

## Резюме: Зарайский Андрей Георгиевич

### Адрес

Федеральное государственное бюджетное учреждение науки Институт биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова Российской академии наук, Москва, Россия

### Контакты

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### Образование

2011	Россия		Диплом профессора по специальности "молекулярная биология"
2000	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), биологический факультет	Присуждена учёная степень доктора биологических наук
1990	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), биологический факультет	Присуждена учёная степень кандидата биологических наук

### Работа в ИБХ

2018–наст.вр.	Главный научный сотрудник
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### Членство в советах и комиссиях ИБХ

Диссертационный совет
Ученый совет

### Награды

2006	Премия РАН имени А.О. Ковалевского	За работу «Гомеобоксные гены класса ANF регуляторы раннего развития головного мозга позвоночных»
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### Научные интересы

Основные работы А.Г. Зарайского посвящены структурно-функциональному изучению генов и белков, регулирующих эмбриональное развитие мозга.

### Членство в сообществах

А. Г. Зарайский является членом Ученого и Диссертационного советов ИБХ РАН, редколлегий журналов «Молекулярная биология» и «Онтогенез».

### Степени и звания

Профессор
Доктор наук (Биологические науки, 03.00.03 — Молекулярная биология)

### Гранты и проекты

2014–2018	<a href="#">Изменение скорости диффузии морфогенов как механизм регуляции морфогенетического поля.</a>
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2023– наст.вр.	<a href="#">Геномные механизмы эмбрионального развития и регенерации как фундаментальная основа для разработки медицинских технологий</a>
2019– 2021	<a href="#">Поиск и изучение функций генов эмбрионального скейлинга</a>
2018– 2021	<a href="#">Изучение роли нового трансмембранного белка-регулятора регенерации, исчезнувшего в эволюции позвоночных, c-Answer, с применением системы генного нокаута CRISPR/Cas9</a>

## Публикации

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2. Ermakova GV, Kucheryavyy AV, **Zaraisky AG**, Bayramov AV (2024). The Molecular Mechanism of Body Axis Induction in Lampreys May Differ from That in Amphibians. *Int J Mol Sci* 25 (4), , [10.3390/ijms25042412](#)
3. Ermakova GV, Meyntser IV, **Zaraisky AG**, Bayramov AV (2024). Loss of noggin1, a classic embryonic inducer gene, in elasmobranchs. *Sci Rep* 14 (1), 3805, [10.1038/s41598-024-54435-9](#)
4. Eroshkin FM, Fefelova EA, Bredov DV, Orlov EE, Kolyupanova NM, Mazur AM, Sokolov AS, Zhigalova NA, Prokhortchouk EB, Nesterenko AM, **Zaraisky AG** (2024). Mechanical Tensions Regulate Gene Expression in the *Xenopus laevis* Axial Tissues. *Int J Mol Sci* 25 (2), , [10.3390/ijms25020870](#)
5. Ermakova GV, Kucheryavyy AV, Mugue NS, Mischenko AV, **Zaraisky AG**, Bayramov AV (2024). Three foxg1 paralogues in lampreys and gnathostomes—brothers or cousins? *Front Cell Dev Biol* 11, 1321317, [10.3389/fcell.2023.1321317](#)
6. Lyubetsky VA, Rubanov LI, Tereshina MB, Ivanova AS, Araslanova KR, Uroshlev LA, Goremykina GI, Yang JR, Kanovei VG, Zverkov OA, Shitikov AD, Korotkova DD, **Zaraisky AG** (2023). Wide-scale identification of novel/eliminated genes responsible for evolutionary transformations. *Biol Direct* 18 (1), 45, [10.1186/s13062-023-00405-6](#)
7. Bayramov AV, Ermakova GV, Kucheryavyy AV, Meintser IV, **Zaraisky AG** (2022). Lamprey as Laboratory Model for Study of Molecular Bases of Ontogenesis and Evolutionary History of Vertebrata. *J Ichthyol* 62 (7), 1213–1229, [10.1134/S0032945222060029](#)
8. Korotkova DD, Gantsova EA, Goryashchenko AS, Eroshkin FM, Serova OV, Sokolov AS, Sharko F, Zhenilo SV, Martynova NY, Petrenko AG, **Zaraisky AG**, Deyev IE (2022). Insulin Receptor-Related Receptor Regulates the Rate of Early Development in *Xenopus laevis*. *Int J Mol Sci* 23 (16), , [10.3390/ijms23169250](#)
9. Parshina EA, Orlov EE, **Zaraisky AG**, Martynova NY (2022). The Cytoskeletal Protein Zyxin Inhibits Retinoic Acid Signaling by Destabilizing the Maternal mRNA of the RXR $\gamma$  Nuclear Receptor. *Int J Mol Sci* 23 (10), , [10.3390/ijms23105627](#)
10. Orlov EE, Nesterenko AM, Korotkova DD, Parshina EA, Martynova NY, **Zaraisky AG** (2022). Targeted search for scaling genes reveals matrix metalloproteinase 3 as a scaler of the dorsal-ventral pattern in *Xenopus laevis* embryos. *Dev Cell* 57 (1), 95–111.e12, [10.1016/j.devcel.2021.11.021](#)
11. Filenko PA, Chechenina AA, **Zaraisky AG**, Eroshkin FM (2022). The Effect of Myosin Inhibitors on the Expression of Mechano-Dependent Genes in the Early Development of the Clawed Frog. *Russ. J. Bioorganic Chem.* 48 (4), 854–857, [10.1134/S1068162022040094](#)
12. Ermakova GV, Kucheryavyy AV, Eroshkin FM, Martynova NY, **Zaraisky AG**, Bayramov AV (2021). Study of the Early Telencephalon Genes of Cyclostomes as a Way to Restoring the Evolutionary History of This Unique Part of the Central Nervous System of Vertebrates. *PALEONTOL J* 55 (7), 752–765, [10.1134/S0031030121070030](#)
13. Martynova NY, Parshina EA, **Zaraisky AG** (2021). Cytoskeletal protein Zyxin in embryonic development: from controlling cell movements and pluripotency to regulating embryonic patterning. *FEBS J* 290 (1), 66–72, [10.1111/febs.16308](#)
14. Ivanova AS, Tereshina MB, Araslanova KR, Martynova NY, **Zaraisky AG** (2021). The Secreted Protein Disulfide Isomerase Ag1 Lost by Ancestors of Poorly Regenerating Vertebrates Is Required for *Xenopus laevis* Tail Regeneration. *Front Cell Dev Biol* 9, 738940, [10.3389/fcell.2021.738940](#)
15. Bayramov AV, Ermakova GV, Kucheryavyy AV, **Zaraisky AG** (2021). Genome Duplications as the Basis of

- Vertebrates' Evolutionary Success. *RUSS J DEV BIOL* 52, 141–163, [10.1134/S1062360421030024](https://doi.org/10.1134/S1062360421030024)
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  18. Ермакова ГВ, Кучерявый АВ, **Зарайский АГ**, Байрамов АВ (2021). СРАВНИТЕЛЬНЫЙ АНАЛИЗ ПАТТЕРНОВ ЭКСПРЕССИИ ГЕНОВ СЕМЕЙСТВА NOGGIN НА РАННИХ СТАДИЯХ РАЗВИТИЯ ГОЛОВНЫХ СТРУКТУР ЕВРОПЕЙСКОЙ РЕЧНОЙ МИНОГИ LAMPETRA FLUVIATILIS. *Ontogenez* 52 (1), 46–55, [10.31857/S0475145021010031](https://doi.org/10.31857/S0475145021010031)
  19. Байрамов АВ, Ермакова ГВ, Кучерявый АВ, **Зарайский АГ** (2021). ГЕНОМНЫЕ ДУПЛИКАЦИИ КАК ОСНОВА ЭВОЛЮЦИОННОГО УСПЕХА ПОЗВОНОЧНЫХ. *Ontogenez* 52 (3), 170–194, [10.31857/S0475145021030022](https://doi.org/10.31857/S0475145021030022)
  20. Ermakova GV, Kucheryavyy AV, **Zaraisky AG**, Bayramov AV (2021). Comparative Analysis of Expression Patterns of the Noggin Gene Family Genes at the Early Development Stages of Head Structures in the European River Lamprey *Lampetra fluviatilis*. *RUSS J DEV BIOL* 52, 33–41, [10.1134/S1062360421010033](https://doi.org/10.1134/S1062360421010033)
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  24. Martynova NY, Parshina EA, Eroshkin FM, **Zaraisky AG** (2020). The Cytoskeletal Protein Zyxin Modulates the Expression of the Target Genes of the Shh Signaling Cascade in the Cells of the Neural Plate of Embryos of the Spur-Toed Frog *Xenopus laevis*. *Russ. J. Bioorganic Chem.* 46 (4), 530–536, [10.1134/S1068162020040147](https://doi.org/10.1134/S1068162020040147)
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37. Eroshkin FM, Kremnev SV, Ermakova GV, **Zaraisky AG** (2018). Development of Methods and Techniques to Visualize Mechanical Tension in Embryos Using Genetically Encoded Fluorescent Mechanosensors. *RUSS J DEV BIOL* 49 (6), 362–369, [10.1134/S1062360418060024](https://doi.org/10.1134/S1062360418060024)
38. Bayramov AV, Ermakova GV, Kucheryavyy AV, **Zaraisky AG** (2018). Lampreys, “Living Fossils,” in Research on Early Development and Regeneration in Vertebrates. *RUSS J DEV BIOL* 49 (6), 327–338, [10.1134/S1062360418080015](https://doi.org/10.1134/S1062360418080015)
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40. **(конференция)** Байрамов АВ, Ермакова ГВ, Ерошкин ФМ, Иванова АС, Мартынова НЮ, Терёшина МБ, **Зарайский АГ** (2018). Гены, исчезнувшие в эволюции, как регуляторы развития мозга и регенерации. *Современные проблемы физикохимической и клеточной биологии: от молекул к живым системам*, 36.
41. Ivanova AS, Ermakova GV, **Zaraisky AG**, Tereshina MB (2018). Patterns of Mitosis and Activation of the Map-Kinase Cascade during Tadpole Tail Regeneration in the Refractory Period of *Xenopus laevis* Development. *RUSS J DEV BIOL* 49 (5), 260–263, [10.1134/S1062360418050028](https://doi.org/10.1134/S1062360418050028)
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43. **(конференция)** Иванова АС, Мартынова НЮ, Ермакова ГВ, Короткова ДД, **Зарайский АГ** (2018). GENES MISSING IN AMNIOTES REGULATE REGENERATION IN ANAMNIOTES. *EMBO Conference*, 124.
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46. Martynova NY, Eroshkin FM, **Zaraisky AG** (2018). Effect of a Heterodimeric Complex of the Transcription Factors Sox15 and Xanf1 on the Formation of the Xanf1 Gene Expression Zone during the Early Development of the Forebrain in the Spur-Toed Frog. *Russ. J. Bioorganic Chem.* 44 (3), 362–365, [10.1134/S106816201803010X](https://doi.org/10.1134/S106816201803010X)

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