**Lucia Maddalena**

Computational Data Science Approaches for Biomedical Data

Abstract

Integrating biomedical image features with omics data (genomics, proteomics, metabolomics, transcriptomics, etc.) produced in high-throughput biological experiments can improve diagnosis and treatments in complex diseases, unveiling more information than neither of the two taken alone can show. The integration of data collected from biomedical images and omics analyses is the key approach of *Omics Imaging*, an emerging interdisciplinary field to extract hidden knowledge for understanding the onset and progression of many diseases, such as Alzheimer's disease and cancer, and identifying new diagnostic and prognostic biomarkers. In this work, we present some recent activities carried out by the ICAR-CNR Computational Data Science group focused on biomedical imaging and network analysis, taken individually or integrated into Omics Imaging approaches.

This is a joint work with L. Antonelli, M. Giordano, I. Granata, M.R. Guarracino, and M. Manzo