# Short Course in Bioinformatics

17th - 19th March 2025

# AGENDA

## March 17th 2025

| Time | Duration | Topic | Speaker |
|---|---|---|---|
| 10h00 | 15’ | Welcoming session | Pedro Leão |
| 10h15 | 45’ | Introduction to Bioinformatics in Natural Products Discovery | Adriana Rego |
| 11h00 | 30’ | NLP/AI for Functional Annotation of Enzymes: A Case Study with FAALPred | Leandro Pereira |
| 11h30 | 30’ | **Coffee-break** | |
| 12h00 | 30’ | Introduction to antiSMASH and BiG-SCAPE workflows | Catarina Loureiro |
| 12h30 **Lunch break** | | | |
| 14h00 | 60’+30’ | Hands- on session antiSMASH and BiG-SCAPE | Catarina Loureiro |
| 15h30 | 30’ | **Coffee-break** | |
| 16h00 | 30’ + 60 | Introduction to GNPs and MicrobeMASST<br>Hands-on session - MicrobeMASST | Mauricio Caraballo |

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# March 18th 2025

| Time | Duration | Topic | Speaker |
|---|---|---|---|
| 9h00 | 60'+30' | Phylogenetic approaches to natural product discovery<br>(short) Hands-on session NaPDos2 | Hans Singh |
| 10h30 | 30' | **Coffee-break** | |
| 11h00 | 30'+45' | Genomic context of target biosynthetic genes<br>(short) Hands-on session genomic context | Adriana Rego<br>Adriana Rego and Catarina Loureiro |
| 12h15 | | | |
| **Lunch break** | | | |
| 13h45 | 45+60' | Introduction to computational protein structure prediction<br>Hands-on session to computational protein structure prediction, molecular docking | Arménio Barbosa |
| 15h30 | | **Coffee-break** | |
| 15h45 | 30´ | EFI-SSN and Sequence-Based Functional Prediction in Enzyme Discovery | Raquel Castelo Branco |

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BlueBio Future

# March19th 2025

| Time | Duration | Topic | Speaker |
|---|---|---|---|
| 10h | 15’ | Welcoming session - Presentation of the speakers | |
| 10h15 | 30’ | *Open-science-driven development of genome mining tools and their application on microbiomes* | **C**atarina Loureiro |
| 10h45 | 15’ | Q&A | |
| 11h00 | 30’ | **Coffee-break** | |
| 11h30 | 45’ | *Advancing Biotechnology with Molecular Modeling: Applications in Drug Discovery, Protein Purification and Self-Assembly* | Arménio Barbosa |
| 12h15 | 15’ | Q&A | |
| 12h30 | | **Lunch break** | |
| 14h30 | 45’ | *Targeted gene cluster mining with GATOR-GC* | Marc G. Chevrette |
| 15H15 | 15’ | Q&A | |
| 15h30 | 30’ | **Coffee-break** | |
| 16h00 | 45’ | *A journey for the discovery of microbial molecules, the need of reference datasets, and using small molecules to understand symbiotic relationships in ants’ ecosystems* | Mauricio Caraballo |
| 16H45 | 15’ | Q&A | |
| 17h00 | 10’ | Final remarks | |

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