

#### ACCADEMIA NAZIONALE DEI LINCEI

Presidente Prof. Roberto ANTONELLI Fondazione Donegani



# Protein Folding and Misfolding in Health and Disease

### Accademia Nazionale dei Lincei - 9 May 2022

ROMA - PALAZZO CORSINI - Via della Lungara 10

#### Soci proponenti

Maurizio Brunori, Linceo, Professore Emerito, Sapienza University of Rome William A. Eaton, Linceo Socio straniero, NIH, Bethesda, MD (USA)

Alan R. Fersht, Linceo Socio straniero, Cambridge (UK)

Maurizio Brunori (Linceo & Sapienza University of Rome)
Fabrizio Chiti (University of Florence)
William A. Eaton (Linceo, NIH, Bethesda, MD, USA)
Stefano Gianni (Sapienza University of Rome)
Michele Vendruscolo (University of Cambridge, UK)

### A synopsis

Protein folding and misfolding is of great significance to biochemistry, molecular biology, biophysics, medicine and gerontology, as demonstrated by the most qualified international literature.

The great importance of fundamental studies to unveil the general rules of protein folding and misfolding, and to tackle the problem of discovering effective drugs that may help cure devastating neurodegenerative diseases such as Alzheimer's, Parkinson's and others, cannot be overlooked.

The original contribution of the late Prof. Christopher Martin Dobson, which opened new avenues concerning the role of misfolding in amyloid formation, will transpire from the scientific contributions at the meeting. A demonstration of the interdisciplinary pedigree of the theme is witnessed by the background and affiliations of the invited participants.

Contact: convegni@lincei.it moliterno@lincei.it Tel. 06 6861159

Registration is mandatory, limited available places: https://forms.gle/AE3fNoPYZYz3qpn76

## Protein Folding and Misfolding in Health and Disease Scientific program: 9.00 to 18.30

09.00

Welcome, the President (R. ANTONELLI) and the vice President (G. PARISI)

09.30

Sir Alan R. FERSHT, Chair (Linceo, University of Cambridge, UK): *Introduction* 

09.50

Fabrizio CHITI (University of Florence, IT): The toxicity of protein aggregates and neurodegenerative diseases

Break: 10.30-11.00

11.00

William A. EATON (Linceo, NIH, Bethesda, MD, USA): Secondary nucleation in sickle hemoglobin fiber formation

11.40

Tuomas P. KNOWLES (University of Cambridge, UK): *The kinetics of protein aggregation* 

12.20

Gerhard HUMMER (MPI of Biophysics, Frankfurt, DE): SARS-CoV-2 spike and its interactions with the human host

Lunch break: 13.00-14.00

14.00

Sara LINSE, Chair (University of Lund, SE): Secondary nucleation in amyloid formation Co-Chair Maurizio BRUNORI (Linceo)

14.30

Stefano GIANNI (Sapienza University of Rome, IT): Folding and misfolding in multi-domain proteins

15.10

Maria Grazia SPILLANTINI (University of Cambridge, UK): Targeting alpha-synuclein aggregation for the treatment of Parkinson's disease.

Break: 15.50-16.10

16.10

Michele VENDRUSCOLO (University of Cambridge, UK): Kinetics-based drug discovery for Alzheimer's disease

16.50

Monika FUXREITER (University of Padova, IT): Aggregation in protein condensates

17.30

Peter WOLYNES (Rice University, Houston, TX, USA): Protein Dynamics and the Brain

18.10

General discussion and end of meeting

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Information and Streaming available at