preparations for eDNA sampling, DNA extraction and amplification</b>  <i>Tehničke pripreme za uzorkovanje okolišne DNK, ekstrakciju i amplifikaciju</i></p> <p><b>Robin Schütz, University of Duisburg -Essen</b></p>
11.45 – 12.15	<p><b>Organization into groups and space tour</b>  <i>Organizacija u grupe i obilazak laboratorijskih kabineta</i></p>
12.15 – 13.15	<p><b>Lunch break - Faculty of Natural Sciences and Mathematics</b>  <i>Ručak – Prirodno-matematički fakultet</i></p>
	<p><b>Field - Lake Modrac</b>  <i>Teren – jezero Modrac</i></p>
13.15-13.30	<p><b>Organization of participants for transportation to the lake Modrac</b>  <i>Organizacija učesnika za prevoz do jezera Modrac</i></p>
13.30– 17.00	<p><b>Field sampling of the eDNA</b>  <i>Terensko uzorkovanje okolišne DNK</i></p> <p><b>All participants and group leaders</b>  <i>Svi polaznici ljetne škole sa voditeljima grupa</i></p>
17.00-17.30	<p><b>Return to Tuzla</b>  <i>Povratak u Tuzlu</i></p>

Tuesday 6<sup>th</sup> September 2022/utorak, 6.9.2022.

<b>Summer school in eDNA Metabarcoding</b> Project: Development of master curricula in ecological monitoring and aquatic bioassessment for Western Balkans HEIs (ECOBIA S) DNA extraction, Qubit quantification of DNA, PCR amplification - laboratory practice		
	<b>Laboratory 48b of Department of Biology,            Building of the Faculty of Technology,            Urfeta Vejzagića 8, Tuzla</b>	<b>Laboratory 48a, of Department of Biology,            Building of the Faculty of Technology, Urfeta            Vejzagića 8, Tuzla</b>
09.00 –12.45	DNA extraction from biofilm samples, Qubit quantification of DNA, PCR amplification <b>Laboratory practice Group 1:            Leader of the group 1: Prof Jasmina            Kamberović, PhD, UNTZ</b> <i>DNA ekstrakcija iz biofilm uzoraka, Qubit            kvantifikacija DNK, PCR amplifikacija</i>	DNA extraction from biofilm samples, Qubit quantification of DNA, PCR amplification <b>Laboratory practice Group 2:            Leader of the group 2: Prof Adisa Ahmić,            PhD, UNTZ</b> <i>DNA ekstrakcija iz biofilm uzoraka, Qubit            kvantifikacija DNK, PCR amplifikacija</i>
12.45-13.00	<b>Thermocycler setup for 1<sup>st</sup> and 2<sup>nd</sup> group</b> <i>Postavljanje termociklera za prvu i drugu grupu</i>	
13.00 –16.45	DNA extraction from filter eDNA samples, Qubit quantification of DNA, PCR amplification <b>Laboratory practice Group 3            Leader of the group 3: Prof Edina            Hajdarević, PhD, UNTZ</b> <i>DNA ekstrakcija iz filter uzoraka, Qubit            kvantifikacija DNK, PCR amplifikacija</i>	DNA extraction from filter eDNA samples, Qubit quantification of DNA, PCR amplification <b>Laboratory practice Group 4            Leader of the group 4: Darja Husejnagić PhD,            UNTZ</b> <i>DNA ekstrakcija iz filter uzoraka, Qubit            kvantifikacija DNK, PCR amplifikacija</i>
16.45-17.00	<b>Thermocycler setup for 3<sup>rd</sup> and 4<sup>th</sup> group</b> <i>Postavljanje termociklera za treću i četvrtu grupu</i>	
	<b>PCR products keep on ice till Wednesday</b> <i>PCR produkt čuvati na ledu do srijede</i>	

Wednesday 7<sup>th</sup> September 2022/srijeda, 7.9.2022.

<b>Summer school in eDNA Metabarcoding</b> Project: Development of master curricula in ecological monitoring and aquatic bioassessment for Western Balkans HEIs (ECOBias) Theory - Chances and challenges in eDNA monitoring, Introduction in sequencing and bioinformatics, Laboratory practice - Electrophoresis of PCR products			
Time	Lecture Hall, Faculty of Technology, Amphitheater 2, Urfeta Vejzagića 8, 75 000 Tuzla <i>Amfiteatar 2 Tehnološkog fakulteta</i>		
09.00 –10.00	<b>Chances and challenges in eDNA monitoring; Importance of the ECOBIAS project</b> <i>Mogućnosti i izazovi monitoringa primjenom okolišne DNK, značaj Ecobias projekta</i>  <b>Prof Florian Leese, PhD, the leader of the project Ecobias at the University of Duisburg - Essen</b>		
10-10.30	Break		
	Ecobias Erasmus Laboratory for eDNA 48b	Ecobias Erasmus Laboratory for eDNA 48a	Interba Erasmus Computer room 57 and Ecobias Laboratory 51
10.30 –12.00	<b>Laboratory practice: Electrophoresis of PCR products</b> <i>Group 1</i> <i>Laboratorijska vježba: Elektroforeza PCR produkta</i>	<b>Laboratory practice: Electrophoresis of PCR products</b> <i>Group 2</i> <i>Laboratorijska vježba: Elektroforeza PCR produkta</i>	<b>Students teamwork, evaluation of the results</b> <i>Group 3 and 4</i> <i>Studentski timski rad, evaluacija rezultata</i>
12.00 -13.30	Break		
13.30 –15.00	<b>Laboratory practice: Electrophoresis of PCR products</b> <i>Group 3</i> <i>Laboratorijska vježba: Elektroforeza PCR produkta</i>	<b>Laboratory practice: Electrophoresis of PCR products</b> <i>Group 4</i> <i>Laboratorijska vježba: Elektroforeza PCR produkta</i>	<b>Students team work, evaluation of the results</b> <i>Group 1 and 2</i> <i>Studentski timski rad, evaluacija rezultata</i>
15.00 –16.00			<b>Questions and answers</b> <i>Pitanja i odgovori</i>

Thursday 8<sup>th</sup> September 2022/četvrtak, 8.9.2022.

<b>Summer school in eDNA Metabarcoding</b> Project: Development of master curricula in ecological monitoring and aquatic bioassessment for Western Balkans HEIs (ECOBIA) Bioinformatics introduction, Apscale, Taxon Table Tools, reference database, from sequence to taxonomy		
Place	Lecture Hall, Faculty of Technology, Amphitheater 2, Urfeta Vejzagića 8, Tuzla	
09.00 – 10.30	Bioinformatics introduction, Apscale, Taxon Table Tools, reference database <i>Uvod u bioinformatiku, Apscale, Taxon Table Tools, referentne baze podataka</i> <b>Till-Hendrik Macher</b> <i>University of Duisburg-Essen</i>	
10.30 – 11.00	Break	
	Computer room 57, Interba Erasmus computer room, Faculty of Technology, Urfeta Vejzagića 8, Tuzla	Computer room 201, Faculty of Natural Sciences and Mathematics, Urfeta Vejzagića 4, Tuzla
11.00 – 12.00	From sequence to taxonomy: Bioinformatics, BOLD reference database <b>Group 1</b> <i>Od sekvence do taksonomije</i> <i>Bioinformatika, BOLD referentna baza podataka</i> <i>Grupa 1</i>	From sequence to taxonomy: Bioinformatics, BOLD reference database <b>Group 2</b> <i>Od sekvence do taksonomije</i> <i>Bioinformatika, BOLD referentna baza podataka</i> <i>Grupa 2</i>
12.00 – 13.00	From sequence to taxonomy: Bioinformatics, BOLD reference database <b>Group 3</b> <i>Od sekvence do taksonomije</i> <i>Bioinformatika, BOLD referentna baza podataka</i> <i>Grupa 3</i>	From sequence to taxonomy: Bioinformatics, BOLD reference database <b>Group 4</b> <i>Od sekvence do taksonomije</i> <i>Bioinformatika, BOLD referentna baza podataka</i> <i>Grupa 4</i>
13.00 – 14.00	Break	
	Lecture Hall, Faculty of Technology, Amphitheater 2, Urfeta Vejzagića 8, Tuzla	
14.00 – 16.00	Student presentation of the group results, evaluation of the summer school, discussion, certificates, closing  <b>All participants</b>  <i>Studentska prezentacija rezultata grupa, evaluacija ljetne škole, diskusija, certifikati</i> <i>Svi učesnici</i>	