



## Preliminary Programme

# ESSO Course on Artificial Intelligence in Healthcare-Interactive Workshop for Surgeons and Radiologists

22-23 May 2026

Lisbon, Portugal

In partnership with Champalimaud Foundation & Humanitas University

### Chairs (physicians)

Pedro Gouveia, Champalimaud Foundation, Lisbon, PT

Giuseppe Catanuto, Humanitas University -Istituto Clinico Catanese Misterbianco, IT

### Chairs (technicians)

Tiago Marques, Champalimaud Foundation, Lisbon, PT

João Santinha, Champalimaud Foundation, Lisbon, PT

### Faculty members (tbc)

Maria Batrakova, Champalimaud Foundation, Lisbon, PT

Maria João Cardoso, Champalimaud Foundation, Lisbon, PT

Saverio D'Amico, Humanitas Research Hospital, Milan, IT

Yasna Forghi, Champalimaud Foundation, Lisbon, PT

Nuno Loução, Champalimaud Foundation, Lisbon, PT

Paolo Oliva, Humanitas Research Hospital, Milan, IT

David Pinto, Champalimaud Foundation, Lisbon, PT

Rafaela Timóteo, Champalimaud Foundation, Lisbon, PT

### Program

#### Friday 22<sup>nd</sup> May

08:40 – 09:00      Welcome and introduction  
*Andrea Decensi - Breast Unit Director at Champalimaud Foundation*

09:00 – 09:15      **Artificial intelligence/ Generative AI**  
Basics of machine learning and deep learning  
*T. Marques*



09:15 – 09.30	Introduction to Python, Jupyter, and Google Colab <i>T. Marques</i>
09.30 – 09.45	Datasets, and best practices to train AI models <i>S. D’Amico</i>
09.45 – 10.00	Generative AI and Agentic AI in healthcare <i>M. Batrakova</i>
<b>10:00 -10:30</b>	<b>Coffee Break</b>
10:30 – 11.00	<b>Lecture: AI in Healthcare</b> <i>P. Gouveia</i>
11:00 – 13.00	<b>Workshop</b> 11.00 – 12.00: Elementary coding <i>T. Marques</i> 12.00 – 12.15: Basics of CAD \ CAM - 3D printing <i>P.Oliva</i> 12.15 – 12.30: 3D slicer + Creating 3D digital patient Specific models for surgical planning <i>J. Santinha, P.Oliva</i> 12.30 – 13.00: Exercises on imaging segmentation tools using 3D slicer (II) <i>J. Santinha, N. Loução, Y. Forgani</i>
<b>13.00– 14.00</b>	<b>Lunch break</b>
14.00 – 15.30	<b>Workshop</b> Exercises on imaging segmentation tools using 3D slicer (II) <i>J. Santinha, N. Loução, Y. Forgani</i>
<b>15.30-16.00</b>	<b>Coffee Break</b>
16.00 – 16.20	Avatars and Digital twins <i>T. Marques</i>
16.20 – 16.40	Extended reality and breast cancer <i>R. Timóteo</i>
16.40 – 17.30	<b>Workshop</b> Digital Surgery LAB and XR headsets

## Saturday 23<sup>rd</sup> May

### Workshop

- |                      |  |
|----------------------|--|
| 08.30 – 09.30        | AI Agents (I)<br><i>M. Batrakova, P. Gouveia</i>   |
| 09.30 – 09.45        | Emulation of historical trials about breast conserving surgery vs. mastectomy with synthetic cohorts trained on contemporary SEER database<br><i>G. Catanuto</i> |
| 09.45 – 10.00        | In silico simulation of immune response to pembrolizumab in TNBC breast cancer with a mechanistic model<br><i>G. Catanuto</i>                                    |
| 10.00 – 10.30        | Exercises on imaging segmentation tools using 3D slicer (III)<br><i>J. Santinha, N. Loução, Y. Forgani</i>   |
| <b>10.30 – 11.00</b> | <b>Coffee break</b>  |
| 11.00 – 12.00        | AI Agents (II)<br><i>M. Batrakova, P. Gouveia</i>  |
| 12.00 – 12.15        | Immersive environments for surgical patients<br><i>D. Pinto</i>  |
| 12.15 – 12.30        | The Cinderella Project<br><i>M J. Cardoso</i>  |
| 12.30 – 12.50        | The surgeon in research: what makes the difference in a scientific career<br><i>M J. Cardoso</i>   |
| 12.50 – 13.00        | Final remarks, future projects<br><i>All course Chairs</i>   |