

# EUROPEAN ENDOCRINOLOGY AND DIABETES CONGRESS

April 18-19, 2023 | Webinar

## Atomic force microscopy used to explore cardiac cells surface

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The Atomic Force Microscopy (AFM) is an atypical approach used to study biological samples in physiological conditions and Cardiology remains a scientific field where AFM is not extensively established. Heart diseases are a major human threat, and cause the death of millions of people each year. The AFM offers a new perspective to get a better understanding of pathologies or drug effects. The aim of this presentation is to give a comprehensive interest in the biophysical approach made possible by AFM studies. We will expose how AFM has been used to study the impact of pathologies or active ingredients on cardiac cells surface properties. A specific AFM method called cell cell adhesion which allows to analyze the intercellular cardiac communication will be highlighted..

### Biography

Veronique Lachaize obtain her Ph.D in Chemistry, Biology and Health from university of Toulouse in France in 2016. During my thesis she worked on the Biophysical properties of cardiomyocytes in physio / physiopathological conditions by atomic force microscopy (AFM). In 2018 to 2020, she studied the intercellular communication between cardiac fibroblast in cardiomyopathy mutation with AFM. During this period, she learned a new approach with AFM: the cell cell adhesion in order to measure the adhesion parameter between two living cells. This Postdoc was a collaboration between the universtà di Trieste in Italy with Professor Sbaizero's Team, where she spent my first year, and the University of Colorado in Denver with the Dr Taylor and Dr Mestroni's Team. During the Covid-19 crisis she was repatriated to France and she created her company: A5 Science. This company aims to analyse biological surfaces by AFM.