



# 4th EPI-CATCH Conference Epigenetic Mechanisms of Crop Adaptation to Climate Change

## PROGRAMME

4-6 June 2024.  
Novi Sad, Serbia

PLANT BREEDING  
IN VIEW OF  
EPIGENETIC  
MECHANISMS  
AND  
TECHNOLOGICAL  
ADVANCEMENTS



CONFERENCE VENUE:  
Faculty of Agriculture, University of Novi Sad  
Trg Dositeja Obradovića 8



Funded by  
the European Union

## SCIENTIFIC COMMITTEE

Federico Martinelli – University of Florence, Italy

Velimir Mladenov – University of Novi Sad, Serbia

Stephane Maury – University of Orléans, France

Sotirios Fragkostefanakis – Goethe University Frankfurt, Germany

Michal Lieberman-Lazarovich – Volcani Center, Israel

Eirini Kaiserli – University of Glasgow, United Kingdom

Valya Vassileva – IPPG, Bulgarian Academy of Sciences, Bulgaria

Pilar Testilliano – CIB Margarita Salas – CSIC, Spain

## LOCAL ORGANISING COMMITTEE

Branko Ćupina, Full Professor

Velimir Mladenov, Associate Professor

Đorđe Krstić, Full Professor

Borislav Banjac, Associate Professor

Svetlana Vujić, Associate Professor

Ksenija Mačkić, Associate Professor

Jovana Šućur Elez, Associate Professor

Bojana Blagojević, Assistant Professor

Rada Šućur, Teaching Assistant

Teodora Feher, Junior Teaching Assistant

**Dear Conference Participants,  
A warm welcome to the 4th EPI-CATCH  
Conference in the charming city of Novi  
Sad, Serbia!**

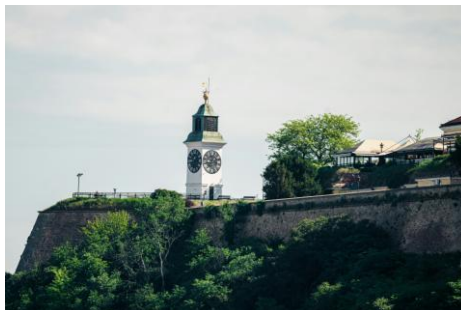
EPI-CATCH is a COST action with the aim of defining, developing generating and sharing new breaking knowledge and methodologies for the investigation of epigenetic mechanisms underlying plant adaptation to environmental stresses driven by climate change. Our goal is to create a pan-European framework for networking in this under-investigated research field of plant genetics. The 4<sup>th</sup> EPI-CATCH Conference is an extraordinary occasion for researchers to disseminate, discuss, connect and update on the latest research in plant epigenetics. The conference will host sessions dealing with:

- 1) epigenetic responses to environmental stresses;
- 2) epigenetic mechanisms driving stress memory, transgenerational effects, adaptation responses;
- 3) methodological approaches for the study of epigenetic diversity and stress responses.

Management Committee meeting will take place at the end of the conference to coordinate the activities over the 4<sup>th</sup> year of the Action and resume other events (training schools, workshops, STSMs) organised by EPI-CATCH.

#### **EPI-CATCH Sessions:**

- Plant Breeding, Biotechnology and Epigenetics in crops
- Epibreeding and Epigenome editing
- Dynamics of Transposable Elements (TEs) in plants and epigenetic pathways in Evolution
- RNA-based epigenetic regulation & Chromatin dynamics and histone code in plant stress response



We wish all the attendees an inspiring conference and productive discussions!

13:00-14:30	<b>REGISTRATION</b>
14:30-14:45	<b>OPENING CONFERENCE – Welcome by the Chair of EPI-CATCH Federico Martinelli and Vice Dean for Education Mirjana Đukić Stojčić</b>
14:45-18:20	<b>SESSION : RNA-BASED EPIGENETIC REGULATION &amp; CHROMATIN DYNAMICS AND HISTONECODE IN PLANT STRESS RESPONSE</b> <b>Chairpersons: Velimir Mladenov and Michal Lieberman-Lazarovich</b>
14:45-15:15	<b>Keynote: Moussa Benhamed, Institut Universitaire de France, Orsay, France;</b> <i>Exploring the chromatin-based regulation of enhancer promoter contact and its impact on gene expression in tomato</i>
15:15-15:35	<b>Sotirios Fragkostefanakis, Goethe University Frankfurt, Germany;</b> <i>Heat stress transcription factors of B class act as molecular switches for the activation and attenuation of stress response to optimize thermotolerance</i>
15:35-15:55	<b>Federico Martinelli, University of Florence, Sesto Fiorentino, Italy ;</b> <i>Effects of RNAi-mediated crown gall tumor suppression in transgrafted walnut trees</i>
16:00-16:30	<b>Coffee break</b>
16:30-17:00	<b>Keynote: Sara Farrona, National University of Ireland – Galway, Ireland;</b> <i>An evolutionary tale of PWOs and PRC2 proteins</i>

17:00-17:20	<b>Eirini Kaiserli, University of Glasgow, United Kingdom;</b> <i>Light and warm temperature signal integration at the chromatin level</i>
17:20-17:40	<b>Jerome Verdier, University of Angers, France;</b> <i>Bioengineering desiccation tolerant seedling using the seed desiccation process</i>
17:40-18:20	<b>FLASH TALKS (10 min), Q&amp;A at the end</b>
17:40-17:50	<b>Rada Šučur, University of Novi Sad, Faculty of Agriculture, Serbia;</b> <i>How plant stress transcription factors regulate heat stress response in tomato</i>
17:50-18:00	<b>Letterio Giuffrè, University of Messina, Italy;</b> <i>The Role of Epigenetics in clinical and Environmental fungi</i>
18:00-18:10	<b>Maria Rosa Felice, University of Messina, Italy;</b> <i>Epitranscriptomics: an overview on RNA modifications in prokaryotes and eukaryotes</i>
18:10-18:20	<b>Zahra Kahrizi, Institute of Experimental Botany of the Czech Academy of Sciences, Czech Republic</b> <i>eIF3M2 maintain pollen tube integrity during heat stress via HSP70 up regulation</i>
18:20-21:00	Trip/Visit to the winery and vine tasting

8:30-9:00	<b>REGISTRATION</b>
9:00-15:30	<b>SESSION: PLANT BREEDING, BIOTECHNOLOGY AND EPIGENETICS IN CROPS</b> <b>Chairpersons: Glória Pinto and Stéphane Maury</b>
9:00-9:30	<b>Keynote: Benoit Pujol, Université de Perpignan, France;</b> <i>Between ecology and evolution, the selection of standing epigenetic variation</i>
9:30-9:50	<b>Sophie Brunel-Muguet, Université Caen Normandie, INRAE, Caen, France;</b> <i>Identifying heat stress recurrence specific features for plant acclimation: a case study in oilseed rape</i>
9:50-10:10	<b>Kaan Hürkan, Faculty of Agriculture, Iğdır University, Turkey;</b> <i>A High-Tech Methylation Detection Method for Epigenetic Analysis: High Resolution Melting</i>
10:10-10:30	<b>Musa Kavas, Ondokuz Mayıs University, Faculty of Agriculture, Turkey;</b> <i>Exploring the role of FAT genes in Solanaceae species through genome-wide analysis and genome editing</i>
10:30-11:30	<b>Coffee break and Group photo</b>
11:30-12:00	<b>Keynote: Jose Gutierrez-Marcos, Science University of Warwick, United Kingdom;</b> <i>A new strategy to enhance phenotypic variation in plants</i>

12:00-12:20	<p><b>Athanassios Molassiotis, Aristotle University of Thessaloniki, Greece;</b> <i>System biology analysis discovers key cold-regulated gene transcription regulators of the ERF-family in olive tree</i></p>
12:20-12:40	<p><b>Khalid Amari, Institute for Biosafety in Plant Biotechnology; Germany;</b> <i>Using epigenetics to manage plant pathogens: A case study on viruses and fungi</i></p>
12:40-13:00	<p><b>Aleksandra Radanović, Institute of Field and Vegetable Crops, Serbia;</b> <i>A comprehensive approach to enhancing sunflower drought tolerance</i></p>
13:00-14:30	<b>LUNCH</b>
	<b>Chairpersons: Sophie Brunel-Muguet and Eleni Tani</b>
14:30-14:50	<p><b>Christos Bazakos, Institute of Plant Breeding and Genetic Resources, Thessaloniki-Thermi, Greece;</b> <i>Multi-omic analysis during fruit development and cold storage in sweet orange</i></p>
14:50-16:00	<b>FLASH TALK (10 min), Q&amp;A at the end</b>
14:50-15:00	<p><b>João Proença Pereira, Faculdade de Ciências da Universidade de Lisboa; Portugal;</b> <i>Transient knockdown of a grapevine DNA demethylase gene for improved resilience against downy mildew</i></p>

15:10-15:20	<b>Ersin Atay, Burdur Mehmet Akif Ersoy University, Turkiye;</b> <i>Addressing Major Challenges: Evaluating Advanced Apple Selections in Turkey</i>
15:20-15:30	<b>Kumar Vinay, Savitribai Phule Pune University, India;</b> <i>Integrated multiomics approach for revealing epigenetic regulations of combined heat and salinity stress in rice cultivars</i>
15:30-15:40	<b>Maria Gerakari, Agricultural University of Athens, Greece;</b> <i>Exploration of Solanum spp. transcriptomic and epigenetic changes after early-stage broomrape infestation</i>
15:40-15:50	<b>Rosa Sanchez-Lucas, University of Birmingham, United Kingdom;</b> <i>Epigenetic inheritance of stress impacts seedling performance of forest trees</i>
15:50-16:00	<b>Miriam Negussu, University of Florence; Italy</b> <i>The Heredity of Drought: Probing Physiological and Molecular Markers of Stress Memory in Myles Chickpea Cultivar</i>
16:00-16:30	<b>Coffee break and Poster section</b>
16:30-18:00	<b>SESSION: EPIBREEDING AND EPIGENOME EDITING</b> <b>Chairpersons: Eirini Kaiserli and Federico Martinelli</b>
16:30-17:00	<b>Keynote: Ueli Grossniklauss, University of Zurich, Switzerland;</b> <i>Exploiting Genetic and Epigenetic Heterogeneity to Increase Yield</i>



17:00-17:20	<b>Michal Lieberman-Lazarovich, Agricultural Research Organization, Volcani Center , Istael;</b> <i>Modifying DNA methylation at the CNR promoter using a dCas9-M.Sssl methyltransferase epigenetic editing tool</i>
17:20-17:40	<b>Dušan Denić, University of Zurich, Switzerland;</b> <i>Unlocking epigenetic variation to breed sustainable crops in a changing climate</i>
17:40-18:00	<b>Trezalka Budinsky, Charles University, Czech Republic;</b> <i>Deciphering the biological significance of genomic imprinting</i>
18:00-20:00	<b>SIGHTSEEING WALK</b>
20:00-24:00	<b>OFFICIAL DINNER</b>

8:30-9:00	<b>REGISTRATION</b>
9:00-11:00	<p><b>SESSION: DYNAMICS OF TRANSPOSABLE ELEMENTS (TEs) IN PLANTS AND EPIGENETIC PATHWAYS IN EVOLUTION</b></p> <p><b>Chairpersons: Sotirios Fragkostefanakis and Valya Vassileva</b></p>
9:00-9:30	<p><b>Keynote: Leandro Quadrana, Institute of Plant Science Paris-Saclay (IPS2), France;</b> <i>Evolving by jumping: The role of mobile DNA in the generation of adaptive variation in response to environmental challenges</i></p>
9:30-10:00	<p><b>Keynote: Clemént Lafon Placette, Faculty of Science, Charles University, Czechia;</b> <i>Transposable elements in Arabidopsis natural populations: deleterious? if, when, how</i></p>
10:00-10:20	<p><b>Stéphane Maury, Université d'Orleans, France;</b> <i>A Strategy for studying epigenetic diversity in natural populations</i></p>
10:20-10:40	<p><b>Heena Ambreen, University of Exeter, United Kingdom;</b> <i>Transposon-mediated somatic mosaicism in Arabidopsis thaliana</i></p>
10:40-11:00	<p><b>Pluess Alex, University of Zurich, Switzerland;</b> <i>Investigating the distribution and stability of epigenetic variation in natural populations of Arabidopsis thaliana</i></p>
11:00-11:30	<p>End of general meeting and <b>Coffee break</b> <b>PRIZES FOR BEST FLASH TALK AND POSTER</b></p>
11:30-14:00	<b>MC meeting</b>

## CONTACT DETAILS

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АУТОНОМНА ПОКРАЈИНА ВОЈВОДИНА  
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ПОЉОПРИВРЕДУ, ВОДОПРИВРЕДУ И  
ШУМАРСТВО



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