

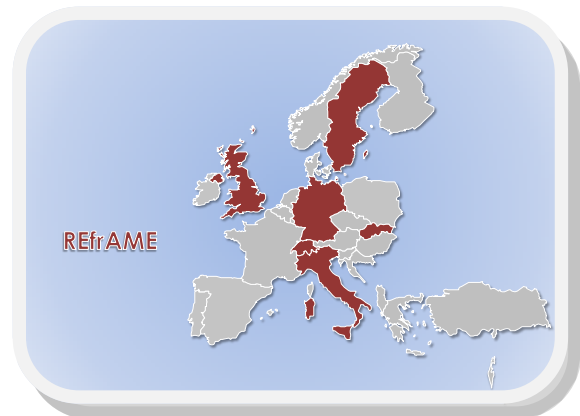
## REfrAME

**Pathway complexities of protein misfolding in neurodegenerative diseases: a novel approach to risk evaluation and model development**

Neurodegenerative disorders, including Alzheimer's disease, Parkinson's disease, fronto-temporal dementias and prion diseases affect ~50 million people worldwide. Alzheimer's disease, the most prevalent form, affects ~6% of the population over 65 years of age and is one of the leading causes of death in the elderly. All these diseases have devastating effects on patients and their families, and their economic burden is massive. Unfortunately, there is no cure for any of them due mainly to the lack of knowledge around their pathological mechanisms. Moreover, recent scientific results have shown the existence of a certain degree of heterogeneity of symptoms and pathological features within each disorder, and this aspect seems to be at the basis of the failure to develop a successful therapy for every form.

Our project aims to tackle this issue by trying to understand the molecular bases of this heterogeneity and, if successful, may have an important social impact for its potential diagnostic and therapeutic implications. Indeed, the results of our studies may offer a major breakthrough in understanding the pathogenesis of degenerative disorders and may lead to the design of more appropriate therapies based on a deeper characterization of the subtypes of these disorders.

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**Coordinator:** Giuseppe Legname  
 E: [legname@sissa.it](mailto:legname@sissa.it)  
 W: <http://lpb.sissa.it/>



### Project Partners:



COORDINATOR | GIUSEPPE LEGNAME

-  **Giuseppe Legname**, SISSA, Trieste, Italy
-  **Giuseppe Di Fede**, IRCCS Foundation Carlo Besta Neurological Institute, Milan, Italy
-  **Mathias Jucker**, German Center for Neurodegenerative Diseases, Tübingen, Germany
-  **Michel Goedert**, MRC Laboratory of Molecular Biology, Cambridge, UK
-  **Jia-Yi Li**, Lund University, Sweden
-  **Adriano Aguzzi**, University of Zurich, Switzerland
-  **Michal Novak**, Slovak Academy of Sciences, Bratislava, Slovakia