

Transbio Workshop



Metabolomics and Molecular Interactions for Biology and Health
ITQB | Oeiras | 13-15 Nov 2013

Transbio Rupture Technology Workshop

Metabolomics is a field of study which refers to the measurement of the metabolite pool of a cell, tissue or organism under a specific set of conditions.

These unique chemical fingerprints can give an instantaneous snapshot of the physiology of a cell and help explain the mechanisms of biochemical and regulatory pathways, and specific cell responses that change with disease or exposure to toxins.

Rupture developments in techniques such as Nuclear Magnetic Resonance (NMR), Mass-Spectrometry (MS), X-Ray and informatics tools, lay bare a new world of possibilities in the study Metabolomics and Molecular Interactions.

In this workshop participants will:

1. Understand the principles governing NMR, X-Ray, MS techniques and informatics tools;
2. Interpret data in 'hands-on' sessions;
3. Discuss the application of these techniques to metabolomics and molecular identification .

TRANSBIO is a transnational interdisciplinary project of R&D institutions in the Southwest region, supported by the European Regional Development Fund (FEDER), under the framework of the Southwest European Space Territorial Cooperation Programme (SUDOUE).

Registration is mandatory but free of charge
<http://MetBioMeet.itqb.unl.pt>

Lecturers: JC Portais, A Pineda-Lucena, P Lamosa, A Coelho, I Bento
Organizing Committee: P Lamosa, R Louro, A Coelho, I Bento, M Nunes

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DAY 1: 13th November

- 09h00 - 09h30 Registration
- 09h30- 09h40
auditorium Opening Session
Cláudio Soares, ITQB Director
Rémy Poupot, TRANSBIO Coordinator
- 09h40 - 10h50
auditorium Introduction to metabolomics
Jean-Charles Portais, Université de Toulouse
- 11h20 - 13h00
2.13 The NMR technique: fundamentals, applications to metabolomics and structure determination
Pedro Lamosa, ITQB-UNL
- 13h00 - 14h00 Lunch
- 14h00 - 15h30
2.13 The MS technique: fundamentals and applications
Ana Coelho, ITQB-UNL
- 16h00 - 18h00
atrium Visits to the Uni-MS and CERMAX, Magnetic Resonance Center
Ana Coelho/ Isabel Bento/ Pedro Lamosa, ITQB-UNL

DAY 2: 14th November

- 9h00 - 12h30
2.13 Theoretical-practical NMR session on small molecule structure determination
Pedro Lamosa, ITQB-UNL
- 12h30 - 14h00 Lunch
- 14h00 - 16h00
2.13 MS tutorial
Ana Coelho, ITQB-UNL
- 16h30 - 18h00
2.13 NMR Metabolomics and AMIX software
Martial Piotto, Bruker BioSpin

DAY 3: 15th November

- 9h00 - 11h00
2.13 The X-Ray technique: fundamentals
Isabel Bento, ITQB-UNL
- 11h30 - 13h00
auditorium Protein interactions
António Pineda-Lucena, Centro de Investigación Príncipe Felipe, València
- 13h00 - 14h30 Lunch
- 14h30 - 16h30
2.13 X-Ray tutorial
Isabel Bento, ITQB-UNL
- 17h00 - 18h30
2.13 X-Ray applications to small molecules
Isabel Bento, ITQB-UNL
- Closing Ceremony at Lagar de Azeite, courtesy of Câmara Municipal de Oeiras.

