Cardiovascular diseases, including atherosclerosis, figure among major causes of mortality in western countries. Atherosclerosis is characterized by the formation of atheromatous plaque in arteries through a long term process. Dysregulation of cholesterol homeostasis can lead to atherosclerosis. During the process of atherogenesis, foam cells and other compounds build up together in atheromatous plaque, leading to narrowing and thickening of the arteries. It is well known that foam cell formation is associated with deregulation of cellular cholesterol homeostasis in interaction with circulating lipoproteins (LDL), which could be oxidized (ox-LDL). Moreover, oxidized-LDL are enriched in cholesterol oxidation products, called oxysterols, which are involved in the ability of oxidized-LDL to induce cellular oxidative stress and cytotoxicity, mainly by apoptosis. Bis (Monoacylglycero) Phosphate (BMP) is a unique phospholipid, preferentially located in late endosomes, a key cell compartment for LDL-derived cholesterol metabolism. BMP regulated cholesterol efflux to high density lipoproteins (HDL) through mechanisms involving LXRα (Liver X receptors) and ABCA1 / ABCG1 (ATP binding cassette-type A1 / G1) carriers.

About the speaker
A/Prof. Luquain-Costaz received her PhD from University of Lyon (FRANCE) in 2000 and worked as a Post-Doctorat at the University of North Carolina-Chapel Hill (USA) and University of Lyon (FRANCE). She is now an associate Professor at the National Institute of Applied Sciences (INSA) of Lyon (FRANCE). Her research explores intracellular cholesterol trafficking & atherosclerosis.