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PhD student at the Faculty of Biology, Lomonosov Moscow State University.

**Date of birth** 1.12.1990

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### **Topic**

Liquid sample delivery for XFEL: simulations of a protein solution nanodroplet evaporation.

### **Supervisor**

Konstantin Shaitan, Full professor, deputy head of Chair of Bioengineering at the Faculty of Biology, Lomonosov Moscow State University.

### **Education**

Moscow State University, Faculty of Biology, Bioengineering Department Specialist of Biophysics; graduated in July 2014 Thesis: "Revealing principles of nucleosome formation via molecular modeling"

### **Qualifications Summary**

Interdisciplinary research experience in molecular modeling and biological sciences. Knowledge in programming languages and applications for scientific programming and system administration obtained through both academic and extracurricular pursuits. Job experience with work on HPC clusters.

### **Work Experience**

Undergraduate Researcher, October 2010 to December 2014, Junior Researcher December 2014 to present. Moscow State University, Faculty of Biology, Bioengineering Department Performed research under Ph.D Alexey Shaytan on atomistic computer simulations of nucleosomes and elongation complexes. The research was funded by RFBR grant 12-04-31942.

### **Computer Experience**

Programming Languages –C/C++, Python, tcl, Bash  
Scientific Applications–GROMACS, NAMD, VMD, Chimera, 3DNA, FreeCAD  
OS–UNIX V, GNU/Linux, BSD.  
Designed and maintained HPC Beowulf clusters.

### **Current and finished projects**

Supercomputer simulations of structure and dynamics of nucleosomes, funded by RFBR grant 12-04-31942.

Liquid sample delivery for XFEL: simulations of a protein solution nanodroplet evaporation.

Modeling of experiments on determining the structure of proteins based on diffraction of ultrashort X-ray laser pulses on nanocrystals of different sizes, funded by RFBR grant 14-04-31608.

Development of 3D Printer for biocompatible polymers, funded by FAISE grant 2371ГY1/2014.

### **Honors and awards**

MSU NVIDIA CUDA Center of Excellence 2013 award

Laureate UMNİK Program, Foundation for Assistance to Small Innovative Enterprises (FASIE), 2014

### **Research interests**

Molecular dynamics simulations of polymers and biopolymers. Basic principles and free energy calculations.

Structure and function of nucleosomes and elongation complexes

Interactions of biomolecules with an X-ray laser radiation.

### **Selected publications:**

G. A. Armeev, K. V. Shaitan, and A. K. Shaitan, *Molecular Dynamics Study of the Ionic Environment and Electrical Characteristics of Nucleosomes*, Moscow University Biological Sciences Bulletin, 2015, Vol. 70, No. 4, pp. 173–176. © Allerton Press, Inc., 2015.

G. A. Armeev, K. V. Shaitan, and A. K. Shaitan, *Conformational Flexibility of Nucleosomes: A Molecular Dynamics Study*, Moscow University Biological Sciences Bulletin, 2015, Vol. 70, No. 3, pp. 147–151. © Allerton Press, Inc., 2015.