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Адрес

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Контакты

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Образование

1970– 2007	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), Биологический факультет	Присвоено ученое звание профессора по специальности «биофизика».
1970– 1999	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), Биологический факультет	Диплом доктора физико-математических наук (тема диссертации: «Молекулярное моделирование мембрано- связанных участков белков и пептидов»)
1970– 1986	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), Биологический факультет	Диплом кандидата физико-математических наук (тема диссертации: «Топография и микроокружение хромофоров в бактериальном и зрительном родопсинах (спектроскопия комбинационного рассеяния света и квантовохимические расчеты)»)
1977– 1983	Россия, Москва	Московский инженерно- физический институт (МИФИ), Факультет экспериментальной и теоретической физики	Диплом с отличием (тема: «Математические методы определения вторичной структуры белков и полипептидов на основании спектров КР и полуэмпирических расчетов»)

Работа в ИБХ

2018–наст.вр.	Главный научный сотрудник
2018–наст.вр.	Ведущий научный сотрудник
2021–наст.вр.	Заместитель директора по науке

Членство в советах и комиссиях ИБХ

Методическая комиссия
Диссертационный совет
Ученый совет
Аттестационная комиссия

Членство в сообществах

Член редколлегии журналов «Биоорганическая химия», Москва; «The Open Structural Biology Journal», «The Open Bioinformatics Journal».

Член Ученого Совета ИБХ РАН.

Член специализированных диссертационных советов (МГУ, ГУ НИИ БМХ РАМН).

Степени и звания

Профессор

Доктор наук (Физико-математические науки, 03.00.02 — Биофизика)

Гранты и проекты

2023– наст.вр. [Молекулярно-биофизическая платформа для изучения мембранных белков: роль олигомеризации и белок-липидных взаимодействий](#)

2018– 2022 [Молекулярно-биофизические аспекты олигомеризации мембранных доменов рецепторов, определяющие клеточную сигнализацию в норме и онкогенезе](#)

2018– 2021 [Управление димеризацией сиалидазы NEU1 как перспективный подход к лечению атеросклероза](#)

2019– 2021 [Динамический «молекулярный портрет» клеточной мембраны и его биологическая роль](#)

2019– 2022 [Структурная биология мембранных белков для создания новых лекарственных и диагностических средств](#)

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2. Veretenenko II, Trofimov YA, Krylov NA, **Efremov RG** (2024). Nanoscale lipid domains determine the dynamic molecular portraits of mixed DOPC/DOPS bilayers in a fluid phase: A computational insight. *BIOCHIM BIOPHYS ACTA* 1866 (7), 184376, [10.1016/j.bbamem.2024.184376](#)
3. Polyansky AA, **Efremov RG** (2024). Transmembrane Domains of Bitopic Proteins as a Key to Understand the Cellular Signaling (A Review). *Russ. J. Bioorganic Chem.* 50 (4), 1202–1214, [10.1134/S1068162024040095](#)
4. Serebrennikova M, Grafaskaia E, Maltsev D, Ivanova K, Bashkirov P, Kornilov F, Volynsky P, **Efremov R**, Bocharov E, Lazarev V (2024). TripleP-CPP: Algorithm for Predicting the Properties of Peptide Sequences. *Int J Mol Sci* 25 (13), 6869, [10.3390/ijms25136869](#)
5. Trofimov YA, Krylov NA, Minakov AS, Nadezhdin KD, Neuberger A, Sobolevsky AI, **Efremov RG** (2024). Dynamic molecular portraits of ion-conducting pores characterize functional states of TRPV channels. *Communications Chemistry* 7 (1), 119, [10.1038/s42004-024-01198-z](#)
6. Lohan S, Konshina AG, Tiwari RK, **Efremov RG**, Maslennikov I, Parang K (2024). Broad-Spectrum Activity of Membranolytic Cationic Macrocyclic Peptides Against Multi-Drug Resistant Bacteria and Fungi. *Eur J Pharm Sci* 197, 106776, [10.1016/j.ejps.2024.106776](#)
7. Karnaukhov VK, Shcherbinin DS, Chugunov AO, Chudakov DM, **Efremov RG**, Zvyagin IV, Shugay M (2024). Structure-based prediction of T cell receptor recognition of unseen epitopes using TCren. *NAT COMPUT SCI* 4, 510–521, [10.1038/s43588-024-00653-0](#)
8. El-Mowafi SA, Konshina AG, Mohammed EHM, Krylov NA, **Efremov RG**, Parang K (2023). Structural Analysis and Activity Correlation of Amphiphilic Cyclic Antimicrobial Peptides Derived from the [W4R4] Scaffold. *Molecules* 28 (24), 8049, [10.3390/molecules28248049](#)

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10. Aliper ET, **Efremov RG** (2023). Inconspicuous Yet Indispensable: The Coronavirus Spike Transmembrane Domain. *Int J Mol Sci* 24 (22), 16421, [10.3390/ijms242216421](https://doi.org/10.3390/ijms242216421)
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13. Polyansky AA, Gallego LD, **Efremov RG**, Köhler A, Zagrovic B (2023). Protein compactness and interaction valency define the architecture of a biomolecular condensate across scales. *Elife* 12, , [10.7554/eLife.80038](https://doi.org/10.7554/eLife.80038)
14. Neuberger A, Trofimov YA, Yelshanskaya MV, Nadezhdin KD, Krylov NA, **Efremov RG**, Sobolevsky AI (2023). Structural mechanism of human oncochannel TRPV6 inhibition by the natural phytoestrogen genistein. *Nat Commun* 14 (1), 2659, [10.1038/s41467-023-38352-5](https://doi.org/10.1038/s41467-023-38352-5)
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 35. Tabakmakher VM, Kuzmenkov AI, Gigolaev AM, Pinheiro-Junior EL, Peigneur S, **Efremov RG**, Tytgat J, Vassilevski AA (2021). Artificial Peptide Ligand of Potassium Channel KV1.1 with High Selectivity. *J Evol Biochem Physiol* 57, 386–403, [10.1134/S0022093021020186](https://doi.org/10.1134/S0022093021020186)
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