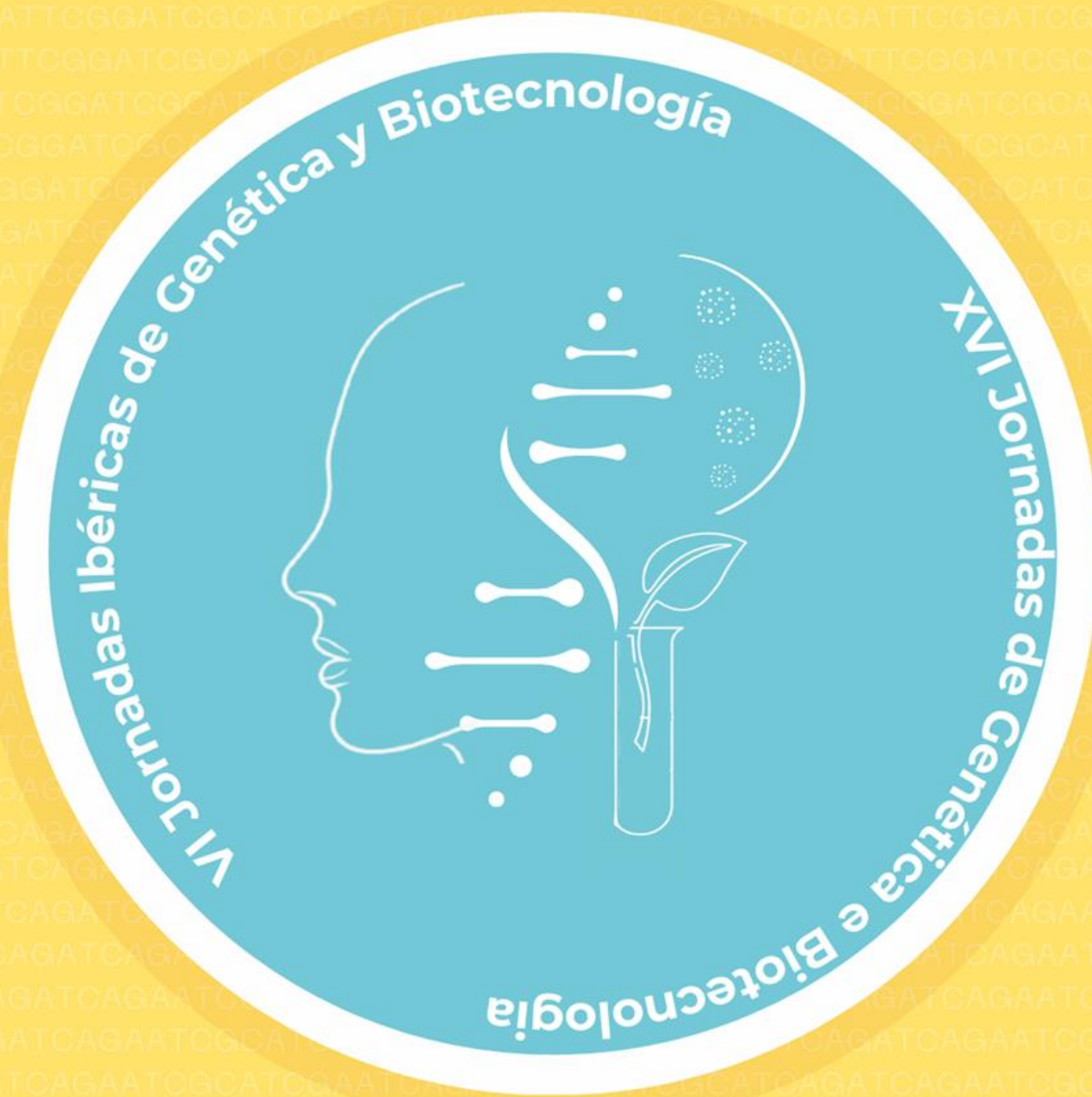


13th - 15th March 2024

# BOOK OF ABSTRACTS





**Título:** XVI Jornadas de Genética e Biotecnologia | VI Jornadas Ibéricas de Genética y Biotecnología – Book of Abstracts

**Autores:** Fernanda Leal, José Lima-Brito e Manuela Matos

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**XVI Genetics and Biotechnology Conference |  
VI Genetics and Biotechnology Iberian Conference**

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The “Jornadas de Genética e Biotecnologia” (JGB) of the University of Trás-os-Montes and Alto Douro (UTAD) is an annual scientific event organized jointly by the Nucleus of Students of Genetics and Biotechnology (ADNGB) of UTAD and the Direction of the Course of Genetics and Biotechnology in collaboration with the teaching staff of the Department of Genetics and Biotechnology (DGB). As a result of the scientific-pedagogical partnership established between professors of DGB (UTAD) and the Faculty of Biological and Environmental Sciences of the University of León (UL), Spain, it was considered important to shared organization of this event between professors and students of the UTAD and UL designating it as “Jornadas de Genética e Biotecnologia | Jornadas Ibéricas de Genética e Biotecnologia” (JGB | JIGB).

This year, the XVI JGB | VI JIGB will be held from March 13th to 15th at the School of Life and Environmental Sciences (ECVA) Auditorium, UTAD, Vila Real, Portugal.

The main objective of the XVI JGB | VI JIGB is to update knowledge in the area of Genetics and Biotechnology. To this end, the focus of this event is the conferences given by renowned national and international scientists and the thematic workshops that will constitute more practical sessions. The XVI JGB | VI JIGB will also focus on interaction, exchange of experiences and scientific debates between Portuguese and Spanish students and professors.

The best oral and poster presentations will be awarded.

The target audience is Portuguese and Spanish students, researchers, university professors from the scientific areas of Biological Sciences and Biotechnology, and High School biology teachers.

Various topics will be discussed in the different areas of Genetics and Biotechnology, such as Plant, Animal, Human, Microbial, Evolutionary, Cancer, Forensic, Ethics, and Entrepreneurship.







## HONOUR COMMITTEE

---

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**Adela Fuertes Rodrigo**  
(Outreach and Events Coordinator)

**Carmen Santos García and Elsa González Alonso**  
(Communication Coordinators)







## Wednesday, 13<sup>th</sup> of March, *afternoon session* (UTAD)

---

**UTAD (ECVA Auditorium): In person and zoom videoconference in streaming**

### PROGRAM

PT	ES	
16:00	17:00	<b>OPENING SESSION (<i>In person and online</i>)</b>  Rector of UTAD Mayor of Vila Real Decana of the Univ León - Rectory of the UL President of the ECVA-UTAD President of the ECVA Pedagogical Council Director of the DGB-UTAD President of the AAUTAD President of the ADNGB
16:30	17:30	<b>ROUND TABLE (<i>In person and online</i>):</b>  <b><i>Paths of Memory: talking with Alzheimer's</i></b>  <b>Celso Pontes, Dr.</b> (Neurologist and President of the Scientific Committee of the "Associação Alzheimer Portugal")  <b>Marina Silva, Ph.D.</b> (Researcher);  <b>Vânia Oliveira, Dr.</b> (Psychologist of the "Associação Alzheimer Portugal");  <b>João Pedro Cascalheira, M.Sc.</b> (President of "Centro Social Nossa Senhora da Graça")

## Wednesday, 13<sup>th</sup> of March, *afternoon session* (UTAD)

---

### WORKSHOPS (*In person at UTAD, 18:30 – 20:00*)

- 18:30 **Professor Isabel Gaivão, António Igrejas and Natsha Miranda**  
*Comet Test Workshop: Bases and applications*  
(Classroom 1.63 – ECVA – Pole I)
- 18:30 **Professor Ana Luzio and Professor Luís Félix**  
*Zebrafish as an alternative model for toxicology*  
(Classroom 1.02 – ECVA – Pole I)
- 18:30 **Professor Filomena Adegas and Professor Filipe Pereira**  
*The power of bioinformatics in cancer precision medicine*  
(Classroom B1.06 – Library of UTAD)
- 18:30 **Professor Ana Lúcia Pinto-Sintra**  
*Plant genetic engineering: the transgenic and cisgenic approaches*  
(Classroom 1.12 – ECVA – Pole I)
- 18:30 **Professor Isabel Pires and Professor Justina Prada**  
*Histopathological Methods in Diagnosis and Prediction of Therapeutic Targets in Oncologic: a practical approach*  
(Classroom LHAP and necropsies)
- 18:30 **Professor Verónica Bermudez, André Pinto, Paulo Nunes, Tiago Duarte, Filipe Santos and Mariana Fernandes**  
*Silk, from coccons to flexible sensors*  
(Classroom C2.01 –Laboratorial Complex)
- 18:30 **Professor Ana Alexandra and Professor Patrícia Lage**  
*Hands-on workshop on the application of molecular diagnosis in microbiology*  
(Laboratory of Microbiology – Enology Building)
- 18:30 **Professor Ana Barros**  
*Harnessing the Potential of Grape Stem Extracts: A Natural Approach to Skincare Formulations*  
(Classroom C2.13 – Laboratorial Complex)

## Thursday, 14<sup>th</sup> of March, morning session (UTAD)

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**UTAD (ECVA Auditorium): In person and zoom videoconference in streaming**

### PROGRAM

#### EVOLUTIONARY GENETICS SESSION

PT	ES	
9:00	10:00	Conference ( <i>In person</i> ) <b>Professor Filipe Castro</b> <i>Genome Stories: the splendor of life forms and their origin</i>
10:00	11:00	Conference ( <i>Online</i> ) <b>Mafalda Ferreira, Ph.D.</b> <i>The evolution of white-tailed jackrabbit camouflage in response to past and future climates</i>
11:00	12:00	<b>Coffee break + Posters show (digital exposition)</b>

#### ORAL COMMUNICATIONS – SESSION 1 (*In person and online*)

11:30	12:30	<b>Ana Luísa Taveira</b> - <i>Characterization of a new allele in the CRY1 gene in racing pigeons</i>
11:40	12:40	<b>Kátia Silva</b> - <i>Identification of DNA repair gene variants in genus Equus</i>
11:50	12:50	<b>Natasha Miranda</b> – <i>Impact of high sugar diet on male fertility and epigenetic mechanisms- study in Drosophila melanogaster as a model</i>
12:00	13:00	<b>Laura Calvo Rodríguez</b> – <i>Climate change alters fish spermatogenesis through different mechanisms</i>
12:10	13:10	<b>Jorge Peláez</b> – <i>Macroalgal cell wall-derived glycans as potential new agrobiologicals</i>
12:30	13:30	<b>LUNCH</b>

Thursday, 14<sup>th</sup> of March, *afternoon session* (UTAD)

---

**UTAD (ECVA Auditorium): In person and zoom videoconference in streaming**

**PROGRAM**

**BUSINESS + MICROBIAL GENETICS SESSIONS**

PT	ES	
14:00	15:00	<b>Pimenta dos Vinhedos</b> Evellin Machado, Dr. and Gustavo Almeida, Dr.
14:20	15:20	<b>Morinha Lab</b> Francisco Morinha, Ph.D.
14:40	15:40	<b>Alfagene</b> Dr. Berta Lima de Carvalho, Ph.D.
15:00	15:00	Conference (In Person) <b>Jorge Guío, M.Sc. (Universidad de León)</b> Regulatory networks in the cyanobacterium <i>Anabaena</i> sp. PCC 7120
15:45	16:45	<b>Coffee break + Poster show (digital exposition)</b>
<b>ORAL COMMUNICATIONS – SESSION 2 (In person and online)</b>		
16:15	17:15	<b>Micaela Quintelas</b> - <i>Seagulls and coastal zones as potencial reservoirs of biofilm-forming multidrug-resistant enterobacteriaceae</i>
16:25	17:25	<b>Emanuel Peixoto</b> - <i>Genomic diversity and spoilage potencial assessment of Dekera bruxellensis strains</i>
16:35	17:35	<b>Sara Araújo</b> – <i>Exploring the Impact of Klebsiella spp. in Aquatic Environments: Prevalence, Antibiotic Resistance, and Virulence Profiles</i>
16:45	17:45	<b>Mateus Machanguana</b> – <i>Evaluation of the survival of Escherichia coli and Salmonella sp. before and after chemical stabilization of sewage treatment plant slugde</i>
16:55	17:55	<b>Telma Sousa</b> – <i>Characteristics of microbiological nature and clinical significance of the T6SS in multidrug-resistant Pseudomonas aeruginosa isolates</i>

## Thursday, 14<sup>th</sup> of March, *afternoon session* (UTAD)

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**UTAD (ECVA Auditorium): In person and zoom videoconference in streaming**

### PROGRAM

PT	ES	
17:15	18:15	<b><i>ROUND TABLE WITH ALUMNI (In person and online)</i></b> <i>Exclusive event for former and current students of the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> cycles of study in the field of Genetics and Biotechnology</i>

**Alumni:**

Arnaud da Cruz Paula  
Carla Ribeiro  
Cátia Pinto  
Helena Ferreira  
Lara Baptista  
Lisandra Castro  
Olívia Pontes

## Friday, 15<sup>th</sup> of March, *morning session* (UTAD)

**UTAD (ECVA Auditorium): In person and zoom videoconference in streaming**

### PROGRAM

#### **CANCER GENETICS AND GENEALOGY AND FORESINC GENETICS SESSION**

PT	ES	
9:00	10:00	Conference ( <i>In person</i> ) <b>Sandra Tavares, Ph.D.</b> <i>Cytoskeletal Regulation &amp; Cancer: Migration and metastasis in Triple Negative Breast Cancer</i>
10:00	11:00	Conference ( <i>Online</i> ) <b>Professor Vania Pereira</b> <i>Genealogy in a Forensic Context</i>
11:00	12:00	<b>Coffee break + Poster show (digital exposition)</b>
<b>ORAL COMMUNICATIONS – SESSION 3 (In person and online)</b>		
11:30	12:30	<b>Berta Gutiérrez</b> - <i>Construction of a Tissue Microarray (TMA) to explore immunohistochemical expression in WHO-classified adult-type diffuse gliomas</i>
11:40	12:40	<b>Mónica Ramos</b> - <i>Epigenetic characterization (DNAm) of aging in an Algarve population</i>
11:50	12:50	<b>Isabel Carvalho</b> – <i>Harnessing Aloe vera: Exploring Natural Alternatives for Sustainable Healthcare</i>
12:00	13:00	<b>Mariana Costa</b> – <i>Invisible roommates: occurrence of indoor fungi</i>
12:10	13:10	<b>Catarina Freitas</b> – <i>Antimicrobial Resistance and Biofilm Formation in Coagulase-Negative Staphylococci: Clinical Isolates versus Contaminants in Hospital Settings</i>
12:20	13:20	<b>Ruth Esho</b> – <i>Novel Phenotypic Features of the Malaria Parasite through Time-domain Nuclear Magnetic Resonance</i>
12:30	13:30	<b>LUNCH</b>

## Friday, 15<sup>th</sup> of March, *afternoon session* (UTAD)

---

**UTAD (ECVA Auditorium): *In person and zoom videoconference in streaming***

### PROGRAM

#### **PLANT GENETICS AND BIOTECHNOLOGY SESSION**

PT	ES	
14:00	15:00	Conference ( <i>In person</i> ) <b>Maria Muñoz-Amatriain, Ph.D.</b> <i>Exploiting cowpea genetic and genomic resources for crop improvement</i>
15:00	16:00	Conference ( <i>In person</i> ) <b>Professor Jorge Canhoto</b> <i>The Biotechnology Information Centre (“CiB - Centro de Informação de Biotecnologia”) and the dissemination of plant breeding</i>
16:00	17:00	<b>Coffee break + Posters show (digital exposition)</b>

#### **ORAL COMMUNICATIONS – SESSION 4 (*In person and online*)**

16:30	17:30	<b>Ignacio Prusén Mota</b> - <i>Identification of loci associated with rough seed coat texture in cowpea</i>
16:40	17:40	<b>Patrícia Afonso</b> - <i>Cowpea and Abiotic stresses: identification of suitable genes for qPCR analysis</i>
16:50	17:50	<b>Christina Crióstomo</b> – <i>Comparative evaluation of the negative impacts of two herbicides on the root cell cycle of bread wheat</i>
17:00	18:00	<b>Pilar Carrancio-Jato</b> – <i>Maize response to Fusarium graminearum infection: a matter of cell wall?</i>
17:10	17:10	<b>Suzzana Correia</b> – <i>Genetic analysis of two blueberry plantvarieties, originated from different micropropagation methods</i>

#### **AWARDS CEREMONY AND CLOSING SESSION (*In person and online*)**

17:30	18:30	<b>Awards Ceremony</b>
18:00	19:00	<b>Closing Session</b>





## Serological evidence of West Nile virus in wild birds in Portugal

Loureiro F.<sup>1,2\*</sup>, Matos A.C.<sup>3,4</sup>, Pintado C.<sup>3,4</sup>, Cardoso L.<sup>2,5</sup>,  
Silva F.<sup>1,2,5</sup>, Matos M.<sup>6</sup>, Coelho A.C.<sup>2,5</sup>

<sup>1</sup> Wildlife Rehabilitation Centre (CRAS), Veterinary Teaching Hospital (HVUTAD), University of Trás-os-Montes e Alto Douro (UTAD), Vila Real, Portugal

<sup>2</sup> Animal and Veterinary Research Centre (CECAV), Associate Laboratory for Animal and Veterinary Sciences (AL4AnimalS), UTAD, Vila Real, Portugal

<sup>3</sup> Research Centre for Natural Resources, Environment and Society (CERNAS), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal

<sup>4</sup> Quality of Life in the Rural World (Q-RURAL), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal

<sup>5</sup> Department of Veterinary Sciences, School of Agrarian and Veterinary Sciences (ECAV), UTAD, Vila Real, Portugal

<sup>6</sup> Centre for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB), UTAD, Vila Real, Portugal

\* filipal@utad.pt

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West Nile virus (WNV) has a zoonotic transmission cycle. Avian species are considered the definitive hosts, and mosquitoes and other arthropods are the main vectors. Humans are considered accidental and dead-end hosts, since mammals are unable to efficiently amplify the virus. We aimed at studying serological prevalence of WNV circulation in wild birds in Portugal. Three hundred and six individuals belonging to 34 different species and 11 orders were sampled, and tested with a commercial ELISA kit for antibodies to WNV. Results were positive for 64 samples (20.9%; 95% confidence interval [CI]: 16.5-25.9%) as follows: Accipitriformes (n=44; 23%; 95% CI: 17.3-29.7%), Ciconiiformes (n=4; 9.3%, 95% CI: 2.6-22.1%), Columbiformes (n=1; 16.7%, 95% CI: 0.4-64.1%), Otidiformes (n=1; 2.5%; 95% CI: 0.0-97.5), and Strigiformes (n=14; 31.1%, 95% CI: 18.2-46.7%). So far, serological and molecular evidence of WNV circulation was mostly restricted to the southern part of the country, and our preliminary results found antibodies to WNV in samples collected from birds in the North of Portugal. Climate has been recognized as one of the main factors influencing WNV activity and dispersal. With the changes that have taken place in recent years at a global level, new studies are needed to assess the real epidemic situation of the virus in Portugal.

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