



Workshop EPFL-Inria
November 23 and 24, 2023, Lyon

Maria Brbic, EPFL

Title: « Towards AI-driven scientific discoveries »

Abstract:

Biomedical data poses multiple hard challenges that break conventional machine learning assumptions. In this talk, I will highlight the need to transcend our prevalent machine learning paradigm and methods to enable them to become the driving force of new scientific discoveries. I will present machine learning methods that have the ability to bridge heterogeneity of individual biological datasets by transferring knowledge across datasets with a unique ability to discover novel, previously uncharacterized phenomena. I will discuss the findings and impact these methods have for annotating comprehensive single-cell atlas datasets and discovery of novel cell types.

Biography:

Maria Brbic is an Assistant Professor of Computer Science and, by courtesy, of Life Sciences at the Swiss Federal Institute of Technology, Lausanne (EPFL). She develops new machine learning methods and applies her methods to advance biology and biomedicine. Prior to joining the EPFL faculty in 2022, Maria was a postdoctoral fellow at Stanford University, Department of Computer Science, and was a member of the Chan Zuckerberg Biohub at Stanford. Maria received her Ph.D. from University of Zagreb in 2019 while also researching at Stanford University as a Fulbright Scholar and University of Tokyo. She was named a rising star in EECS by MIT in 2021 and she received Early Career Bioinformatics Award by SIB in 2023.