



MEDICAL IMAGING CLUSTER
MEDICAL UNIVERSITY OF VIENNA

17th October 2022, 1 pm

MIC Grand Round **Molecular Snap Shots of Aging Skin**

Jugendstilh rsaal,
Rektoratsgeb ude (BT88), 2nd Floor,
Medical University of Vienna,
Spitalgasse 23, 1090 Vienna



Martina Marchetti-Deschmann,
Institut für Chemische Techno-
logien und Analytik (CTA), TU Wien

Molecular Snap Shots of Aging Skin

Imaging a specimen with two or more complementary modalities creates an informative, composite view of a sample that spans all relevant resolution ranges. Here we introduce the concept of MALDI Mass Spectrometry based imaging (MALDI MSI) in the context of investigations on aging skin. Our skin is constantly exposed to solar radiation, high oxygen levels, and environmental pollutants and lipid oxidation is an already described senescence-associated secretory phenotype (SASP). Previously¹ several oxidized phosphatidylcholines (OxPCs) were characterized in a semi-targeted lipidomic approach. We now went one step further and studied the localization and relative quantity of lipids in a 3D skin model. Our study aims to evaluate the epilipidomic effects via untargeted multimodal imaging focusing on OxPCs. We employed MALDI MSI to generate OxPC distribution maps in the skin model but also in skin biopsies from donors of different age. The synergy of mass spectrometry and high-definition light-microscopy and immunohistology images yield a detailed and comprehensive result for UV-induced alterations.

¹ Gruber et al. J Lipid Res. 2012, 53(6): 1232

Registration until 13th October 2022:
mic@meduniwien.ac.at



This event will be approved by the Austrian
Medical Chamber with 1 DFP-Point.