



# CoffeeTalk@ISOF

## THE MULTIDISCIPLINARY LIPIDOMIC APPROACH: FROM SYNTHETIC ASPECTS TO ANALYTICS AND APPLICATIONS TO CELL METABOLISM AND NUTRACEUTICALS

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Lipids are a large group of structurally diverse biomolecules, that play a fundamental role not only as energy regulators, but also as intracellular communicators, membrane dynamic and function promoters. Lipidomics brought an innovative perspective for the study of lipids in life sciences introducing the point of view of dynamic changes of lipid structures and reactivity, to be followed up and correlated with physiological and pathological conditions. Our group is interested to the application of lipidomics in particular to cell membranes, monitoring the fatty acid moieties of membrane phospholipids under conditions of free radical stress and dietary changes. These studies oriented our expertise also toward biomarker discovery and nutraceuticals. We will describe our multidisciplinary approach in lipidomics using synthetic and analytical skills together with biochemical and biological studies in two cases: i) the discovery of omega 10 fatty acid metabolism; ii) the build-up of mono-*trans* fatty acid isomer library, in particular with DHA omega 3 isomers and their identification in commercial nutraceutical formulas.

**Tuesday 6 Nov 2018, 14:30**

ISOF 12 – Meeting Room (1<sup>st</sup> floor)

CNR Research Area

Via Gobetti 101, Bologna



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