

Mauro Dalla Serra: CURRICULUM VITAE

Education: 1990 Trento – University of Trento - Degree in Physics; Qualified as Full University Professor at the National Scientific Qualification 2012 in Applied Physics (02/B3) and in General Biochemistry & Clinical Biochemistry (05/E1)

Present Pos.: Director of the Institute of Biophysics - National Research Council of Italy (CNR)
Responsible CNR Research Area at Trento

Services: European Biophysical Societies' Association (EBSA) as elected member of the Executive Committee (since 2015); International Union for Pure and Applied Biophysics (IUPAB) as CNR Vice-Delegate (since 2011); Association of Resources for Biophysics Research in Europe (ARBRE) as a member since 2014; Member of the Management Committee of the Cost Action MOBIEU (since 2015); Regional Biophysics Conference Series as member of the Scientific Advisory Board (since 2004); Italian Society for Pure and Applied Biophysics as elected member (2004-2008, 2010-2014); National Agency for the Evaluation of the Universities and Research Institutes (ANVUR) as member of the Evaluation of Research Quality 2011-2014 (VQR 2011-2014, GEV02).

Employment:

- 01/01/2021 – up to now: Research Director at the CNR
- 10/05/2019 – up to now: Responsible of the CNR Research Area at Trento
- 01/04/2019 – up to now: Director of the Institute of Biophysics - Italian National Research Council
- 16/04/2009 to 31/03/2019: Senior Research Scientist of CNR and Head of the Unit at Trento of the Institute of Biophysics CNR, since 09/07/2004
- 14/08/2003 to 15/04/2009: Senior Research Scientist of the Bruno Kessler Foundation (former ITC - Istituto Trentino di Cultura) assigned to the IBF-CNR Unit at Trento
- 01/04/1996 – 13/08/2003: appointed Research Scientist of the ITC assigned to CNR - Centre for Physics of the Aggregated States (CeFSA)
- 01/08/1994 – 31/03/1996: recipient of a Grant from the Department of Physics, University of Trento (supervisor G. Menestrina)
- 01/08/1993 – 31/07/1994: recipient of a Fellowship from the National Council of Researches at the CNR - Centre for Physics of the Aggregated States (CeFSA) (supervisor G. Menestrina)
- 01/06/1992 – 30/06/1993: recipient of a Fellowship from the National Institute for the Physics of Matter at the Centre for Physics of the Aggregated States (CNR-CeFSA) (supervisor G. Menestrina)
- 01/01/1991 – 31/05/1992: recipient of a Fellowship at the Institute for Scientific and Technological Research (supervisor T. Poggio)

Visits abroad:

01/03/1998 – 31/05/1999: recipient of a Post-Doc position as Assistant Scientist Res. at the Texas A&M University, College Station, Texas, Dept. Medical Biochemistry & Genetics; Supervisor H. Bayley.

Research interest: My collaborators and myself, have developed a thorough biophysical and biochemical approach to investigate structural and functional aspects of the interaction of membrane-active molecules with the lipid film. A large portion of my work has been dedicated to protein-protein and protein-lipid interaction, in particular to the mechanism of action of membrane-damaging toxins of bacterial or animal origin. However, my interest goes also to many other substances that are relevant for human health. I have been working with small antibiotics, natural non-protein biopolymers, or peptides causing misfolding diseases. I have published more than 100 articles in International refereed journals, and contributed 20 chapters to multi-authored books; I was co-editor of two Special Issues (BBA 2016, EBJ 2017).

Refereeing: I am referee for many leading journals in the field of biochemistry and biophysics, among which: Biochem. J., Biochemistry, BBA, FEBS Lett., Toxicon, FEMS Microbiol. Lett., Antimic. Agents Chem., Mol. Microbiol., Toxicology, Nature Comm., Sci. Reports. I am regular referee for applications to International Foundation for Science and of the Slovenian Research Agency.

Expertise:

Scientific: I am familiar with biochemical/biophysical techniques for the purification and structural/functional characterization of membrane active polymers (i.e., peptides and proteins) like, centrifugation, chromatography, electrophoresis; Langmuir technique for lipid monolayers, electrophysiology on planar lipid membranes, cell culture, fluorescence spectroscopy, preparation and characterization of different pure lipid model systems (monolayers, vesicles, micelles and bicelles, supported bilayers).

Congress Organization (as Main Organizer):

- 4th International workshop on Pore-forming toxins, Trento, 14-17 September 2000
- XVI National Congress of the Italian Society for Pure and Applied Biophysics Joint with the first Italian-Slovenian Biophysics Workshop (SIBPA 2002), Trento 11-14 September 2002
- Workshop on Il peptide amiloide e la Malattia di Alzheimer, Trento, 15.12.2003
- IX Biophysics School on "Ion channels and transporters in plant cells", Venice 26-30 January 2004
- kick-off meeting Project SyrTox, Roma Accademia dei XL, 11 November 2004
- XIV Biophysics School on "Molecular Mechanisms of Neurodegeneration" Venice 25-29 January 2010
- Alp Nano bio International School 2 "Micro and nanotechnologies in cancer diagnostics and therapy" Vipiteno (Bolzano, Italy), January 11-15 2010
- Alp Nano bio International School 3 "Next generation technology systems and life sciences interface research: an integrative approach" Vipiteno (Bolzano, Italy), January 23-27 2012
- Workshop on Nanotechnologies for HealthCare Trento, Italy, May 25th-26th, 2012
- International workshop on Pore-forming toxins, a meeting in memory of Gianfranco Menestrina, held in Trento, 28-30 August 2014
- Regional Biophysics Congress 2016, 25-28 August, Trieste
- Biophysics Week seminars "Perspectives in Biophysics, Trento 10/03/2016
- EBSA2017 Satellite Meeting on "Biophysical Approaches to Protein Folding and Disease"

Congress Organization (as Member of the Scientific Committee):

- XVIII Congress SIBPA2006, 17-21 September 2006, Palermo
- European Biophysical Society Association (EBSA) 2009, 11-15 July 2009, Genova
- XXI Congress SIBPA2012, 17-20 September 2012, Ferrara
- Regional Biophysics Conference 3-7 September 2012, Kladovo, Serbia
- Alp Nano bio International School 4 (Anis4) January 27-31, 2014, Vipiteno (I)
- Annual Congress 2014 of the Società Italiana di FotoBiologia, 11 - 13 Giugno 2014, Trento

I gave lectures at National and International congresses, 19 as Invited Speaker and 6 as Selected Orals. I served as Chair in 7 International Congresses.

Administrative skills:

I have been member of the CNR-IBF "Consiglio di Istituto" (2004-2008). Since 2004 I am the Head of the Unit at Trento CNR-IBF. I have been member of 9 commissions for selecting candidates for permanent and non-permanent research positions.

Auto-evaluation, according to scopus (01.2022):

#papers:108; h-index=43; total citations =4566

WoS ResearcherID: A-6218-2010; ScopusID: 6602827949; orchid 0000-0003-1048-2739



I authorize the use of my personal data and CV according to the Italian privacy law nr 196 30/06/2003

Publications (2017-2021):

1. Dalla Serra, Mauro, e Alessandro Tossi. «Regional Biophysics Conference - RBC2016». *European Biophysics Journal* 46, n. 8 (2017): 689–90. <https://doi.org/10.1007/s00249-017-1265-z>.
2. Knap, Primož, Toma Tebaldi, F. Di Leva, Marta Biagioli, M. Dalla Serra, e G. Viero. «The Unexpected Tuners: Are LncRNAs Regulating Host Translation during Infections?» *Toxins* 9, n. 11 (2017): 357–66. <https://doi.org/10.3390/toxins9110357>.
3. Minati, L., C. Migliaresi, L. Lunelli, G. Viero, M. Dalla Serra, e G. Speranza. «Plasma Assisted Surface Treatments of Biomaterials». *Biophysical Chemistry* 229 (ottobre 2017): 151–64. <https://doi.org/10.1016/j.bpc.2017.07.003>.
4. Plotegher, N., G. Berti, E. Ferrari, I. Tessari, M. Zanetti, L. Lunelli, E. Greggio, et al. «DOPAL derived alpha-synuclein oligomers impair synaptic vesicles physiological function». *Scientific Reports* 7 (13 gennaio 2017): 40699. <https://doi.org/10.1038/srep40699>.
5. Roncador, Alessandro, Aura Matilde Jimenez-Garduño, Laura Pasquardini, Giovanni Giusti, Nicola Cornella, Lorenzo Lunelli, Cristina Potrich, et al. «Primary Cortical Neurons on PMCS TiO₂ Films towards Bio-Hybrid Memristive Device: A Morpho-Functional Study». *Biophysical Chemistry* 229 (ottobre 2017): 115–22. <https://doi.org/10.1016/j.bpc.2017.04.010>.
6. Dalla Serra, M, Robert J. C. Gilbert, André Matagne, e Patrick England. «Biophysical Approaches to Protein Folding and Disease, a Satellite Meeting to the IUPAB-EBSA Congress». *European Biophysics Journal* 47, n. 2 (1 marzo 2018): 95–96. <https://doi.org/10.1007/s00249-018-1288-0>.
7. Mattana, S., M. Mattarelli, L. Urbanelli, K. Sagini, C. Emiliani, M. Dalla Serra, D. Fioretto, e S. Caponi. «Non-contact mechanical and chemical analysis of single living cells by micro-spectroscopic techniques». *Light: Science & Applications* 7 (2018): e17139. <https://doi.org/10.1038/lsa.2017.139>.
8. DiFrancesco, Mattia Lorenzo, Francesco Lodola, Elisabetta Colombo, Luca Maragliano, Mattia Bramini, Giuseppe Maria Paternò, Pietro Baldelli, et al. «Neuronal Firing Modulation by a Membrane-Targeted Photoswitch». *Nature Nanotechnology* 15, n. 4 (2020): 296–306. <https://doi.org/10.1038/s41565-019-0632-6>.
9. Lauria, Fabio, Paola Bernabò, Toma Tebaldi, Ewout Joan Nicolaas Groen, Elena Perenthaler, Federica Maniscalco, Annalisa Rossi, et al. «SMN-Primed Ribosomes Modulate the Translation of Transcripts Related to Spinal Muscular Atrophy». *Nature Cell Biology*, 21 settembre 2020, 1–13. <https://doi.org/10.1038/s41556-020-00577-7>.
10. Minati, L., G. Speranza, V. Micheli, M. Dalla Serra, e M. Clamer. «Graphene Oxide Nanocomposite Magnetic Microbeads for the Remediation of Positively Charged Aromatic Compounds». *Dalton Transactions* 49, n. 10 (2020): 3333–40. <https://doi.org/10.1039/C9DT04605D>.
11. Toparlak, O.D., J. Zasso, S. Bridi, M. Dalla Serra, P. Macchi, Luciano Conti, M-L Baudet, e S.S. Mansy. «Control of neural stem cells differentiation and neuronal processes by artificial cells regulated activity». *Science Advances* 6, n. 38 (2020): eabb4920. <https://doi.org/10.1126/sciadv.abb4920>.
12. Modica, Maria Vittoria, Rafi Ahmad, Stuart Ainsworth, Gregor Anderluh, Agostinho Antunes, Dimitris Beis, Figen Caliskan, et al. «The New COST Action European Venom Network (EUVEN)—Synergy and Future Perspectives of Modern Venomics». *GigaScience* 10, n. 3 (2021). <https://doi.org/10.1093/gigascience/giab019>.