

PERSONAL INFORMATION **Greta Grassmann**

EDUCATION AND TRAINING

2021–2024 **PhD - Thesis Title: “Development of new computational methods for the investigation of the molecular mechanisms underlying the interaction among proteins”**

La Sapienza University of Rome, in collaboration with the Center for Life Nanoscience & Neuroscience, Fondazione Istituto Italiano di Tecnologia.

2019–2021 **Master degree (English courses) in Applied Physics**

University of Bologna.

2016–2019 **Bachelor’s degree in Physics**

University of Trieste.

POSITION HELD

Started in March 2024 **Italian representative of the EBSA-Young Biophysicists group**

SIBPA, Società Italiana di Biofisica Pura e Applicata.

GRANTS

April 2024 **PYBphy International Bursaries (150.00 €)**

International travel grant.

November 2023 **"Progetti per Avvio alla Ricerca - Tipo 1" (1000.00 €)**

La Sapienza University of Rome.

– G. Grassmann (PI).

August 2023 **"PRIN: progetti di ricerca di rilevante interesse nazionale" (190000.00 €)**

La Sapienza University of Rome.

– E. Milanetti (PI), V. Parisi, A. Giansanti, G. Grassmann, L.C. Montemiglio, M. Mattarelli, D. Fioretto, A.A. Passeri

Dicember 2022 **"Progetti di Ricerca (Piccoli, Medi) - Progetti Piccoli" (3000.00 €)**

La Sapienza University of Rome.

– E. Milanetti (PI), G. Grassmann

PAPERS

July 2024 **Compact assessment of molecular surface complementarities enhances neural network-aided prediction of key binding residues.**

ArXiv G. Grassmann, L. Di Rienzo, G. Ruocco, M. Miotto, and E. Milanetti.

March 2024 **Computational approaches to predict molecular interactions in crowded cellular environments.**

Chem. Rev. G. Grassmann, M. Miotto, F. Desantis, L. Di Rienzo, G. G. Tartaglia, A. Pastore, G. Ruocco, M. Monti, and E. Milanetti.

- May 2023 **Unlocking Neural Function with 3D In Vitro Models: A Technical Review of Self-Assembled, Guided, and Bioprinted Brain Organoids and Their Applications in the Study of Neurodevelopmental and Neurodegenerative Disorders.**
Int. J. Mol. Sci. C. D'Antoni, L. Mautone, C. Sanchini, L. Tondo, G. Grassmann, P. Bezzi, F. Cordella, S. Di Angelantonio.
- June 2023 **Electrostatic complementarity at the interface drives transient protein-protein interactions.**
Sci. Rep. G. Grassmann, M. Miotto, L. Di Rienzo, G. Gosti, M. Leonetti, G. Ruocco, E. Milanetti.
- June 2023 **Differences in the organization of interface residues tune the stability of the SARS-CoV-2 spike-ACE2 complex.**
Front. Mol. Biosci. M. Miotto, L. Di Rienzo, G. Grassmann, F. Desantis, G. Gosti, M. Leonetti, G. Ruocco, E. Milanetti.
- April 2023 **Dynamical Changes of SARS-Cov-2 Spike Variants in the Highly Immunogenic Regions Impact the Viral Antibodies Escaping.**
Proteins Struct. Funct. Bioinf. L. Di Rienzo, M. Miotto, F. Desantis, G. Grassmann, G. Ruocco, E. Milanetti.
- April 2023 **A novel computational strategy for defining the minimal protein molecular surface representation.**
Plos ONE G. Grassmann, M. Miotto, L. Di Rienzo, G. Gosti, G. Ruocco, E. Milanetti.
- December 2021 **A computational approach to investigate TDP-43 C-terminal fragments aggregation in relation to Amyotrophic Lateral Sclerosis.**
Biomol. G. Grassmann, M. Miotto, L. Di Rienzo, F. Salaris, B. Silvestri, E. Zacco, A. Rosa, G. G. Tartaglia, G. Ruocco, E. Milanetti.
- August 2021 **"Letter to the editor of Heliyon re: "New considerations on the validity of the Wiener-Granger causality test."**
Heliyon G. Grassmann.
- October 2020 **New considerations on the validity of the Wiener-Granger causality test.**
Heliyon G. Grassmann.
- INVITATION
- June 2024 **Seminar for the Department of Mathematics, Computer Science and Physics of the University of Udine**
Towards the prediction of core interactions: the role of electrostatic complementarity at the interfaces.
- TALKS
- June 2024 **XXVII Congresso Nazionale SIBPA 2024 Società Italiana di Biofisica Pura e Applicata**
Genova, Italy
Computational strategies for probing protein interactions: predictive insights into interacting residues.

June 2024 **Annual meeting of the Physics of Living Systems (PoLS) Student Research Network** Trieste, Italy

Compact assessment of molecular surface complementarities enhances neural network-aided prediction of key binding residues.

September 2023 **Third MaSBiC Symposium Advances in Protein Science: Exploring Structure, Function, and Beyond** Ancona, Italy

Electrostatic complementarity drives transient protein-protein interactions.

June 2022 **Workshop on New Frontiers in Molecular Crowding** Grenoble, Italy

A computational approach to investigate TDP-43 RNA-Recognition Motif 2 C-Terminal fragments aggregation in Amyotrophic Lateral Sclerosis.

POSTERS

September 2024 **Fourth DiSVA-MaSBiC Annual Symposium - Protein Structure and Function in Biology, Medicine and Nanotechnology** Ancona, Italy

Computational strategies for compactly assessing molecular surface complementarities and predicting key binding residues.

May 2024 **Biophysics Festival 2024** Covilhã, Portugal

Towards a computational method for the prediction of core interacting residues.

March 2023 **XVI International Workshop on Complex Systems** Andalo, Italy

Electrostatic complementarity evaluation at the protein interfaces: prediction of transient protein-protein interactions.

October 2022 **Second DiSVA-MaSBiC Annual Symposium - Protein Structure and Function in Biology, Medicine and Nanotechnology** Ancona, Italy

A computational approach for biomolecular binding characterization: TDP-43 C-terminal fragment aggregation in ALS.

June 2022 **Workshop on New Frontiers in Molecular Crowding** Grenoble, France

A computational approach for biomolecular binding characterization: TDP-43 C-terminal fragment aggregation in ALS.

September 2021 **First DiSVA-MaSBiC Annual Symposium - Protein Structure and Function in Biology, Medicine and Nanotechnology** Ancona, Italy

A computational approach to investigate TDP-43 C-terminal fragments aggregation in Amyotrophic Lateral Sclerosis (ALS).

TEACHING EXPERIENCE

May 2024 **Biosystem modeling tutor** La Sapienza University of Rome

Tutor for the PHYSICS LABORATORY II laboratory experience in the Physics of Biosystem curriculum.

OUTREACH AND PUBLIC
ENGAGEMENT

- October 2024 **Maker Faire short talk** Rome
L'IA e le regole dell'universo.
- October 2020 **Graphic contribution to a book published by F.Spinozzi and L.Righi**
Augusto Righi. Catturare l'invisibile, Anticipare il futuro.

EDITORIAL SERVICES

- Started in November 2022 **Logo design**
for the Center for Life Nano-& Neuro-Science, Istituto Italiano di Tecnologia (Rome).
- January 2021 **Referee for the *Heliyon Journal* (Elsevier BV)**