BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format on preceding page for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE
Alexandre V. Morozov	Assistant Professor
eRA Commons User Name ALEXMOZ	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Rostov State University, Rostov-on-Don, Russia	Diploma (M. Sc.)	1995	Physics
University of Washington, Seattle	M. Sc.	1997	Physics
University of Washington, Seattle	Ph. D.	2003	Physics
University of Washington, Seattle	Postdoc	2003	Biophysics
Rockefeller University, New York	Postdoc	2003-2007	Biophysics

A. Positions and Honors

Professional Positions

1993-95 *Diploma thesis research* in the Laboratory of Prof. Vedrinskii R.V., Rostov State University, Rostov-on-Don, Russia
1996-99 *Graduate Teaching Assistant*, Department of Physics, University of Washington, Seattle, WA
1999-03 *Predoctoral Research Assistant* in the Laboratory of D. Baker, HHMI, University of Washington, Seattle, WA
2003 *Postdoctoral Fellow* in the laboratory of D.Baker, HHMI, University of Washington, Seattle, WA
2003-07 *Postdoctoral Fellow* in the laboratory of E.D.Siggia, Rockefeller University, New York, NY
2007-08 *Visiting Professor,* Center for Studies in Physics & Biology, Rockefeller University, New York, NY
2007-present *Assistant Professor*, Department of Physics & Astronomy and the BioMaPS Institute for Quantitative Biology, Rutgers University, Piscataway, NJ

Awards/Honors

- J. Soros Undergraduate Student Stipend (1994-1995)
- Leukemia and Lymphoma Society Postdoctoral Fellowship (2005-2008)
- Alfred P. Sloan Research Fellowship (2009-2011)
- BioMaPS Summer School co-organizer (2008)
- Reviewer for various journals including *Genome Biology, Nucleic Acids Research, BMC Structural Biology, Journal of Physical Chemistry, Physical Review Letters, Physical Review, Proteins: Structure, Function and Bioinformatics.*
- Reviewer for Horizon Breakthrough grants, Netherlands Genomics Initiative.

B. Publications

1. Vedrinskii, R.V., Taranukhina, A.I., Bugaev, L.A., Kraizman, V.L., **Morozov, A.V.**, Wendland, C., Hasselkaml, D., Scharmann, A. (1996), "Bond Length Determination for Transition Atoms by Shallow Level EELFS", Surface Science, 352-354, 32–35.

2. **Morozov, A.V.** (2002). "Two-frequency Mutual Coherence Function of Electromagnetic Waves in Random Media: A Path-integral Variational Solution", J. Opt. Soc. Am. A, 19 (10), 2074–2084.

3. Alm, E.*, **Morozov, A.V.***, 1 Kortemme, T. & Baker, D. (2002), “Simple Physical Models Connect Theory and Experiment in Protein Folding Kinetics”, J. Mol. Biol., 322, 463–476.

4. Kortemme, T., **Morozov, A.V.** & Baker, D. (2003), “An Orientation-dependent Hydrogen Bonding Potential Improves Prediction of Specificity and Structure for Proteins and Protein-protein Complexes”, J. Mol. Biol., 326, 1239–1259.

5. **Morozov, A.V.**, Kortemme, T. & Baker, D. (2003), “Evaluation of Models of Electrostatic Interactions in Proteins”, J. Phys. Chem. B, 107, 2075–2090.

6. Gray, J.J., Moughon, S., Kortemme, T., Schueler-Furman, O., Misura, K., **Morozov, A.V.** & Baker, D. (2003), “Protein-protein Docking Predictions for the CAPRI Experiment”, Proteins: Str., Func., Gen., 52, 118-122.

7. Tsai, J., Bonneau, R., **Morozov, A.V.**, Kuhlman, B., Rohl, C.A. & Baker, D. (2003), “An Improved Protein Decoy Set for Testing Energy Functions for Protein Structure Prediction”, Proteins: Str., Func., Gen., 53, 76-87.

8. **Morozov, A.V.**, Misura, K., Tsemekhman, K. & Baker, D. (2004), “Comparison of Quantum Mechanics and Molecular Mechanics Dimerization Energy Landscapes for Pairs of Ring-containing Amino Acids in Proteins”, J. Phys. Chem. B, 108, 8489-8496.

9. **Morozov, A.V.**, Kortemme, T., Tsemekhman, K. & Baker, D. (2004), “Close Agreement Between the Orientation Dependence of Hydrogen Bonds Observed in Protein Structures and Quantum Mechanical Calculations”, Proc. Nat. Acad. Sci., 101, 6946--6951.

10. Misura, K., **Morozov, A.V.** & Baker, D. (2004), “Analysis of Anisotropic Side-chain Packing in Proteins and Application to High-resolution Structure Prediction”, J. Mol. Biol., 342, 651-664.

11. **Morozov, A.V.** & Kortemme, T. (2005), “Potential Functions for Hydrogen Bonds in Protein Structure Prediction and Design”, Adv. Prot. Chem., 72, 1-38.

12. **Morozov, A.V.**, Havranek, J.J., Baker, D. & Siggia, E.D. (2005), “Protein-DNA Binding Specificity Predictions with Structural Models”, Nucl. Acids Res., 33, 5781-5798.

13. **Morozov, A.V.**, Tsemekhman, K. & Baker, D. (2006), “Electron Density Redistribution Accounts for Half the Cooperativity of α Helix Formation”, J. Phys. Chem. B Lett., 110, 4503-4505.

14. Foat, B.C., **Morozov, A.V**. & Bussemaker, H.J. (2006), “Statistical Mechanical Modeling of Genome-wide Transcription Factor Occupancy Data by MatrixREDUCE”, Bioinformatics, 22, e141-e149.

15. **Morozov, A.V**. & Siggia, E.D. (2007), “Connecting Protein Structure with Predictions of Regulatory Sites”, Proc.Nat.Acad.Sci., 104, 7068-7073.

16. **Morozov, A.V.** & Uscinski, B.J. (2008), “A Hierarchy of Approximate Solutions for the Fourth Moment of Waves in Random Media”, to be submitted.

17. **Morozov, A.V.**, Fortney, K., Gaykalova, D.A., Studitsky, V.M., Widom, J. & Siggia, E.D. (2008), “Extrinsic and Intrinsic Nucleosome Positioning Signals”, arXiv:0805.4017.

18. Zawadki, K.A., **Morozov, A.V.** & Broach J.R. (2009), "Transcription factor accessibility rather than nucleosome remodeling predominates during global transcriptional restructuring in S.cerevisiae", submitted.

19. Haq, O., Levy, R.M., **Morozov, A.V.** & Andrec, M. (2009), "Pairwise and higher-order correlations among drug-resistance mutations in HIV-1 subtype B protease", submitted.

20. **Morozov, A.V.**, Fortney, K., Gaykalova, D.A., Studitsky, V.M., Widom, J. & Siggia, E.D. (2009), "Using DNA mechanics to predict *in vitro* nucleosome positioning", submitted.

C. Research Support

- National Institutes of Health (NIH) R01 HG004708 - A. Morozov (PI) 02.2009 - 02.2013

"Biophysical Models for Prediction and Design of Eukaryotic Chromatin Structure"

Role: Principal Investigator

- Alfred P. Sloan Research Fellowship 02.2009 - 02.2011