

universidade de aveiro



dcm

departamento de ciências médicas

# BIONEXUS

<MEET LIFE THROUGH COMPUTATION>

## CONFERENCE BOOKLET



[bionexus.ua](https://bionexus.ua)

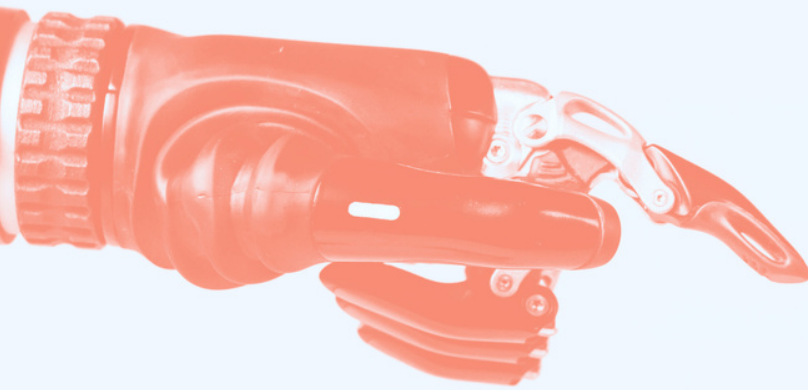


<https://bionexus.netlify.app/>

<MEET LIFE THROUGH  
COMPUTATION>



# READY TO DECODE THE ALGORITHMS THAT ARE REWRITING LIFE?



Email: [cobic.ua@gmail.com](mailto:cobic.ua@gmail.com)

LinkedIn: [linkedin.com/in/bioinformática-clínica](https://www.linkedin.com/in/bioinformática-clínica)

Instagram: [@bionexus.ua](https://www.instagram.com/bionexus.ua)



# LETTER FROM THE COMMITTEE

*Greetings,*

*It is with great pleasure that we welcome you to the third edition of BioneXus, a bioinformatics event organized by students and for students that continues to grow as a forum for innovation, collaboration, and scientific exchange. What began as a small but ambitious initiative has, over the past three years, evolved into a vibrant meeting point for researchers, clinicians, data scientists, and industry partners working at the intersection of biology and computation.*

*As we enter our third year, this event reflects both continuity and progress. We are proud to build on the strong foundations established in previous editions while expanding the scope, diversity, and impact of our program. This year's agenda highlights emerging methods, real-world applications, and interdisciplinary perspectives that underscore the rapidly advancing role of bioinformatics in modern life sciences.*

*The success of this event would not be possible without the dedication of our speakers, contributors, reviewers, and sponsors, as well as the enthusiasm of our growing community. We are especially grateful to returning participants who have helped shape this meeting into a collaborative and inclusive space, and we warmly welcome new attendees joining us for the first time.*

*We hope that this year's edition provides not only scientific insight, but also opportunities for meaningful discussion, new partnerships, and inspiration for future work. Thank you for being part of this journey, and we look forward to an engaging and rewarding event.*

*With regards,*

*The Organizing Committee of BioneXus 2026*



# THE ORGANIZING COMMITTEE OF BIONEXUS 2026



MARTA  
CARVALHO



RITA COSTA  
MARQUES



BEATRIZ  
LAVADO



AFONSO  
CARREIRA



JOÃO  
SANTOS



SIMÃO  
TAVARES



# CONTENTS

|                             |           |
|-----------------------------|-----------|
| <b>Welcome Message</b>      | <b>3</b>  |
| <b>Organizing Committee</b> | <b>4</b>  |
| <b>Program</b>              | <b>6</b>  |
| <b>Keynote Lectures</b>     | <b>10</b> |
| <b>Workshops</b>            | <b>17</b> |
| <b>Thank You Note</b>       | <b>19</b> |

**TIP:** Click here to go to the respective page.



# PROGRAM

**WEDNESDAY, APRIL 15**

---

*Click on the keynote  
subjects to find out more.*

**08:30**    **Registration**

---

**09:30**    **Opening Session**

with Dr. Gabriela Moura, director of the  
Master's Degree in Clinical Bioinformatics.

---

**09:45**    Keynote



**TutorAI tool for Medicine students**

Liliana Antão

---

**10:20**    Keynote

universidade de aveiro



**dcm**

departamento de ciências médicas

**Development of a quality management  
software in NGS analysis**

Ana Rita Silva

---

**11:00**    **Coffee Break**

---



# PROGRAM

**WEDNESDAY, APRIL 15**

*Click on the keynote subjects to find out more.*

**11:15**

Keynote



## Building the Future of Healthcare

Rui Jesus

**11:40**

Keynote



**ibimed**

universidade de aveiro  
instituto de biomedicina

## Alzheimer's APP S655 phospho-differential interactome

David Almeida

**12:15 Lunch Break**



**dcm**  
universidade de aveiro  
departamento de ciências médicas



**dmat**  
universidade de aveiro  
departamento de matemática

**CRITICAL**  **CATALYST**

**14:00**

Workshop

## Exploring the Power of Data: A Practical Introduction to Power BI

Beatriz Lavado and Diana Vieira



# PROGRAM

**THURSDAY, APRIL 16**

---

*Click on the keynote subjects to find out more.*

**09:00**

Keynote



**ibimed**  
universidade de aveiro  
instituto de biomedicina

## **Brain-machine interfaces for spinal cord injury rehabilitation**

Miguel Pais Vieira

---

**09:20**

Keynote



**Scientific ToolBox**  
Consulting

## **The Journey of a Medicine: Where You Can Make an Impact**

Sílvia Sirgado

---

**10:00**

Keynote



**ibimed**  
universidade de aveiro  
instituto de biomedicina

## **Digital Health: Trends in Medical Technology**

Bruno Gago

---



# PROGRAM

**THURSDAY, APRIL 16**

---

*Click on the keynote  
subjects to find out more.*

**10:30 Coffee Break**

---

**11:00** Round Table  
**From Algorithms to Patients: Can  
Bioinformatics Safely Guide Clinical  
Decisions?**

---

**12:00 Closing Session**

---

**12:15 Lunch Break**

---

**14:00** Workshop



Scientific ToolBox  
Consulting

**Introduction to Statistical Programming  
in Clinical Trials**

Sílvia Sirgado

---



## KEYNOTE LECTURES



### **TutorAI tool for Medicine students**

*The doctor is here!* The Tutor tool is a tool developed by Medtiles that serves as a Medical Education Platform, backed by GenAI and featuring interactive clinical cases, a Medical AI assistant, and the possibility for students and professionals to generate cases from topics or bibliography. In this keynote, you will get to know the implementation process of the Tutor tool, and what makes it so engaging and specialized to every individual.



#### **Liliana Antão**

As the founder and tech advisor of Medtiles, and a PhD student at FEUP, Liliana has over 6 years of experience in AI and Tech consulting and development and in scientific AI studies.



## KEYNOTE LECTURES



### **The Journey of a Medicine: Where You Can Make an Impact**

This presentation introduces students to the world of clinical trials and the role of Contract Research Organizations in bringing new medicines to patients, explaining how clinical studies are designed, how data is collected and analyzed, and how different experts collaborate throughout the process. With a special focus on data and programming, the session highlights how skills developed in Clinical Bioinformatics- such as data analysis, statistics, and coding - are directly applicable to careers in clinical research. Students will gain insight into key roles such as statistical programming, data management, and biostatistics, as well as typical career paths within a CRO.



#### **Sílvia Sirgado**

As the Managing Partner and Clinical Research Consultant at Scientific Toolbox, Sílvia has been working in the Clinical Research Organization area since 1999.



# KEYNOTE LECTURES

universidade de aveiro



dcm

departamento de ciências médicas

## Development of a quality management software in NGS analysis

*This work was developed by Ana Rita for her internship at Unilabs Genetics, within the Master in Clinical Bioinformatics (Genome specialization) at the University of Aveiro.*

Rita's Metrics App is a bioinformatics application developed in Python and Shiny to perform genetic analysis, such as somatic case analysis and whole-exome sequencing quality analysis. The software also calculates statistical and coverage metrics, and provides graphical visualizations of coverage depth. In this keynote, you will get to know the development process of the application and view a demo of the application functioning.



### Ana Rita Silva

Recently graduated from her MSc in Clinical Bioinformatics, Ana Rita is taking her first steps on the working market.



## KEYNOTE LECTURES

universidade de aveiro



**ibimed**  
instituto de biomedicina

### **Alzheimer's APP S655 phospho-differential interactome**

*This work was developed by David for his dissertation at iBiMED, within the Master in Clinical Bioinformatics (Clinical Support specialization) at the University of Aveiro.*

David's project analysed a comprehensive dataset of a phospho-base interactome of the Alzheimer's Amyloid Precursor Protein (APP), to understand the role of APP phosphorylation at S655 in neuronal differentiation. In this keynote, David will summarize his findings, and you will get a sneak peek of what it's like to work on a dissertation at iBiMED.



#### **David Almeida**

Recently graduated from his MSc in Clinical Bioinformatics, you may know David from last year's committee, where he served as president.



## KEYNOTE LECTURES



### **Building the Future of Healthcare**

BMD Software, based in Ílhavo, is at the forefront of innovation regarding biomedical applications, being the creators of solutions for clinicians, researchers, and health entities, and being featured on reference media such as Público, Antena 1, or RTP2. Solutions offered by BMD Software include Dicoogle Pro and PACScenter, CardioBox and NeoScreen. At Bionexus, BMD Software will exhibit their solutions and Research and Development project results.



#### **Rui Jesus**

As a software engineer and product owner at BMD Software, Rui splits his time between Aveiro and Coruña, Spain, where he is currently pursuing his PhD studies.



# KEYNOTE LECTURES

universidade de aveiro



**ibimed**  
instituto de biomedicina

## **Brain-machine interfaces for spinal cord injury rehabilitation**

This keynote focuses on Miguel Pais Vieira's current line of research, which is focused on brain-machine interfaces for sensorimotor integration and rehabilitation in humans. This approach combines the use of real-time analysis and decoding of neural activity (namely EEG) to control devices (such as an exoskeleton or an avatar in a virtual reality environment) while the user receives multimodal feedback (visual, auditory, tactile, and thermal).



### **Miguel Pais Vieira**

With a PhD in Human Biology and a Post-Doc in Neurophysiology and Neuroengineering, Miguel Pais Vieira is currently an Assisted Professor at the Department of Medical Sciences of the University of Aveiro.



# KEYNOTE LECTURES

universidade de aveiro



**ibimed**

instituto de biomedicina

## Digital Health: Trends in Medical Technology

As technology reshapes every industry, healthcare is rapidly evolving—and students today will be at the forefront of that change. This keynote delves onto the current trends in digital health, including artificial intelligence, wearable devices, telemedicine, and smart diagnostics, showing how these tools are transforming patient care and opening new career paths across medicine, technology, and research. Whether you're in healthcare, engineering, or data science, this session will inspire you to be part of the future of medicine.

### Bruno Gago



With a PhD in Pharmacy, Bruno Gago is currently an Invited Assisted Professor at the Department of Medical Sciences of the University of Aveiro. Since 2010, Bruno has developed interest with regulatory challenges related with the research, development and certification of Medical Devices and In vitro Diagnostic Medical Devices.



## WORKSHOPS

### Exploring the Power of Data: A Practical Introduction to Power BI

PowerBI is a unified, scalable platform for business intelligence (BI) and data visualization that converts data from various sources into interactive, actionable insights, which makes it a powerful tool for data modeling, and an important skill for aspiring data analysts. Adding Power BI skills and projects to your resume will show employers that you've got the data analysis skills they need and that you're already up and running with an analytics tool that they know integrates well with the other tools and the databases they're likely already using. Through practical examples and small data analyses, you will gain insight into how Power BI can be used to turn raw data into meaningful visual narratives that support decision-making and research activities. The workshop also intends to highlight the growing importance of data literacy and visualization skills across various academic and professional fields.



#### **Beatriz Lavado**

MSc student in Clinical Bioinformatics with a Bachelor's degree in Biochemistry. She is currently completing an internship at Critical Catalyst, where she is developing skills in data analysis and visualization using Power BI.



#### **Diana Vieira**

MsC student in Medical Statistics, whose main interest lies in applying Business Intelligence tools to transform data into meaningful insights, contributing to a better understanding and communication of statistical information in the medical and scientific domains.



## WORKSHOPS



### **Introduction to Statistical Programming in Clinical Trials**

This workshop introduces students to Statistical Programming, a key but often unknown career path within clinical trials and the pharmaceutical industry. Designed to explain in simple terms how clinical data moves from collection to regulatory submission. Participants will learn how Statistical Programming transforms raw clinical data into standardized datasets and analysis-ready datasets to support statistical analysis and drug approval processes. The workshop combines short presentations with interactive, paper-based exercises that simulate real-world tasks - no software required. Students will organize sample clinical data using standard structures and derive simple analysis-ready summaries. The session also highlights required skills, typical professional interactions, and career development opportunities, helping students discover a professional path they may not have previously considered.



#### **Sílvia Sirgado**

As the Managing Partner and Clinical Research Consultant at Scientific Toolbox, Sílvia has been working in the Clinical Research Organization area since 1999.



## THANK YOU NOTE

*Dear All,*

*On behalf of the organizing committee, we would like to express our heartfelt appreciation for your invaluable support and contributions. You played a crucial role in making this event a success.*

*To our sponsors and collaborators, thank you for your generosity and partnership. Thanks to your support, we were able to curate a diverse program of keynote talks, workshops, and contributions that were both enriching and inspiring. Your contributions not only shaped this event but also reinforced its importance as a platform for the Clinical Bioinformatics field.*

*To all the volunteers and committee members, your efforts in planning and executing this event did not go unnoticed. Your passion and dedication were the foundation of this event, and we sincerely appreciate the time and energy you devoted to ensuring its success.*

*We would also like to extend our deepest gratitude to Dr. Gabriela Moura for her guidance, expertise, and leadership, which were essential in steering this event towards success.*

*To all participants, thank you for joining us! We look forward to seeing you at future editions, and we hope you enjoyed this event.*

*Kind regards,*

*The Organizing Committee of BioneXus 2026*

universidade de aveiro



dcm

departamento de ciências médicas

# ih! BIONEXUS

<MEET LIFE THROUGH COMPUTATION>

CONFERENCE  
BOOKLET