

Integrative approaches for the study of molecular and cellular lipoxidation

ITN Masstrplan
Workshop

March 21-23, 2018

Centro de Investigaciones Biológicas (CIB) - CSIC
Ramiro de Maeztu, 9. 28040 Madrid, Spain



MASSTRPLAN

**MASS Spectrometry TRaining Network
for Protein Lipid Adduct ANalysis**

Grant No. 675132 ♦ www.masstrplan.org





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Marie Skłodowska-Curie Innovative Training Networks
'MASSTRPLAN' MASS Spectrometry TRaining network for Protein Lipid adduct Analysis
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Scientific Program

Centro de Investigaciones Biológicas (CIB).
Consejo Superior de Investigaciones Científicas (CSIC). Ramiro de Maeztu, 9. 28040
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Wednesday 21st March 2018

09:00 - 09:10	Presentation of the workshop General concepts on protein-protein and protein-ligand interactions and techniques to explore them. <i>Dr. Dolores Pérez-Sala (CIB, CSIC)</i>
09:15 - 11:30	Structural biology section
09:15 - 09:45	Advanced Protein Production for Modern Structural Biology <i>Dr. Cristina Vega (CIB, CSIC), Dr. Francisco J. Fernández (Abvance, Madrid)</i>
09:45 - 10:15	Electron microscopy <i>Prof. Óscar Llorca (CNIO, Madrid, Spain)</i>
10:15 - 10:45	NMR approaches for the study of protein-ligand interactions <i>Prof. F. Javier Cañada (CIB, CSIC)</i>
10:45 - 11:15	Molecular modelling methods in molecular recognition and drug design <i>Dr. Sonsoles Martín Santamaría (CIB, CSIC)</i>
11:15 - 11:30	General discussion/Address by the CIB Direction Team
11:30 - 11:50	Coffee break
11:50 - 13:30	Visit to the facilities and practical session for ESRs <i>Crystallography (Dr. Cristina Vega)</i> <i>Electron Microscopy (Staff: Dr. B. Pou, Dr. R. Núñez, F. Escolar)</i> <i>NMR (Prof. F. Javier Cañada)</i>
13:30 - 15:00	Lunch
15:00 - 17:00	Molecular dynamics practice <i>Dr. Sonsoles M. Santamaría</i> <i>Hands-on tutorial on molecular modelling: docking and MD simulation</i>



Thursday 22nd March 2018

09:00 - 11:00	Microscopy section
09:00 - 09:30	Confocal microscopy and in situ molecular analysis <i>Dr. Pilar Sánchez Testillano (CIB, CSIC)</i>
09:30 - 10:00	Imaging in Biomedical Research: What do live cells tell us? <i>Dr. María Calvo (Universidad de Barcelona and REMOA)</i>
10:00 - 10:30	Fluorescent detection of ROS and RNS by microscopy and related techniques <i>Dr. Juan de Dios Alché (Estación Experimental del Zaidín, CSIC, Granada, REMOA)</i>
10:30 - 11:00	Superresolution imaging in living brain tissue <i>Dr. Jan Tønnesen. UPV/EHU and Achúcarro Basque Center for Neuroscience (REMOA)</i>
11:00 - 11:30	Coffee break
11:30	Seminar "Immunochemical assessment of protein lipoxidation: contribution to modern pathological concepts of major human diseases" <i>Prof. Neven Zarkovic (Rudjer Boskovic Institute, Croatia)</i>
13:00	Lunch
14:30 - 16:00	Visit to the microscopy facility and practical session for ESRs (Staff: M.T. Seisdedos, Dr. G. Elvira) Flash presentations by ESRs
16:00 - 17:15	3 minute presentations Bebiana Sousa: Comparison of chloroaldehyde and short-chain substituted alkenal reactions with proteins Catarina Afonso: Targetted approaches to identifying adducts of oxidized phospholipids with proteins Simone Colombo: MS analytical strategies to identify modified aminophospholipids and their correlation with immunity Francisco Javier Montero: MS analytical strategies for identifying nitrooxidative modifications in phospholipids Giulia Coliva: Role of lipid droplets in oxidative stress response Juan Rojas: Identification and quantification of potential oxidation related biomarkers in inflammatory diseases Marco Mol: Structural elucidation of RAGE binders in oxidized human plasma Robbin Bouwmeester: Data mining tools to identify OxPTMs and OxPLs in complex data sets Andreia Mónico: Impact of lipoxidation on the assembly of vimentin at nanometer resolution Sofia Duarte: Effect of lipoxidation on the cellular organization of intermediate filaments Alma Martínez: In search of oxidized biomolecules in human heart failure Carmen Martín-Sierra: Immune environment in cancer Isabel Pinto: Detecting Lipoxidation: Generation of anti-HNE antibodies and ELISA based assay development & optimization Angela Criscuolo: Separation and High-Resolution MS Analysis of Lipid Peroxidation Products

Friday 23rd March 2018

09:00 - 11:40	Biochemistry, Biophysics and synthetic biology section
09:00 - 09:30	Macromolecular interactions and reconstruction approaches <i>Prof. Germán Rivas (CIB, CSIC)</i>
09:30 - 10:00	Analytical ultracentrifugation and light scattering <i>Dr. Carlos Alfonso (CIB, CSIC)</i>
10:00 - 10:30	Fluorescence spectroscopy and microspectroscopy <i>Dr. Silvia Zorrilla (CIB, CSIC)</i>
10:30 - 11:00	Microdroplets and GUVs by microfluidics <i>Dr. Begoña Monterroso (CIB, CSIC)</i>
11:00 - 11:40	Visit to the facility and practical session for ESRs Ultracentrifugation, microfluidics, fluorescence... (Staff: Dr. J.R. Luque)
11:40 -12:00	Coffee break
12:00	Seminar Lipid peroxidation modification of proteins <i>Prof. Koji Uchida (Tokyo University)</i>
13:30	Lunch
15:00 - 17:00	Career Session: "To the infinity and beyond" (Round Table) <i>Coordinated by Prof. G. Rivas</i> "In the future, what will I be?" Career paths and opportunities, entrepreneurship training. Participants: Dr. Francisco J. Fernández (Abvance, Spain) Dr. Ángeles Canales (Universidad Complutense, Madrid) Dr. Bernabé Bodas (Sciex, Spain) Dr. André Düsterloh (DSM, Switzerland)
17:00 - 17:10	Closing remarks <i>Dr. Dolores Pérez-Sala</i>

Organizers:

Sofia Duarte and Andreia Mónico
Matoya Lafita
Debbie Toomeoks
Silvia Zorrilla and Dolores Pérez-Sala



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