

CoMPaSS-NMD sets to get underway: the kick off meeting of the project in Modena

In CoMPaSS-NMD, a European project led by the Italian university of Modena and Reggio Emilia, Artificial Intelligence will support the clinicians to diagnose Neuromuscular Disorders and to design personalised therapeutic pathways



The **CoMPaSS-NMD - Computational Models for new Patients Stratification Strategies of Neuromuscular Disorders - project** funded by the European Commission's HORIZON EUROPE programme had its **kick off meeting in Italy**, at the University of Modena and Reggio Emilia (Unimore), coordinator of the project, on 5th and 6th June 2023 in the Sala Ex Oratorio of the Palazzo dei Musei in Modena.

The project aims to develop **new and universal tools for diagnosing, monitoring, and treating patients affected by hereditary neuromuscular diseases (HNMDs) in a more accurate and personalised way**. Thanks to advanced clustering techniques, CoMPaSS-NMD will identify groups of patients with similar clinical characteristics.

HNMDs often occur in young people, causing long-term disability and premature death. These conditions implicate lack of participation, need for permanent assistance, and may require long-term institutionalisation.

The project, coordinated by **Rossella Tupler**, medical geneticist at Unimore, involves **six clinical centers** (biotechnological, ICT, AI, ethical and legal) present in **Italy, France, Germany, Finland, United Kingdom** and **four industrial partners**, all present in the framework of the European reference network for rare neurological diseases.

These centers will provide the multidimensional data (clinical, genetic, histopathological and MRI) which will be processed and used as input data patterns and distributions to identify groups of similar patients by high-dimensional computational tools based on clustering algorithms.

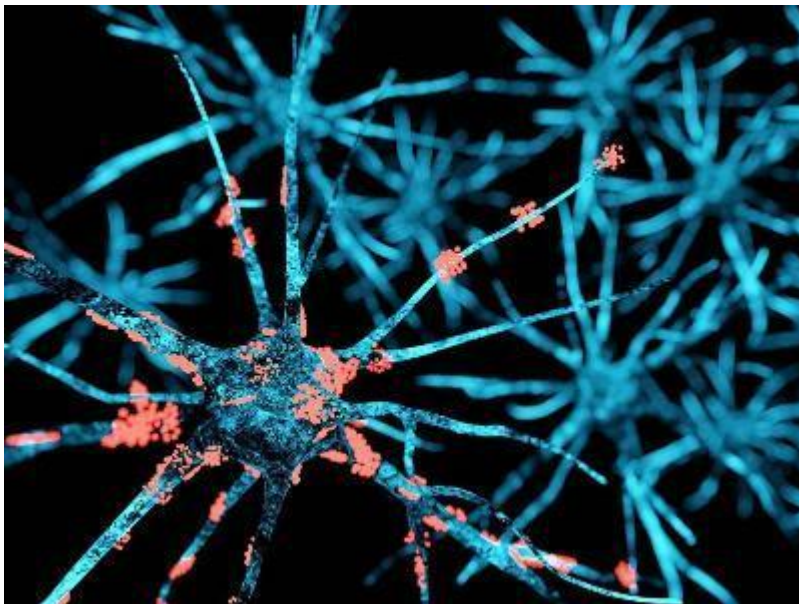
CoMPaSS-NMD will implement novel techniques, which are also based on machine learning and on new descriptors specific to Neuromuscular Disorders, for better and faster analysing the histopathological images.

The adoption of this multidimensional, patient-centred approach has the potential to increase the HNMD diagnostic rate by 30% and promote effective actions by European national health systems.

As a main outcome of the project, the **CoMPaSS-NMD Atlas platform will be an AI-based application that will provide precise clinical characterization and diagnoses**, with a strong impact on research in that domain and European healthcare.

The project, whose funding is **5,999,965.67 euros**, will release **guidelines for patient management** to offer a superior standard of care for diagnosis, prognosis, and planning of clinical trials.

During this first project meeting, the partners had the opportunity to get to know each other, to share general and specific objectives, identifying the most effective strategies, in view of their implementation in the next four years of joint work.



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