CURRICULUM VITAE

Name: **Anton V. Persikov**

Present Title:
Associate Research Scholar

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Citizenship:
Russian Citizen
U.S.A. permanent resident

Education:

Moscow State University	B.S. and M.S.	1994	Physics
Institute of Developmental Biology of Russian Academy of Sciences	Ph.D.	1999	Biophysics and Physiology

Professional Experience:

2006 – present	Associate Research Scholar, Lewis-Sigler Institute for Integrative Genomics, Princeton University.
2004 – 2006	Adjunct Assistant Professor of Biochemistry, University of Medicine and Dentistry of New Jersey, Robert-Wood Johnson Medical School.
2002 - 2004	Research Teaching Specialist III, Department of Biochemistry, University of Medicine and Dentistry of New Jersey, Robert-Wood Johnson Medical School.
1999 - 2002	Postdoctoral Fellow, Department of Biochemistry, University of Medicine and Dentistry of New Jersey, Robert-Wood Johnson Medical School. Advisor: Dr. Barbara Brodsky.
1998 - 1999	Junior Research Associate, Biophysics Lab, Institute of Developmental Biology, Russian Academy of Sciences, Russia. Advisor: Dr. Nikolai D. Ozernyuk.
1994 - 1998	Senior Lab Technician, Biophysics Lab, Institute of Developmental Biology, Russian Academy of Sciences, Russia. Advisor: Dr. Nikolai D. Ozernyuk.
1990 - 1993	Lab Technician, Biomagnetism Lab, Department of Magnetism, Physics Faculty, Moscow State University, Russia. Advisor: Dr. Alexander N. Shalygin.

Professional Organizations:
Biophysical Society member
International Society for Computational Biology member

Honors and Awards:

2005	Fellowship, National Organization for Rare Disorders
2003	Michael Geisman Research Fellowship, Osteogenesis Imperfecta Foundation
1997	Award of Excellence, Conference for Young Scientists, Russian Academy of Sciences
1987	First Award on Moscow Region Mathematical Competition, Moscow State University

Patents: Patent pending: "Triple helical constructs"

Invited Talks:

June 2001: Seminar, NICHD, Lab of Physical & Structural Biology, NIH, Bethesda, MD.

July 2001: Invited speaker, Collagen Gordon Research Conference, Colby-Sawyer College, New London, NH.

June 2002: Seminar, Department of Biochemistry, McMaster University, Hamilton, ON, Canada.

October 2004: Seminar, Department of Medicine, Robert Wood Johnson Medical School, UMDNJ, New Brunswick, NJ.

June 2005: Invited speaker, International Conference on Osteogenesis Imperfecta, Annapolis, MD.

September 2005: Oral talk, International Workshop on Coiled-Coils, Collagen & Co-Proteins, Alpbach, Austria.

October 2005: Seminar, Institute of Medical Technology, University of Tampere, Tampere, Finland.

November 2005: Seminar, Department of Physics, Oakland University, Rochester, MI.

March 2006: Seminar, Biochemistry Department, School of Dental Medicine, University of Pennsylvania Philadelphia, PA.

Other Responsibilities:

Supervisor of Differential Scanning Calorimetry Facility at UMDNJ (2001 – 2006)

Scientific Reviewing Experience:

Journal of Biological Chemistry, Journal of Theoretical Biology, Human Mutation, Biopolymers, BMC Structural Biology, Journal of Chemical Information and Modeling, Biomechanics and Modeling in Mechanobiology, BioTechniques, Protein & Peptide Letters, International Journal of Biological Macromolecules.

Grant Participation and Support:

2001-2002 NIH Shared Instrumentation Grant, P.I. B. Brodsky, "Microcalorimetry facility", Role: Technical supervisor

2003-2005 Michael Geisman Research Fellowship from O.I. Foundation, "Bioinformatics and peptide approaches to the molecular basis of osteogenesis imperfecta", Role: P.I.

2004-2005 NIH R01 GM60048 Grant, P.I. B. Brodsky, "Structural Studies of Triple-Helical Peptides", Role: Acting P.I.

2005-2007 National Organization for Rare Disorders, "Establishing molecular basis of Ehlers-Danlos Syndrome by bioinformatics and biophysics approaches", Role: P.I.

Teaching Experience:

1999-2005 Mentoring experience for 6 undergraduate students

2003-2004 G.H.Cook Honor Thesis Advisor and reviewer, Rutgers University

2004-2006 Teaching Biochemistry – Small Group Discussions for the first-year medical students, Robert Wood Johnson Medical School, UMDNJ

Developing algorithm, programming and websites:

Collagen Stability Calculator allows calculation of collagen thermal stability from its amino acid sequence: http://compbio.cs.princeton.edu/csc/ (older version at UMDNJ http://php.umdnj.edu/~ccalcapp/)
SVM-based webtool allows predicting DNA binding sites by C_2H_2 Zinc Finger transcription factors: http://compbio.cs.princeton.edu/zf/

Peer Reviewed Publications:

Persikov A.V., Osada R., Singh M. (2009) "Predicting DNA recognition by Cys_2His_2 zinc finger proteins". *Bioinformatics*., **25** (1): 22-29.

Cabral W.A., Makareeva E., Letocha A., Scribanu N., Fertala A., Steplewski A., Keene D.R., Persikov A.V., Leikin S., Marini J.C. (2007) "Y-position cysteine substitution in type I collagen (α(I) R888C/p.R1066C) is associated with Osteogenesis Imperfecta/Ehlers-Danlos syndrome phenotype". *Hum. Mutat.*, **28** (4): 396-405.

Kar K., Amin P., Bryan M.A., Persikov A.V., Mohs A., Wang Y.H., Brodsky B. (2006) "Self-association of collagen triple helix peptides into higher order structures". *J. Biol. Chem.*, **281** (44): 33283-33290.

Persikov A.V., Ramshaw J.A.M., Brodsky B. (2005) "Prediction of collagen stability from amino acid sequence". *J. Biol. Chem.*, **280** (19): 19343-19349.

Persikov A.V., Ramshaw J.A.M., Kirkpatrick A., Brodsky B. (2005) "Electrostatic interactions involving lysine make major contributions to collagen triple-helix stability". *Biochemistry* **44** (5): 1414-1422.

Persikov A.V., Pillitteri R.J., Amin P.A., Schwartze U., Byers P., Brodsky B. (2004) "Stability Related Bias in Residues Replacing Glycines within the Collagen Triple Helix (Gly-Xaa-Yaa) in Inherited Connective Tissue Disorders". *Hum. Mutat.* **24** (3): 330-337.

Persikov A.V., Xu, Y., Brodsky B. (2004) "Equilibrium thermal transitions of collagen model peptides". *Prot. Sci.* **13** (4): 893-902.

Persikov A.V., Ramshaw J.A.M., Kirkpatrick A., Brodsky B. (2003) "Triple-helix propensity of hydroxyproline and fluoroproline: comparison of host-guest and repeating tripeptide collagen models". *J. Am. Chem. Soc.* **125** (38): 11500-11501.

Simon-Lukasik K.V., Persikov A.V., Brodsky B., Ramshaw J.A.M., Laws W.R., Ross J.B.A., Ludescher R.D. (2003) "Fluorescence Determination of Tryptophan Side Chain Accessibility and Dynamics in Triple-Helical Collagen-Like Peptides". *Biophys. J.* **84** (1): 501-508.

Persikov A.V., Brodsky B. (2002) "Unstable molecules form stable tissues". *Proc. Natl. Acad. Sci. U.S.A.* **99** (3): 1101-1103.

Persikov A.V., Ramshaw J. A. M., Kirkpatrick A., Brodsky B. (2002) "Peptide investigations of pairwise interactions in the collagen triple-helix." *J. Mol. Biol.* **316** (2): 385-394.

Persikov A.V., Ramshaw J. A. M., Kirkpatrick A., Brodsky B. (2000) "Amino acid propensities for the collagen triple-helix." *Biochemistry* **39** (48): 14960-14967.

Kalistratova E.N., Nemirovskaja I.E., Persikov A.V., Protserov A., Yuryev P. (2000) "Heat capacity values of 1% aqueous dispersions for native maize starches with different amylose content." *Starch-Starke* **52** (5): 164-167.

Kalistratova E.N., Persikov A.V., Danilenko A.N., Protserov A., Yuryev P. (1999) "The generalized heat capacity amylose content function for barley and maize starches." *Starch-Starke* **51** (5): 160-162.

Persikov A.V., Danilenko A.N., Klyachko O.S., Ozernyuk N.D. (1999) "Comparative study of conformational stability of lactate dehydrogenase from loach skeletal muscles, adapted to different temperatures, using differential scanning microcalorimetry." *Biophysics* **44** (1): 32-37.

Danilenko A.N., Persikov A.V., Polosukhina E.S., Klyachko O.S., Esipova N.G., Ozernyuk N.D. (1998) "Thermodynamic properties of lactate dehydrogenase from muscles of fishes adapted to different environmental temperatures." *Biophysics* **43** (1): 26-30.

Klyachko O.S., Polosukhina E.S., Persikov A.V., Ozernyuk N.D. (1995) "Kinetic differences in fish lactate dehydrogenase on temperature adaptation." *Biophysics* **40** (3): 495-500.

Reviews:

Brodsky B. and Persikov A.V. (2005) "Molecular structure of the collagen triple helix". *Adv. Prot. Chem.*, **70**: 301-339.

Persikov A.V., Ramshaw J.A.M., Brodsky B. (2000) "Collagen model peptides: Sequence dependence of triple-helix stability." *Biopolymers (Peptide Science)* **55** (6): 436-450.

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