

## **Evgeniya Peshkova (Eugenia Pechkova)**

Born in Moscow, Russia, 24 May 1976.

Italian citizen, Russian Citizen

US permanent resident (green card)



After taking her **Doctoral degree in Chemistry** at Moscow State Lomonosov University in 1998, enter the PhD course in Biophysics with the fellowship from Polo Nazionale Bioelettronica and Research Contract Award for Protein Crystallization, Project for Young Investigator of University of Genova.

After taking her **PhD degree in Biophysics** with the thesis entitled "Protein Crystallography By Thin Film Nanotechnology" at University of Genova in 2003, became firstly (2003-2006) Scientific Secretary of Fondazione EL.B.A. (Electronic Biotechnology Advanced) and then Scientific Director (2006-2008) and Principle Investigator of a big FIRB research grant on Organic Nanotechnology. In this context following a postdoctoral position she has acquired the scientific responsibility of the laboratory of Nanobiocrystallography at the Nanoworld Institute, University of Genoa.

In 2007 she worked as a Visiting Scientist at the European Synchrotron Radiation Facility (ESRF) in Grenoble both in Macromolecular Crystallography group, Soft Condensed Matter and Micro- and Nanofocus group. Now is one of the PI of Radiation Damage BAG.

She participated as invited speaker to the international conferences on Crystallography, Nanobiotechnology and Medicine and carried out stages at Harvard University; IBM at Almaden, Jefferson Cancer Center, University of Massachusetts Medical School, UCLA and ASU.

From June 1, 2008 she has the permanent position of **Assistant Professor of Biochemistry** at the University of Genova Medical School, Department of Experimental Medicine. Prof. Pechkova is heading the Laboratories of Biophysics and Nanotechnology. From 2007 she is Board of Trustee Member of Fondazione EL.B.A.- Nicolini ([www.fondazioneelba-nicolini.org](http://www.fondazioneelba-nicolini.org))

On July, 1, 2014 Prof. Pechkova obtained **National Habilitation to the Associate Professor**.

Author of more than 80 international scientific publications (SCI), 2 patents; a textbook on "Proteomics and Nanocrystallography", chapters to books, co-author in "Biofisica e Propedeutica Biofisica" textbook (Italian)

Total Articles in Google Scholar 109

Total Number of Citations in Google Scholar 1147

H-index (Google Scholar) 21

i10-index: 42

Total Articles in Scopus 78

Total Number of Citation in Scopus 916

H-index (Scopus) 17

Total Articles in Web of Science 67

Total Number of Citation in Web of Science 687

H-index (Web of Science) 15

## **Participation in Grants and Research Projects**

2010-2013 FIRB RBPR05JH2P Nanoitalnet "Organic and Biological Nanosensors", financed by Italian Ministry of Education, Universities and Research (MIUR) to University of Genova, co-PI (48 months)

2007-2010 FIRB RBIN04RXHS Functional Proteomics and Cell Cycle Progression, International together with Harvard University financed by MIUR to University di Genova, co-PI (38 months)

2003-2006 FIRB RBNE01X3CE "Organic Nanotechnologies and Nanosciences" financed (900.000 euro) by MIUR to Fondazione EL.B.A., PI (48 months)

2003 PI of the FIRB grant "Formation and research activity in the Nanoproteomics" of the Fondazione ELBA.

2001 Grant Winner "Young Investigator Project" on the Protein Crystallization financed by University of Genova.

### **Patents**

Nicolini C, Pechkova E (09.07.2001). METODO PER LA CRESCITA DI CRISTALLI DI PROTEINE VIA TEMPLATI DI FILM SOTTILI PROTEICI OMOLOGHI (The method of protein crystal growth based on the homologous protein thin film template) ITRM20010405 (A1)

Bragazzi N, Nicolini C, Peshkova E, (09.08.2012). APA-SNAP NANOARRAYS PER PROTEOMICA LB-BASATA (STRUTTURALE E FUNZIONALE) E PER VACCINOLOGIA (APA-SNAP nanoarrays for LB-bases structural and functional proteomics and vaccinology) GE2012A0080 (A1)

### **Board of Trustee Member:**

2007-present Fondazione EL.B.A. Nicolini ([www.fondazioneelba-nicolini.org](http://www.fondazioneelba-nicolini.org))

2008-2010 Interuniversity Center of Research on Organic and Biological Nanosciences and Nanotechnologies (CIRSDNOBB)

### **Invited speaker to the following recent international events:**

-Crystal XXII, Society of Crystallographers in Australia and New Zealand, Brisbane, Australia, July 2001

-VII° International Conference on Advanced Material ICAM 2001 Cancun, Mexico, August 2001

-NANOBIONICS II From Molecules to Applications a Marburg University, Germania (Settembre 2002)

-ELBA/Max Planck Forums on Nanoscale Sciences and Technology, 2002, 2003, 2004

-Genomics, Proteomics and Bioinformatics for Medicine, Russian Academy of Sciences, St.Petersburg-Mosca, Russia (Giugno 2002)

-BNL Synchrotron, Symposia on Biologically Directed Self-Assembly of Nanomaterials: Synthesis and Characterization, Long Island, USA, May 2007

-CHESS Synchrotron Users Meeting, Cornell University, Itaca, USA, June 2008

-American Crystallographic Association International Congress, Knoxville, Tennessee, USA, June, 2008

-IASTED International conference on Nanotechnology and Applications (NANA 2008) September 2008, Crete, Greece, Chairman of the Panel session on Protein Nanocrystallography.

- GISAS 2009, Conference on Grazing incidence small angle scattering, DESY, Hamburg, September 2009
- HORIBA seminar on nanotechnology, Kyoto, Japan, May 2010
- XXIV ELBA Nanoforum, Brixen, September 2010
- Centre for Chemical Biology seminar, Science University of Malaysia, 20 October 2010
- First Annual World Congress of NanoMedicine, Beijing, China, 24 October 2010
- 27th Nanoforum on Nanobiomaterials, MARBURG, September 6, 2011
- 55th BIOPHYSICAL SOCIETY, Annual Meeting, March 5-9 , 2011, Baltimore Maryland, USA.
- 56th BIOPHYSICAL SOCIETY, Annual Meeting, February 29, 2012, San Diego, USA
- 28th Nanoforum Cosponsored by the Center of Personalized Medicine at Biodesign Institute of Arizona State University NANOPROTEOMICS FOR MEDICINE, April 6, 2012, Tempe (Phoenix) USA
- 31 th Nanoforum on Nanobiotechnology June 15,2012 Moscow, Moscow State University
- 32 th Nanoforum September 15 2012 at Grenoble, European Synchrotron Radiation Facility on Protein Nanotechnology -
- 13 th European Powder Diffraction Conference, ESRF Grenoble, 28-31 Ottobre 2012
- EPDIC13 -3rd International Conference on Nanotek and Expo" (Nanotek-2013) 2-4 Decembre, 2013.
- 4 th International Congress BioNanoMed 2013 – Nanotechnology Enables Personalized Medicine, March 13-15, 2013, Danube University Krems/Austria.
- 2nd International Congress on Pathogens at the Human-Animal Interface (ICOPHA1): One Health for Sustainable Development, August 14-17, 2013, Porto de Gallinas, Brazile.
- 2nd International Conference on Biodefense & Natural Disasters, OMICS group, August 21-23 2013, Orlando, Florida, USA.
- 5th International Conference on Biomarkers and Clinical Research, April 15-17, 2014 St Hildas College - University of Oxford, UK
- 9th International Conference of Anticancer Research, Porto Carras, Sithonia, Halkidiki, Greece, October 6-10, 2014.
- 2nd International Conference on Predictive, Preventive and Personalized Medicine & Molecular Diagnostics, Las Vegas, USA, November 3-5, 2014
- 4th International Conference on Nanotek & Expo, San Francisco, USA, invited speaker and Nanomedicine session co-chairman, December 1-3, 2014
- Science and Technology in Society Forum, STS Annual Meeting, Kyoto, Japan, October 4-6 , 2015
- Innovation for Cool Earth Forum, ICEF Annual Meeting, Tokyo, Japan, October 6-8, 2015.
- NanoWorld Conference-2016, Boston, USA, April 4-6, 2016.

### **Editorial works**

1. Invited Editor of the special issue of Journal of Synchrotron Radiation on Synchrotron radiation and Nanobiosciences, Vol 12, Novembre 2005, together with Claudio Nicolini
2. Editor of third volume of Pan Stanford Publishing Series on Nanobiotechnology, entitled "Synchrotron Radiation and structural Proteomics", 2010, together with Christian Riekell
3. Editorial Board Member, Associate Editor for special issues, Nanoword Journal, Santa Clara, USA <http://jnanoworld.com/>

### **International Awards**

- 2006 "Marquis Who's Who in the World, USA"
- 2006 "2000 Outstanding Intellectuals of the 21st Century 2006 by The International Biographical Centre, Cambridge, England, for outstanding contribution in the field of Biophysics and Protein Nanocrystallography"

### **International Collaborations**

- European Synchrotron Radiation Facility (ESRF), Grenoble, France
- New England Biolab, Ipswich, Massachusetts, USA
- Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Russia
- Centre Bioengineering, Russian Academy of Sciences, Russia
- Institute of Biophysical Chemistry, Russian Academy of Sciences, Russia
- Moscow State Lomonosov University, Russia
- Biodesign Institute, Arizona State University, USA
- Marburg University, Marburg, Germany
- Biomodels LLC, Watertown, Massachusetts, USA

### **Teaching Activity**

Member of the Faculty Board and tutor of the candidates (PhD and Master students) of the following postgraduate courses :

2008 - present International Joint Master Course in Nanobiotechnology of University of Genova, Italy and Moscow State Lomonosov University, Russia

2006-2014 International Joint PhD course in Nanobiotechnology of University of Genova, Italy and Marburg University, Germany

Undergraduate courses teaching at University of Genova

2008 - present Course in Nanotechnology of Fundamental Graduate Course in Biotechnology, V year.

2008 - present Laboratory for Medical Doctor Training of Graduate Course in Medicine and Surgery, II year.

2008-2010 Course in Biophysics of the Integrated Course in Biophysics and Medical Physics, Graduate Course in Medicine and Surgery, I year.

2003-2007 Lecturers and Practical Courses in the Course in Biophysics, Graduate Course in Medicine and Surgery I, II and V year; Course in Nanotechnology of Fundamental Graduate Course in Biotechnology, V year.

### **Protein Structures deposited in PDB**

1NA7, Crystal Structure of the Catalytic Subunit of Human Protein Kinase CK2, Pechkova E, Zanotti G, Nicolini C, (released 2003-08-26)

2AUB, Lysozyme Structure Derived From Thin Film Based Crystals, Pechkova E, et al. (released 2005-12-06)

2NXU, Atomic Structure of Translation Initiation Factor aIF2 beta-subunit from Archaeobacteria Sulfolobus Solfataricus: High Resolution NMR in Solution, Vasile F, Pechkova E, et al, (released 2007-10-30)

3UBC, Oxygen-bound Hell's Gate Globin I by LB nanotemplate Method, Belmonte L, Scudieri D, Nicolini C, Pechkova E. (released 2012-03-28)

3UBV, Oxygen-bound Hell's Gate Globin I by Classical hanging drop, Scudieri D, Belmonte L, Saito J.A, Alam M, Nicolini C, Pechkova E. (released 2012-03-28)

3DE3, 3DE4, 3DE5, 3DE6,3DE7,3D9Q, 3DDZ,3DE0,3DE1,3DE2, 3DW3, 3DWE, 3DVQ, 3DVR, 3DVS, 3DW1, 3I34, 3I2Y, 3I30, 3I37 Proteinase K crystal structures by Classical vapour diffusion and LB nanotemplate method after before and after several steps of high X-Ray dose exposure on ESRF ID23-1 (released 2009-06-09) and ID 14-2, beamline (released 2010-06-09)

4DJ5 Proteinase K by Langmuir-Blodgett hanging drop method at 1.8Å resolution for Unique Water Distribution (released 2012-07-18)

3DZN, 3DZP, 3DZR, 3E0A Thaumatin by Classical vapour diffusion and LB nanotemplate method before and after high X-Ray dose exposure on ESRF ID29 beamline (released 2009-08-10)

3V7V, 3V82, 3V84, 3V87, 3V88, 3V8A

Thaumatin by Classical and LB based hanging drop vapour diffusion after 1.81 MGy X-Ray dose at ESRF ID29 beamline (released 2012-11-07)

4DIY, 4DIZ, 4DJ0, 4DJ1 Thaumatin by Classical and Langmuir-Blodgett hanging drop method at 1.98Å resolution for Unique Water Distribution (released 2012-07-18)

3DNZ, 3DO2, 3DO1, 3DO0 Thermolysin by Classical vapour diffusion and LB nanotemplate method before and after high X-Ray dose exposure on ESRF ID14-2 beamline (released 2009-07-09)

3I6F, 3I6J, 3I6H, 3I67 Ribonuclease A by Classical vapour diffusion and LB nanotemplate method before and after high X-Ray dose exposure on ESRF ID14-2 beamline (released 2010-07-07)

3IJU, 3IJV Chicken Egg White Lysozyme by highly ordered APA (Anodic Porous Alumina) Nanotemplate crystallization method and Classical vapor diffusion method (released 2010-08-11)

### **International Publications:**

1. Pechkova E., Nicolini C. Accelerated protein crystal growth onto the protein thin film, *Journal of Crystal Growth* 231, 599-602, 2001.
2. Pechkova E., Nicolini C., Protein nucleation and crystallization by homologous protein thin film template, *Journal of Cellular Biochemistry* 85, 243-251, 2002
3. Pechkova E., Nicolini C., From art to science in protein crystallization by means of thin film technology, *Nanotechnology* 13, 460-464, 2002.
4. Troitsky, V., Ghisellini P., Pechkova E., Nicolini C., DNASER II. Novel surface patterning for biomolecular microarray, *IEEE Transaction on Nanobiosciences* 1, 73-77, 2002.
5. Pechkova E., Zanotti G., Nicolini C., Three-dimensional atomic structure of a catalytic subunit mutant of human protein kinase CK2, *Acta Crystallographica D* 59, 2133-2139. 2003.
6. Pechkova E., Nicolini C., Protein nanocrystallography: a new approach to structural proteomics, *Trends in Biotechnology* 22, 117-122, 2004.
7. Pechkova E., Nicolini C., Atomic structure of a CK2 $\alpha$  human kinase by Microfocus diffraction of extrasmall microcrystals grown with nanobiofilm template, *Journal of Cellular Biochemistry* 91, 1010-1020, 2004.
8. Nicolini C., Pechkova E., Nanocrystallography: an emerging technology for structural proteomics, *Expert Review of Proteomics* 1, 253-256, 2004.
9. Pechkova E., Tropiano G., Riekkel C., Nicolini C., Radiation stability of protein crystals grown by nanostructured templates: synchrotron microfocus analysis, *Spectrochimica Acta B* 59, 1687-1693, 2004.
10. Pechkova E., Sivozhelezov V., Tropiano G., Fiordoro S., Nicolini C., Comparison of lysozyme structures derived from thin-film-based and classical crystals, *Acta Crystallographica D* 61, 803-808, 2005.
11. Pechkova E., Fiordoro S., Fontani D., Nicolini C., Investigating crystal-growth mechanisms with and without LB template: protein transfer from LB to crystal, *Acta Crystallographica D* 61, 809-812, 2005.
12. Pechkova E., Nicolini C., Synchrotron radiation and nanobiosciences - introductory overview, *Journal of Synchrotron Radiation* 12, 711, 2005.
13. Pechkova E., Roth S.V., Burghammer M., Fontani D., Riekkel C., Nicolini C., microGISAXS and protein nanotemplate crystallization methods and instrumentation, *Journal of Synchrotron Radiation* 12, 713-716, 2005.

14. Pechkova E., Vasile F., Spera R., Fiordoro S., Nicolini C., Protein nanocrystallography growth mechanism and atomic structure of crystals induced by nanotemplates, *Journal of Synchrotron Radiation* 12, 772-778, 2005.
15. Nicolini C., Pechkova E., Structure and growth of ultrasmall protein microcrystals by synchrotron radiation: I microGISAXS and microdiffraction of P450<sub>scc</sub>, *Journal of Cellular Biochemistry* 97, 544-552, 2006.
16. Pechkova E., Nicolini C., Structure and growth of ultrasmall protein microcrystals by synchrotron radiation: II microGISAX and microscopy of lysozyme, *Journal of Cellular Biochemistry* 97, 553-560, 2006.
17. Sivozhelezov V., Pechkova E., Nicolini C., Mapping electrostatic potential of a protein on its hydrophobic surface: implications for crystallization of cytochrome P450<sub>scc</sub>, *J Theoretical Biology* 241, 73-80, 2006.
18. Nicolini C., Pechkova E., Nanostructured biofilms and biocrystals (a review), *J Nanoscience and Nanotechnology* 6, 2209-2236, 2006.
19. Siodmiak J., Gadomski A., Pechkova E., Nicolini C., Computer model of a lysozyme crystal growth with/without nanotemplate - a comparison, *International Journal of Modern Physics C* 17, 1359-1366, 2006.
20. Pechkova E., Innocenzi P., Malfatti L., Kidchob T., Gaspa L., Nicolini C., Thermal Stability of Lysozyme Langmuir-Schaefer Films by FTIR Spectroscopy, *Langmuir* 23, 1147-1151, 2007.
21. Pechkova E., Sivozhelezov V., Nicolini C., Protein thermal stability: the role of protein structure and aqueous environment, *Archives of Biochemistry and Biophysics* 466, 40-48, 2007.
22. Pechkova E., Sartore M., Giacomelli L., Nicolini C., Atomic force microscopy of protein films and crystals, *Review of Scientific Instruments* 78, 093704\_1-093704-7, 2007.
23. Vasile F., Pechkova E., Nicolini C., Atomic structure of the beta-subunit of the translation initiation factor Aif2 from *Archaeobacteria sulfobolus solfataricus*: high resolution NMR in solution, *Proteins: Structure, Function and Bioinformatics* 70, 1112-1115, 2008.
24. Sivozhelezov V., Braud C., Giacomelli L., Pechkova E., Giral M., Soullillou J.P., Brouard S., Nicolini C., Immunosuppressive drug-free operational immune tolerance in human kidney transplant recipient: II Non-statistical gene microarray analysis *Journal of Cellular Biochemistry* 103, 1693-1706, 2008.
25. Braud C., Baeten D., Giral M., Pallier A., Ashton-Chess J., Braudeau C., Chevalier C., Lebars A., Lèger J., Moreau A., Pechkova E., Nicolini C., Soullillou J.P., Brouard S., Immunosuppressive drug-free operational immune tolerance in human kidney transplant recipient: I. Blood gene expression statistical analysis, *Journal of Cellular Biochemistry* 103, 1681-1692, 2008.
26. Pechkova E., Vasile F., Spera R., Nicolini C., Crystallization of alpha and beta subunits of IF2 translation initiation factor from *Archaeobacteria Sulfobolus Solfataricus*, *Journal of Crystal Growth* 310, 3767-3770, 2008.
27. Nicolini C., Bruzzese D., Sivozhelezov V., Pechkova E., Langmuir-Blodgett based lipase nanofilms of unique structure-function relationship, *Biosystems* 94, 228-232, 2008.
28. Pechkova E., Tripathi S., Spera R., Nicolini C., Groel crystal growth and characterization, *Biosystems* 94, 223-227, 2008.
29. Sivozhelezov V., Bruzzese D., Pastorino L., Pechkova E., Nicolini C., Increase of catalytic activity of lipase towards olive oil by Langmuir film immobilization of lipase, *Enzyme and Microbial Technology* 44, 72-76, 2009.
30. Pechkova E., Tripathi S., Nicolini C., microGISAXS of LB protein films: effect of temperature on long range order, *Journal of Synchrotron Radiation* 16, 330-335, 2009.
31. Pechkova E., Tripathi S., Ravelli R.G., McSweeney S., Nicolini C., Radiation stability of proteinase K grown by LB nanotemplate method, *Journal of Structural Biology* 168, 409-418, 2009.

32. Nicolini C., Pechkova E., An overview of nanotechnology-based functional proteomics for cancer and cell cycle progression, *Anticancer Research* 30, 2073-2080, 2010.
33. Pechkova E., Gebhardt R., Riekel C., Nicolini C., In situ GISAXS: I. Experimental setup for submicron study of protein nucleation and growth, *Biophysical Journal* 99, 1256-1261, 2010.
34. Gebhardt R., Pechkova E., Riekel C., Nicolini C., In situ microGISAXS: II. Thaumatin crystal growth kinetic, *Biophysical Journal* 99, 1262-1267, 2010.
35. Nicolini C., Pechkova E., Nanoproteomics for nanomedicine, *Nanomedicine* 5, 677-682, 2010.
36. Pechkova E., Nicolini C., Domain organization and properties of LB lysozyme crystals down to submicron size, *Anticancer Research* 30, 2745-2748, 2010.
37. Jovanovic V., Giacomelli L., Sivozhelezov V., Degauque N., Lair D., Soullillou J.P., Pechkova E., Nicolini C., Brouard S., AKT1 leader gene and downstream targets are involved in a rat model of kidney allograft tolerance, *Journal of Cellular Biochemistry* 111, 709-719, 2010.
38. Nicolini C, Sivozhelezov V, Bavastrello V, Bezzerra T, Scudieri D, Spera R, Pechkova E. Matrices for Sensors from Inorganic, Organic, and Biological Nanocomposites. *Materials*. 2011;4(8):1483-1518.
39. Pechkova E, Nicolini C. In situ study of nanotemplate-induced growth of lysozyme microcrystals by submicrometer GISAXS. *J Synchrotron Radiat*. 2011 Mar;18(Pt 2): 287-92.
40. Racapé M, Bragazzi N, Sivozhelezov V, Danger R, Pechkova E, Duong Van Huyen JP, Soullillou JP, Brouard S, Nicolini C. SMILE silencing and PMA activation gene networks in HeLa cells: comparison with kidney transplantation gene networks. *J Cell Biochem*. 2012 Jun;113(6):1820-32.
41. Pechkova E, Scudieri D, Belmonte L, Nicolini C. Oxygen-bound Hell's gate globin I by classical versus LB nanotemplate method. *J Cell Biochem*. 2012 Jul;113(7):2543-8.
42. Bragazzi NL, Pechkova E, Scudieri D, Terencio TB, Adami M, Nicolini C. Recombinant laccase: II. Medical biosensor. *Crit Rev Eukaryot Gene Expr*. 2012;22(3):197-203.
43. Belmonte L, Pechkova E, Tripathi S, Scudieri D, Nicolini C. Langmuir-Blodgett nanotemplate and radiation resistance in protein crystals: state of the art. *Crit Rev Eukaryot Gene Expr*. 2012;22(3): 219-32.
44. Nicolini C, Bragazzi N, Pechkova E. Nanoproteomics enabling personalized nanomedicine. *Adv Drug Deliv Rev*. 2012 Oct;64(13):1522-31.
45. Pechkova E, Sivozhelezov V, Belmonte L, Nicolini C. Unique water distribution of Langmuir- Blodgett versus classical crystals. *J Struct Biol*. 2012 Oct;180(1):57-64.
46. Nicolini C, Bezerra T, Pechkova E. Protein nanotechnology for the new design and development of biocrystals and biosensors. *Nanomedicine (Lond)*. 2012 Aug;7(8):1117-20.
47. Nicolini C, Adami M, Sartore M, Bragazzi NL, Bavastrello V, Spera R, Pechkova E. Prototypes of newly conceived inorganic and biological sensors for health and environmental applications. *Sensors (Basel)*. 2012 Dec 12;12(12):17112-27.
48. Nicolini C, Bruzzese D, Cambria MT, Bragazzi NL, Pechkova E. Recombinant laccase: I. Enzyme cloning and characterization. *J Cell Biochem*. 2013 Mar;114(3):599-605.
49. Nicolini C, Correia TB, Stura E, Larosa C, Spera R, Pechkova E. Atomic force microscopy and anodic porous alumina of nucleic acid programmable protein arrays. *Recent Pat Biotechnol*. 2013 Aug;7(2):112-21.
50. Nicolini C, Spera R, Festa F, Belmonte L, Chong S, LaBaer J, Pechkova E. Mass Spectrometry and Fluorescence Analysis of Snap-Nappa Arrays Expressed Using E. coli Cell-Free Expression System. *J Nanomed Nanotechnol*. 2013; 4 (5): 181.

51. Pechkova E, Belmonte L, Riekkel C, Popov D, Koenig C, Nicolini C. Laser-Microdissection of Protein Crystals Down to Submicron Dimensions. *J Nanomed Nanotechnol.* 2013;S15:002.
52. Nicolini C, Belmonte L, Maksimov G, Brazhe N, Pechkova E. In situ Monitoring By Raman Spectroscopy of Lysozyme Conformation during “Nanotemplate” Induced Crystallization. *J Microb Biochem Technol.* 2013;6(1):009-016.
53. Nicolini C, Bragazzi NL, Pechkova E. From Nanobiotechnology to Organic and Biological Monitoring of Health and Environment for Biosafety. *J Bioanal Biomed* 2013;5(4):108-117
54. Spera R, Festa F, Bragazzi NL, Pechkova E, LaBaer J, Nicolini C. Conductometric monitoring of protein-protein interactions. *J Proteome Res.* 2013 Dec 6;12(12):5535-47.
55. Spera R, Vasile F, Pechkova E, Nicolini C. Correlation of Changes of Cho–K1 Cells Metabolism to Changes in Protein Expression in Camp Differentiation. *Altern Integ Med.* 2013;2 (1):105.
56. Nicolini C, Bragazzi NL, Pechkova E, Lazzari R. Ab Initio Semi- Quantitative Analysis of Micro- Beam Grazing-Incidence Small-Angle X-Ray Scattering (M-GISAXS) during Protein Crystal Nucleation and Growth. *J Proteomics Bioinform.* 2014;7(2):064-070.
57. Bragazzi NL, Spera R, Pechkova E, Nicolini C. NAPPA-Based Nanobiosensors for the Detection of Proteins and of Protein-Protein Interactions Relevant to Cancer. *J Carcinog & Mutagen.* 2014;5(3): 166.
58. Nicolini C, Belmonte L, Riekkel C, Koenig C, Pechkova E. Langmuir-blodgett nanotemplate crystallization combined to laser-microfragmentation uniquely characterize proteins crystals by synchrotron microdiffraction. *Am. J. Biochem. Biotechnol.* 2014;10(1): 22-30.
59. Nicolini C, Spera R, Bragazzi N, Pechkova E. Drug-protein interactions for clinical research by NAPPA QCM\_D nanoconductimetric assay. *Am. J. Biochem Biotechnol.* 2014; 10 (3):189-201
60. Pechkova E, Maksimov G, Parshina E, Maksimov E, Kutuzov N, Brazhe N, Tarasova I, Fiordoro S, Nicolini C. Raman spectroscopy of protein crystal nucleation and growth. *Am. J. Biochem. Biotechnol.* 2014; 10 (3): 202-207.
61. Wright JP, Pechkova E, Nicolini C. Synchrotron powder diffraction study of radiation damage in Langmuir-Blodgett nanotemplate crystallised protein. *Am. J. Biochem. Biotechnol.* 2014, 10 (3): 162-168.
62. Bozdaganyan ME, Orekhov PS, Bragazzi NL, Panatto D, Amicizia D, Pechkova E, Nicolini C, Gasparini R. Docking and Molecular Dynamics (MD) simulations in potential drugs discovery: An application to influenza virus M2 protein. *Am. J. Biochem. Biotechnol.* 2014,10 (3): 180-188.
63. Nicolini C and Pechkova E. New trends in protein nanocrystallography based on LB nanotemplate, cell free expression, SNAP APA and Montecarlo: A Review. *J Microb Biochem Technol* 2014; 6(7): 366-369
64. Bragazzi NL, Spera R, Pechkova E, Nicolini C. NAPPA-Based Nanobiosensors for the Detection of Proteins and of Protein-Protein Interactions Relevant to Cancer. *J Carcinog & Mutagen* 2014; 5(3): 166.
65. Pechkova, E, Fiordoro, S., Barbieri F. and Nicolini C, The role of Langmuir-Blodgett (LB) protein thin film in protein crystal growth by LB nanotemplate and robot. *J Nanomed Nanotechnol,* 2014; 5 (6):247.
66. Bozdaganyan M, Bragazzi N, Pechkova E, Shaitan K, Nicolini C. Identification of best protein crystallization methods by Molecular Dynamics. *Crit Rev Eukaryot Gene Expr.* 2014;24(4): 311-24
67. Pechkova E, Bragazzi N, Bozdaganyan M, Belmonte L, Nicolini C. A review of the strategies for obtaining high quality crystals utilizing nanotechnologies and microgravity. *Crit Rev Eukaryot Gene Expr.* 2014;24(4): 325-39



68. Nicolini C, Spera R, Pechkova E (2015) SpADS and SNAP-NAPPA Microarrays towards Biomarkers Identification in Humans: Background Subtraction in Mass Spectrometry with E.coli Cell Free Expression System. *J Mol Biomark Diagn.* 2015, 6:214.
69. Pechkova E, Bragazzi N, Fiordoro S and Nicolini C, Langmuir-Blodgett (LB)-based Nanobiocrystallography at the Frontiers of Cancer Proteomics. *Anticancer Research*, 2015, 35 (2): 827-834
70. Eugenia Pechkova and Claudio Nicolini, LB Based Nanocrystallography at the Frontiers of Cancer Proteomics, *Anticancer Research*, 2014, Vol. 34, 10, 6107
71. Nicolini C and Pechkova E, Determination of protein-protein interaction for cancer control via Mass Spectrometry and Conductimetry of NAPPA-SNAP microarrays. *Anticancer Research* 2014, Vol. 34, 10, 6081-6082
72. Nicolini C, Bragazzi N, Pechkova E, Nanongenomics and Nanoproteomics for personalized nanotheranostics for oral and colorectal cancer. Invited Editorial to *Personalized Medicine*, 2016, Vol. 13, 9-11.
73. Nicolini C, Wright J and Pechkova E, Synchrotron Diffraction of Multilayered LS PGA Film after Heating and Cooling, *NanoWorldJ* 2015, 1(1): 4-8
74. Bragazzi N, Pechkova E, Nicolini C, NAPPA-Based Vaccines for a New Proteogenomics Approach for Public Health, *NanoWorld Journal*, 2015, 1 (1), 18-25
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#### Note

The 12.10.2005, prot.N246/c the Consulate of the Russian Federation in Genoa declares that the Russian citizen Pechkova Eugenia, born 24.05.1976, ex-holder of the passport 44N4498491 (URSS type) e Peshkova Evgeniya born 24.05.1976, holder of the passport 51N2848028 (Russian Federation type), are the same physical person. The modifications have been made in compliance with the legislation of the Russian Federation and are due to change of the transcription (English instead of French) from Cyrillic alphabet