



## 2<sup>nd</sup> International Conference on Matrix Vesicles: From Biochemistry to Clinic

June 14th 2019

Université Lyon 1, ICBMS UMR 5246 CNRS, Bâtiment Lederer

### SYNOPSIS

Matrix vesicles are a specific class of extracellular vesicles with a diameter between 100 and 300 nm. Under physiological conditions, they are blebbed from hypertrophic chondrocytes during endochondral ossification, from osteoblasts during intramembranous ossification and from odontoblasts during mantle dentin formation. Matrix vesicles, by accumulating calcium and phosphate, can initiate the first step of nucleation of crystals leading to apatite. The symposium is focused on answering questions such as: How matrix vesicles are released by mineralizing cells? How calcium and phosphate accumulate in matrix vesicles? What are the biochemical and biophysical properties of matrix vesicles? To what extent do they affect ectopic calcification? What clinical applications could be derived from a better knowledge of the functions of matrix vesicles? How proteoliposomes that mimic matrix vesicles could be used in nanomedicine?

### TOPICS

- Matrix vesicles formed during physiological and pathological conditions
- Functions of matrix vesicles
- Biogenesis of matrix vesicles
- Methods to analyze the morphology and biochemical and biophysical properties of matrix vesicles
- Determination of calcium and phosphorus inside matrix vesicles
- Lipidomics and phospholipase activity in matrix vesicles
- Proteoliposomes mimicking matrix vesicles

### REGISTRATION AND CALL FOR POSTERS

- Opening of registration February 1st 2019
- Deadline for abstracts : May 1st 2019

<https://matrix-vesicles.sciencesconf.org/page/registration>

### LOCATION AND DATE

- Université Lyon 1, ICBMS UMR 5246 CNRS, Bât Lederer, 1 Rue Victor Grignard, Villeurbanne, France. June 14th 2019

### ORGANIZING COMMITTEE

- René Buchet, David Magne and Saida Mebarek

## SCIENTIFIC PROGRAM

8H-8H30	Registration and coffee
8H30-8H40	Introducton  Physiology, pathology and biogenesis of matrix vesicles Moderator: Professor David Magne
8H40-9H20	Professor José Luis Millan The function of matrix vesicles in physiological and pathological mineralization Sanford Burnham Prebys Medical Discovery Institute, La Jolla, USA.
9H20-10H	Associate Professor Dobrawa Napierala Molecular Regulation of Matrix Vesicles Biogenesis. University of Pittsburgh School of Dental Medicine - McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh PA , USA.
10H-10H30	Coffee Break  Methods of investigations of matrix vesicles Moderator: Professor José Luis Millan
10H30-11H10	Associate Professor Massimo Bottini Investigation of the biophysical properties of matrix vesicles by quantitative techniques. University of Rome Tor Vergata Rome, Italy.
11H10-11H50	Associate Professor Agnieszka Strzelecka-Kiliszek Characteristics of matrix vesicles using X-Ray microanalysis. Nencki Institute of Experimental Biology Polish Academy of Science, Warsaw, Poland.
12H-14H	Lunch and Poster session  Lipidomics and models of matrix vesicles Moderator: Professor René Buchet
14H-14H40	Associate Professor Saida Mebarek Lipidomics on Matrix Vesicles ICBMS UMR 5246 - Université Lyon 1 - CNRS - INSA Lyon - CPE Lyon, Villeurbanne, France.
14H40-15H20	Professor Pietro Ciancaglini Proteoliposomes as a model for matrix vesicles University of São Paulo Ribeirão Preto, Brazil.

- 15H20-16H Dr. Maytê Bolean  
Application of proteoliposomes matrix vesicle mimetics in the biomineralization and its interactions with collagen matrix.  
University of São Paulo Ribeirão Preto, Brazil.
- 16H-16H40 Associate Professor Ana Paula Ramos  
Is alkaline phosphatase biomimetically immobilized on solid surface able to propagate the biomineralization process?  
University of São Paulo Ribeirão Preto, Brazil.
- 16H40-17H Conclusion
- 17H-18H30 Poster sessions



FIRST INTERNATIONAL CONFERENCE ON MATRIX VESICLES : FROM  
BIOCHEMISTRY TO CLINIC  
29th May 2018, Università degli Studi di Roma Tor Vergata