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Scientific interests

- 1) The mathematical modelling of immune processes; prediction of immune response with chemoinformatic methods
- 2) Epigenetic changes in obesity and diabetes mellitus, epigenatures of monogenic diseases

Selected Recent Publications

- 1) **Smirnov AS**, Rudik AV, Filimonov DA, Lagunin AA. TCR-Pred: A new web-application for prediction of epitope and MHC specificity for CDR3 TCR sequences using molecular fragment descriptors. *Immunology*. 2023; 169(4): 447–453. <https://doi.org/10.1111/imm.13641>
- 2) Anton Zadorozhny, **Anton Smirnov**, Dmitry Filimonov, Alexey Lagunin, Prediction of pathogenic single amino acid substitutions using molecular fragment descriptors, *Bioinformatics*, Volume 39, Issue 8, August 2023, btad484, <https://doi.org/10.1093/bioinformatics/btad484>
- 3) Zemlianaia OA, Kalinkin AI, Tanas AS, Efremova AV, Volodin IV, Ismagilova OR, **Smirnov AS**, Zaletaev DV, Nemtsova MV, Kutsev SI, et al. DNA Methylation at a Single Locus of Human Genome Accurately Recapitulates Episignature of CREBBP-Related Rubinstein–Taybi Syndrome. *International Journal of Molecular Sciences*. 2025; 26(18):9183. <https://doi.org/10.3390/ijms26189183>
- 4) Panchenko E, Semenova N, Sereda O, Guseva D, Markova Z, Shilova N, Simonova O, **Smirnov A**, Pustoshilov D, Khalilova A, et al. Clinical and Molecular Presentation of a Patient with Paternal Uniparental Isodisomy of Chromosome 16. *International Journal of Molecular Sciences*. 2025; 26(17):8521. <https://doi.org/10.3390/ijms26178521>