EUROPEAN CURRICULUM VITAE FORMAT

PERSONAL INFORMATION

Name	**Naletova Irina**
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ORCID	0000-0002-3186-6355
Nationality	Italian, Russian
Date of birth	08/03/1980

WORK EXPERIENCE

• Date	**2021 – …**
• Name and address of employer	Institute of Crystallography, Research National Council, 95126 Catania, Italy
• Position held	Temporary Research Fellow
• Date	**2020 – 2021**
• Name and address of employer	Department of Chemical Science, University of Catania
• Position held	Temporary Research Fellow (“Determinazione delle capacità avanzate di wound healing dei nuovi prodotti ibridi a base dei derivati HA-carnosina, Cu(II) e nanoparticelle di Ag (HA-Cu-AgNP) e nella determinazione dell'attività biologica e angiogenica dei nuovi prodotti HA-carnosina-Cu-AgNP”)
• Date	**2019 – 2020**
• Name and address of employer	Department of Drug Sciences, University of Catania
• Position held	Temporary Research Fellow and Borsa di Studio (“La valutazione dell’attività biologica di sostanze, potenzialmente attive e presenti in piante e/o in frutti edibili del Territorio Siciliano”)
• Date	**2016 – 2018**
• Name and address of employer	Department of Chemical Science, University of Catania
• Position held	Temporary Research Fellow (executor of Gant (CHIM/03))
• Date	**2012 – 2016**
• Name and address of employer	Department of Chemical Science, University of Catania
• Position held	Temporary Research Fellow (executor of Gants: FIRB-MERIT RBNE08HWLZ_001 (BIO/10), PON01_01078 (BIO/10), PON02_00607_3421644 (CIRCMSB))

• Date	**2006 – 2012**
• Name and address of employer	Laboratory of Animal Cell Biochemistry of Lomonosov Moscow State University
• Position held	Research Fellow

EDUCATION AND TRAINING

• Date	**2003 – 2006**
• Name and type of organisation providing education and training	Laboratory of Animal Cell Biochemistry of Lomonosov Moscow State University Title: The influence of chaperonin GroEL and amyloid beta-peptide(1-42) on the denaturation and renaturation of glyceraldehyde-3-phosphate dehydrogenase
• Title of qualification awarded	PhD

• Date	**1997 – 2002**
• Name and type of organisation providing education and training	Department of Bioorganic Chemistry, School of Biology of Lomonosov Moscow State University Title of Master Thesis: Influence of the biologically active peptides Taftsin and Selank on the whole blood properties.

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE	**Russian**
OTHER LANGUAGES	
	English
• Reading skills	Excellent
• Writing skills	Excellent
• Verbal skills	Excellent
	Italian
• Reading skills	Good
• Writing skills	Basic
• Verbal skills	Good

TECHNICAL SKILLS AND COMPETENCES

Proteins purification: ammonium sulfate precipitation, dialysis, column chromatography;

Protein characterization assays: SH-groups determination/modification; oxidation of proteins, UV-Vis spectroscopy; methods of enzymology (measurement of enzymatic activity, inhibitory analysis), protein immobilization technique, biophysical analytical methods;

Protein techniques of immunochemistry: ELISA;

Cell cultures; biochemical assays, wound healing assay, microbiological skills, proteins purification, characterization assays and biophysical analytical methods; protein techniques of immunochemistry

TEACHING EXPERIENCE

• Date	**2021**
• Name and type of organization providing education and training	Department of Drug and Health Science, Biochemistry section, University of Catania Co-supervision of Master degree thesis: Proprietà anti-inflammatorei degli analoghi sintetici del peptide ACTH Semax e Ac-Semax in macrofagi murini stimolati con LPS.
• Date	**2018**
• Name and type of organization providing education and training	Department of Chemical Science, CdLM in Biomolecular Chemistry, University of Catania Co-supervision of 2 Master degree thesis: Perracchio A. – "Peptidomimetics: neurotrophic role of ACTH(4-10); Surdo A. – "Neuroprotective effects of NGF".
• Date	**2017-2018**
• Name and type of organization providing education and training	Department of Chemical Science, CdLM in Biomolecular Chemistry, University of Catania Integration lessons to support the course of "Physical Chemistry of Biointerfaces"
• Date	**2016 – 2018**
• Name and type of organization providing education and training	Subject expert (Cultore di Materia) Medicine Faculty (CdLM in Medicine and Surgery) BIO/10
• Date	**2008 – 2009**
• Name and type of organization providing education and training	School of Bioengineering and Bioinformatics, Lomonosov Moscow State University Practical course "General Biochemistry"
• Date	**2006 – 2009**
• Name and type of organization providing education and training	School of Bioengineering and Bioinformatics, Lomonosov Moscow State University Supervision of 3 Course papers and 3 Master degrees work in School of Bioengineering and Bioinformatics. Titles of 3 Master thesises: Fedyunin I. – "Some glycolitic enzymes as substrates of chaperonin TRiC. New method of TRiC extraction and investigations of thermodynamical parameters of the chaperonin"; Kisselev G. – "Effect of the chaperonin GroEL on the aggregation of two ovine prion protein allelic variants VRQ and ARR"; Popova K. – "Extraction of chaperonin TRiC and search for its novel substrates".

PERSONAL GRANTS

• Date	**2008 – 2010 (24 months)**
• Name and type of organization	Personal Grant by RFBR (08-08-00540-a). Title: "Protein-based biodetectors for determination of amyloidal structures and oxidants".
• Date	**2008 – 2009 (12 months)**
• Name and type of organization	Grant of the President of Russian Federation for young scientists (MC-467.2008.4). Title: "Investigation of the role of glyceraldehyde-3-phosphate dehydrogenase and chaperone system in the development of

neurodegenerative disorders".

• Date	**2005, 2007, 2008, 2009**
• Name and type of organization	Youth Travel Grant from EMBO-FEBS and FEBS

AWARDS AND HONORS

• Date	**2007, 2008**
	A.D. Kaulen award for young scientists
• Date	**2007, 2008, 2010**
	Lomonosov Moscow State University award for young teachers and scientists
• Date	**2007**
	Lomonosov Moscow State University grant for talented students, PhD students and young scientists

INTERNATIONAL CONFERENCE
(oral presentations)

- Date **2021, 4-6 October** 1st Conference on Cristallography, Structural Chemistry and Biosystems
- Title GHK-Hyaluronic acid conjugates affect the wound closure in the presence of copper ions

- Date **2021, 15-16 April** XX Workshop Pharmabiometallics BioMet 2021
- Title Glycyl-L-histidyl-L-lysine (GHK) conjugate with hyaluronic acid affects cellular wound closure in the presence of copper(II) ions

- Date **2018, 16-17 February** XVII workshop on Pharmacobiometallics (Biomet2018)
- Title "Metal signaling and BDNF expression"

- Date **2015, 23-24 October** XV workshop on PharmacoBiometallics (Biomet2015)
- Title "Copper complexes affect metallostasis of tumor cells."

- Date **2009, 23-28 May** EMBO-FEBS Workshop on "Biology of Molecular Chaperones. Cellular Protein Homeostasis in disease and Ageing"

PUBLICATIONS

1. Ciarcià G; Bianchi S; Tomasello B; Acquaviva R; Malfa GA; **Naletova I,** La Mantia A, Di Giacomo C. Vitamin E and Non-Communicable Diseases: a Review. Biomedicines*.* 2022, a*ccepted on 28 September 2022*
2. Paterniti I, Filippone A, **Naletova I**, Greco V, Sciuto S, Esposito E, Cuzzocrea S, Rizzarelli E. Trehalose-carnosine prevents the effects of spinal cord injury through regulating inflammation and zinc(II) ion homeostasis. Cellular and Molecular Neurobiology, 2022, *published on-line 19-09-2022*
3. Magrì, A.; Tabbì, G.; **Naletova, I.;** Attanasio, F.; Arena, G.; Rizzarelli, E. A Deeper Insight in Metal Binding to the hCtr1 N-terminus Fragment: Affinity, Speciation and Binding Mode of Binuclear Cu2+ and Mononuclear Ag+ Complex Species. Int. J. Mol. Sci. 2022, 23, 2929
4. Sciacca M.F.M., **Naletova I.**, Giuffrida M.L., Attanasio F. Semax, a synthetic regulatory peptide, affects copper induced Abeta aggregation and amyloid formation in artificial membrane models. ACS Chemical Neuroscience, 2022, DOI: 10.1021/acschemneuro.1c00707
5. **Naletova I**, Greco V, Sciuto S, Attanasio F, Rizzarelli E. Ionophore Ability of Carnosine and Its Trehalose Conjugate Assists Copper Signal in Triggering Brain-Derived Neurotrophic Factor and Vascular Endothelial Growth Factor Activation In Vitro. Int J Mol Sci. 2021 Dec 16;22(24):13504.
6. Aquaviva R., Tomasello B., Di Giacomo C., Santangelo R., La Mantia A., **Naletova I**., Sarpietro M.G., Castelli F., Malfa G.A. Protocatechuic acid induced apoptosis via ROS overproduction in colon cancer cells through the downregulation of HO-1 and upregulation of p21. Biomolecules, 2021, 11(10), 1485
7. Craparo E.F., Musumeci T., Bonaccorso A., Pellitteri R., Romeo A., **Naletova I.,** Cucci L.M., Cavallaro G., Satriano C. mPEG-PLGA nanoparticles labelled with loaded or conjugated rhodamine-B for potential nose-to-brain delivery. Pharmaceutics, 2021, 13, 1508
8. Greco V., **Naletova I.**, Ahmed I.M.M., Vaccaro S., Messina L., La Mendola D, Bellia F., Sciuto S, Satriano C., Rizzarelli E. Hyaluronan-carnosine conjugates inhibit Aβ aggregation and toxicity. Scientific Reports, Sci. Rep., 2020; 10: 15998.
9. Bonaccorso C., **Naletova I**., Satriano C., Spampinato G., Barresi V., Fortuna C. G. New Di(heteroaryl)ethenes as apoptotic anti-proliferative agents towards breast cancer: design, one-pot synthesis and in vitro evaluation. ChemistrySelect, 2020, 5(8), 2581–2587*.*
10. **Naletova I,** Cucci LM, D'Angeli F, Anfuso CD, Magrì A, La Mendola D, Lupo G, Satriano C. A tunable nanoplatform of nanogold functionalised with angiogenin peptides for anti-angiogenic therapy of brain tumours. Cancers, 2019, 11(9). pii: E1322
11. **Naletova I,** Grasso GI, Satriano C, Travaglia A, La Mendola D, Arena G, Rizzarelli E. Copper complexes of synthetic peptides mimicking neurotrophin-3 enhance neurite outgrowth and CREB phosphorylation. Metallomics. 2019, 11(9):1567-1578
12. **Naletova I**, Satriano C, Pietropaolo A, Gianì F, Pandini G, Triaca V, Amadoro G, Latina V, Calissano P, Travaglia A, Nicoletti VG, La Mendola D, Rizzarelli E. The copper(II)-assisted connection between NGF and BDNF by means of nerve growth factor-mimicking short peptides. Cells. 2019, 8(4). pii: E301.
13. Cucci LM, **Naletova I**, Consiglio G, Satriano C. A hybrid nanoplatform of graphene oxide/nanogold for plasmonic sensing and cellular applications at the nanobiointerface. Applied Sciences. 2019, 9, 676.
14. **Naletova I,** Satriano C, Curci A, Margiotta N, Natile G, Arena G, La Mendola D, Nicoletti VG, Rizzarelli E. Cytotoxic phenanthroline

derivatives alter metallostasis and redox homeostasis in neuroblastoma cells. Oncotarget. 2018, 9(91): 36289-36316.

15. Cucci LM, Munzone A, **Naletova I,** Magrì A, La Mendola D, Satriano C. Gold nanoparticles functionalized with angiogenin-mimicking peptides modulate cell membrane interactions. Biointerphases. 2018, 13(3): 03C401
16. Magrì A, Tabbì G, Giuffrida A, Pappalardo G, Satriano C, **Naletova I,** Nicoletti VG, Attanasio F. Influence of the N-terminus acetylation of Semax, a synthetic analog of ACTH(4-10), on copper(II) and zinc(II) coordination and biological properties. Journal of Inorganic Biochemistry, 2016, 164: 59-69.
17. **Naletova I.,** Nicoletti V.G., Milardi D., Pietropaolo A., Grasso G. Copper, differently from zinc, affects the conformation, oligomerization state and activity of bradykinin. Metallomics. 2016, 8(8): 750-761
18. Sinopoli A., Giuffrida A., Tomasello M.F., Giuffrida M.L., Leone M., Attanasio F., Caraci F., De Bona P., **Naletova I.,** Saviano M., Copani A., Pappalardo G., Rizzarelli E. Ac-LPFFD-Th: A Trehalose-Conjugated Peptidomimetic as a Strong Suppressor of Amyloid-β Oligomer Formation and Cytotoxicity. Chembiochem, 2016, 17(16):1541-9
19. Motta C., D'Angeli F., Scalia M., Satriano C., Barbagallo D., **Naletova I.,** Anfuso C. D., Lupo G., Spina-Purrello V.. PJ-34 inhibits PARP-1 expression and ERK phosphorylation in glioma-conditioned brain microvascular endothelial cells, European Journal of Pharmacology, 2015, 761: 55–64
20. Tabbì G., Magrì A., Giuffrida A., Lanza V., Pappalardo G., **Naletova I.,** Nicoletti V.G., Attanasio F., Rizzarelli E. Semax, an ACTH4-10 peptide analog with high affinity for copper(II) ion and protective ability against metal induced cell toxicity, Journal of Inorganic Biochemistry, 2015, 142 : 39–46
21. Attanasio F., **Naletova I**., Muronetz V., Giuffrida A., Giuffrida M. L., Tomasello F. M., Caraci F., Copani A., Pappalardo G., Rizzarelli E. (2012). Trehalose conjugated β-sheet breaker peptides as stabilizers of Aβ monomers. In: Kokatos G, Constantinou-Kokotou V, Matsoucas J. Proceeding of 32 European Peptides Symposium : Peptides 2012, p. 402-403, ISBN: 978-960-466-121-3, Athens, 2-7 September 2012
22. **Naletova I.** N., Popova K. M., Eldarov M. A., Kuravsky M. L., Schmalhausen E. V., Sevostyanova I. A., Muronetz V. I. Chaperonin TRiC assists the refolding of sperm-specific glyceraldehyde-3-phosphate dehydrogenase. ABB, 2011, 516: 75-83
23. Kisselev G.G., **Naletova I.N.,** Sheval E. V., Stroylova Y. Y., Schmalhausen E. V., Muronetz V. I. Chaperonins induce an amyloid-like transformation of ovine prion protein: The fundamental difference in action between eukaryotic TRiC and bacterial GroEL. Biochimica et Biophysica Acta, 2011, 1814(12): 1730-1738
24. Amarantov C.V., **Naletova I.N.,** Kurochkina L.P. Determination of the shape of chaperonin molecules based on Small Angle X-ray Scattering (SAXS) curves using toroid formfactor. Journal of Experimental and Theoretical Physics, 2011, 113, (2): 322–38
25. Eronina T.B., Chebotareva N.A., Bazhina S.G., **Naletova I.N.,** Muronetz V.I., Kleymenov S.Yu., Kurganov B.I. Effect of GroEL on thermal aggregation of glycogen phosphorylase b from rabbit skeletal muscle. Macromol Biosci. 2010, 10(7):768-74
26. Markossian K.A., Golub N.V., Chebotareva N.A., Asryants R.A., **Naletova I.N.,** Muronetz V.I., Muranov K.O., Kurganov B.I. Comparative analysis of the effects of alpha-crystallin and GroEL on the kinetics of thermal aggregation of rabbit muscle glyceraldehyde-3-phosphate dehydrogenase. Protein J. 2010, 29(1):11-25
27. Kisselev G., **Naletova I.,** Tsiroulnikov K., Haertle T., Muronetz V. Interaction between prion proteins and molecular chaperones by the

example of ovine prion proteins VRQ and ARR, and chaperonin GroEL. Kinetics and Thermodynamics for Chemistry and Biochemistry. Vol 2. Nova Science Publishers, Inc., New York, USA. 2009, 59-74

28. Yazykova M.Yu., Schmalhausen E.V., **Naletova I.N.,** Pleten A.P., Muronesz V.I. Study of interactions of different forms of glyceraldehyde-3-phosphate dehydrogenase with chaperonin Hsp70. Vestnik of Samara State University. 2009, 6(72), 215-223
29. **Naletova I.,** Schmalhausen E., Kharitonov A., Katrukha A., Saso L., Caprioli A., Muronetz V. Non-native glyceraldehyde-3-phosphate dehydrogenase can be an intrinsic component of amyloid structures. Biochimica et Biophysica Acta. 2008, 1784(12):2052-2058.
30. Muronetz V., Pleten A., Schmalhausen E., **Naletova I.,** Haertle T. Pathogenic protein nanostructures while neurodegenerative disorders: identification and new approaches for their destruction. Proceeding of International seminar on "Biotechnology and health-2", Armenia, Erevan. 2008, 76-82.
31. Shalova I.N., **Naletova I.N.,** Saso L., Muronetz V.I., Izumrudov V.A.Interaction of polyelectrolytes with proteins, 3a Influence of complexing polycations on the thermoaggregation of oligomeric enzyme. Macromol Biosci. 2007, 7(7):929-939.
32. **Naletova I.N.,** Schmalhausen E.V., Shalova I.N.., Pleten A.P., Tsiroulnikov K., Haertle T., Muronetz V.I. The non-functioning chaperonin GroEL stimulates protein aggregation. Biomed Khim.Russian. 2006, 52(5):518-524.
33. **Naletova I.N.,** Muronetz V.I., Schmalhausen E.V. Unfolded, oxidized, and thermoinactivated forms of glyceraldehyde-3-phosphate dehydrogenase interact with the chaperonin GroEL in different ways. Biochimica et Biophysica Acta. 2006, 1764(4):831-838.
34. Markossian K.A., Kurganov B.I., Levitsky D.I., Khanova H.A., Chebotareva N.A., Samoilov A.M., Eronina T.B., Fedurkina N.V., Mitskevich L.G., Merem'yanin A.V., Kleymenov S.Yu., Makeeva V.F., Muronetz V.I., **Naletova I.N.,** Shalova I.N., Asryants R.A., Shmalhausen E.V., Saso L., Panyukov Yu.V., Dobrov E.N., Yudin I.K., Timofeeva A.C., Muranov K.O. and Ostrovsky M.A. Mechanism of the chaperone-like activity. Protein Folding: New Research. Nova Science Publishers, Inc., New York, USA. 2006, 89-173
35. Muronetz V.I., Schmalhausen E.V., Poliakova O.V., Naletova I.N., Shalova I.N., Saso L. Amyloidoses and oxidative stress. Proceeding of International seminar on "Biotechnology and health", 2005, 55-62

Firma

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