BIG GENETIC DATA MANAGEMENT FOR TRANSLATIONAL BIOSCIENCES AND CLINICAL ONCOLOGY

Moscow Institute of Physics and Technology (National Research University)

Degree or qualification is awarded: **PhD (Candidate of Science)**

Language of study: **English**
Mode of study: **full-time**
Duration: **4 years**
Availability of free education: **yes**
Price: **375 000 RUB**

Programme webpage at the university website:
https://eng.mipt.ru/programs/big-genetic-data-management-for-translational-biosciences-and-clinical-oncology/

Programme curator: **Denis Ustyuzhaninov**
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Research supervisor:
Anton Buzdin
PhD, DSc

Supervisor's research interests:
We try to crosslink complex genomic and transcriptomic patterns with human pathology to develop new generation of molecular diagnostic tests. Our primary expertise is within oncology where we developed several platforms predicting cancer drug efficacies using molecular pathway activation data deduced using patient's high throughput molecular profiles.

Research highlights:
Most of our projects are international collaborations with the top biomedical institutes in all around the world. We believe a good student project in our field should lead to a paper in a highly ranked journal or two.

Supervisor's specific requirements:

- Skills in wet-lab work OR programming.
- Good knowledge of molecular biology and genetics OR expertise in AI/ML applications.
- Excellent communication and text writing skills.
- Enthusiastic and creative.

Main publications:

- Buzdin A, Sorokin M, Garazha A, Glusker A, Aleshin A, Poddubskaya E, et al. RNA sequencing for research and diagnostics in clinical oncology. Semin Cancer Biol 2020;60:311-23. https://doi.org/10.1016/j.semcancer.2019.07.010
- Suntsova M, Gaifullin N, Allina D, Reshetun A, Li X, Mendeleeva L, et al. Atlas of RNA sequencing profiles for normal human tissues. Scientific Data 2019;6:36. https://doi.org/10.1038/s41597-019-0043-4
- Zolotovskaia MA, Tkachev VS, Seryakov AP, Kuzmin DV, Kamashev DE, Sorokin MI, et al. Mutation Enrichment and Transcriptomic Activation Signatures of 419 Molecular Pathways in Cancer. Cancers (Basel) 2020;12. https://doi.org/10.3390/cancers12020271

Specializations within this programme