

Резюме: Ямпольский Илья Викторович



Адрес

Федеральное государственное
бюджетное учреждение науки
Институт биоорганической химии им.
академиков М.М. Шемякина и Ю.А.
Овчинникова Российской академии
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Контакты

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Работа в ИБХ

2018–наст.вр.	Главный научный сотрудник
2021–наст.вр.	Заместитель директора по научной работе
2026–2026	Профессор
2017–2025	Заведующий отделом

Членство в советах и комиссиях ИБХ

Методическая комиссия
Аттестационная комиссия
Диссертационный совет
Ученый совет

Награды

2025	Национальная премия в области будущих технологий ВЫЗОВ	За расшифровку молекулярных механизмов биолюминесценции и создание светящихся растений
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Научные интересы

Области научных интересов: Медицинская химия, полный синтез, биолюминесценция, люминесцентные и флуорогенные красители, установление механизмов биосинтеза.

Также И. В. Ямпольский посвящает много времени преподаванию химии для школьников и студентов, специализирующихся в области биологии, являясь автором около десятка оригинальных лекционных курсов.

Степени и звания

2016	Доктор наук (Химические науки, 02.00.10 — Биоорганическая химия)
2009	Кандидат наук (Химические науки, 03.00.04)

Ссылки и контакты

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Гранты и проекты

2025– наст.вр.	Генеративный дизайн белков для защиты растений и управления их физиологией
2022– 2024	Оптимизация биолюминесцентной системы грибов для прикладных биоаналитических и биоимиджинговых технологий
2020– 2022	Чех: Разработка панели люминесцентных репортеров для изучения растительных гормонов in vivo на основе генетически кодируемой люминесценции
2016– 2021	Создание первой в мире генетически кодируемой системы автономной биолюминесценции эукариот
2018– 2021	Поиск ферментов биосинтеза и инженерия метаболического пути гиспидина - биосинтетического предшественника люциферина грибов - в микроорганизмах
2018– 2020	Изучение структурно-функциональной организации гиспидин-3-гидроксилазы

Публикации

1. Iuzabchuk DA, Andrianova AA, **Yampolsky IV**, Kaskova ZM, Smirnov IV (2026). Beyond Antiviral Therapy: Untapped Potential of HIV & HCV Protease Inhibitors. *Med Res Rev* , , [10.1002/med.70040](#)
2. Silina EV, Prazdnova EV, Emelyantsev SA, Khmelevtsova LE, Statsenko VN, Manturova NE, Palkina KA, **Yampolsky IV**, Stupin VA (2026). Studying the Biological Activity of Cerium Dioxide Nanoparticles Using Bacterial Biosensors. *Int J Mol Sci* 27 (7) , , [10.3390/ijms27073179](#)
3. Balakireva AV, Karataeva TA, Karampelias M, Mitiouchkina TY, Morozov VV, Macháček J, Shakhova ES, Perfilov MM, Belozeroва OA, Kovalchuk SI, Palkina KA, Drážná N, Vondráková Z, Müller K, Kalachova T, Fleiss A, Fernandez-Moreno JP, Alonso JM, Stepanova AN, Fakhranurova LI, Markina NM, Gorbachev DA, Bugaeva EN, Delnova GM, Choob VV, **Yampolsky IV**, Petrášek J, Mishin AS, Sarkisyan KS (2026). Non-invasive imaging of defence responses in plants. *Nat Commun* , , [10.1038/s41467-026-70075-1](#)
4. Kuznetsova AA, Makhin AP, Bulygin AA, Andrianova AA, Miturich VS, Zagitova RI, Shmygarev VI, Fadeeva AA, Yatskin ON, Belozeroва OA, Smirnov IV, **Yampolsky IV**, Kaskova ZM, Kuznetsov NA (2026). Design and In Vitro Evaluation of Novel GC373-like SARS-CoV-2 Main Protease Inhibitors. *Curr Issues Mol Biol* 48 (2) , , [10.3390/cimb48020142](#)
5. Wang T, Ge J, Qu C, Wang Z, Chen H, Li J, Wang S, Guan X, Chen T, Si Z, Hu K, Ding X, Liu L, Zhang J, Mishin AS, **Yampolsky IV**, Du H (2026). Expanding agroinfiltration host range with broad-spectrum effectors monitored by autoluminescent reporter. *Hortic Res* , , [uhag126, 10.1093/hr/uhag126](#)
6. Shcheglov AS, Lukyanov SA, **Yampolsky IV** (2026). A Bacterial Bioluminescent System as a Tool for Monitoring Biogenic Aldehydes. *Dokl Biochem Biophys* , , [10.1134/S1607672926600041](#)
7. Zamuner CK, Soares DMM, Nóbrega BB, Bechara EJH, Kaskova ZM, Mishin AS, Sarkisyan KS, **Yampolsky IV**, Stevani CV (2026). Caffeoylpyruvate hydrolase from the bioluminescent fungus *Neonothopanus gardneri* is the key recycling enzyme in the fungal bioluminescence pathway. *FEBS J* , , [10.1111/febs.70554](#)
8. Malyshevskaya AK, Barykin AD, Kisilichuk DA, Chepurnykh TV, Shakhova ES, Perfilov MM, Belozeroва OA, Palkina KA, Markina NM, Zamuner CK, Soares DMM, Zagitova RI, Kaskova ZM, Stevani CV, Gorokhovatsky AY, Mishin AS, Sarkisyan KS, **Yampolsky IV** (2026). Fungal oxyluciferin is recycled by caffeoylpyruvate hydrolases. *FEBS J* , , [10.1111/febs.70555](#)
9. Guglya EB, Shcheglov AS, **Yampolsky IV** (2026). Antibacterial Depsipeptides: One Common Feature, Diversity of Structures and Mechanisms of Action. *Curr Med Chem* , , [10.2174/0109298673428505251208173220](#)
10. De A, **Yampolsky I** (2025). Multiplexed bioluminescence reporter assay: Empowering screening strategy for future medicine. *Med Res Arch* 13 (12) , , [10.18103/mra.v13i12.7033](#)
11. Shcheglov AS, Purtov KV, Zagitova RI, Kozhemyako VB, Tsarkova AS, Pepoyan A, **Yampolsky IV** (2025). Chaetopterus Luciferase: A Promising Tool for Online Lipid Peroxidation Detection. *Int J Mol Sci* 26 (24), 12119, [10.3390/ijms262412119](#)

12. Palkina KA, Choob VV, **Yampolsky IV**, Mishin AS, Balakireva AV (2025). Pros and Cons of Interactions Between Crops and Beneficial Microbes. *Agriculture (Switzerland)* 15 (24), 2526, [10.3390/agriculture15242526](https://doi.org/10.3390/agriculture15242526)
13. Morozov VV, **Yampolsky IV**, Iskakov BK, Balakireva AV (2025). Strengths and Limitations of Salicylic Acid Reporters. *Int J Mol Sci* 26 (21), , [10.3390/ijms262110610](https://doi.org/10.3390/ijms262110610)
14. Ge J, Wang T, Qu C, Balakireva AV, **Yampolsky IV**, Du H (2025). Biotechnologies based on the fungal bioluminescence pathway. *Trends Biotechnol* , , [10.1016/j.tibtech.2025.10.011](https://doi.org/10.1016/j.tibtech.2025.10.011)
15. Khokhlova AN, Vavilov MV, Chepurnykh TV, Rodionova NS, Petushkov VN, **Yampolsky IV**, Dubinny MA (2025). Earthworms as a source of new approaches in biomedical research. *Bulletin of Russian State Medical University* 2025-October-December (6), 220–223, [10.24075/brsmu.2025.067](https://doi.org/10.24075/brsmu.2025.067)
16. Morozov VV, Balakireva AV, Perfilov MM, Chepurnykh TV, **Yampolsky IV**, Sarkisyan KS, Mishin AS (2025). Constitutive Promoters Functional in Plant, Fungal, and Bacterial Hosts. *ACS Synth Biol* 14 (6), 2375–2379, [10.1021/acssynbio.4c00802](https://doi.org/10.1021/acssynbio.4c00802)
17. Sorokin B, Filimonova A, Emelianova A, Kublitski V, Gvozd A, Shmygarev V, **Yampolsky I**, Guglya E, Gusev E, Kuzmin D (2025). Novel Triazeneindole Antibiotics: Synthesis and Hit-to-Lead Optimization. *Int J Mol Sci* 26 (5), 1870, [10.3390/ijms26051870](https://doi.org/10.3390/ijms26051870)
18. Zakharchenko NS, Rukavtsova EB, **Yampolsky IV**, Balakirev DO, Dyadishchev IV, Ponomarenko SA, Luponosov YN, Filonov AE, Mikhailov PA, Zvonarev AN, Akhmetov LI, Terentyev VV, Khudyakova AY, Zalomova LV, Tarlachkov SV, Aripovsky AV, Puntus IF, Khramov RN (2024). Effect of Photoluminophore Light-Correcting Coatings and Bacterization by Associative Microorganisms on the Growth and Productivity of Brassica juncea L. Plants. *Microbiol Res (Pavia)* 15 (4), 1957–1972, [10.3390/microbiolres15040131](https://doi.org/10.3390/microbiolres15040131)
19. Petushkov VN, Vavilov MV, Khokhlova AN, Zagitova RI, Belozero OA, Shcheglov AS, Kovalchuk SI, Tsarkova AS, Rodionova NS, **Yampolsky IV**, Dubinnyi MA (2024). Henlea earthworm bioluminescence comprises violet-blue BRET from tryptophan 2-carboxylate to deazaflavin cofactor. *Biochem Biophys Res Commun* 708, 149787, [10.1016/j.bbrc.2024.149787](https://doi.org/10.1016/j.bbrc.2024.149787)
20. Palkina KA, Karataeva TA, Perfilov MM, Fakhranurova LI, Markina NM, Somermeyer LG, Garcia-Perez E, Vazquez-Vilar M, Rodriguez-Rodriguez M, Vazquez-Vilrales V, Shakhova ES, Mitiouchkina T, Belozero OA, Kovalchuk SI, Alekberova A, Malyshevskaja AK, Bugaeva EN, Guglya EB, Balakireva A, Sytov N, Bezlikhotnova A, Boldyreva DI, Babenko VV, Kondrashov FA, Choob VV, Orzaez D, **Yampolsky IV**, Mishin AS, Sarkisyan KS (2024). A hybrid pathway for self-sustained luminescence. *Sci Adv* 10 (10), eadk1992, [10.1126/sciadv.adk1992](https://doi.org/10.1126/sciadv.adk1992)
21. Mujawar A, Dimri S, Palkina KA, Markina NM, Sarkisyan KS, Balakireva AV, **Yampolsky IV**, De A (2024). Novel BRET combination for detection of rapamycin-induced protein dimerization using luciferase from fungus *Neonothopanus nambi*. *Heliyon* 10 (4), e25553, [10.1016/j.heliyon.2024.e25553](https://doi.org/10.1016/j.heliyon.2024.e25553)
22. Stevani CV, Zamuner CK, Bastos EL, Nóbrega BB, Soares DM, Oliveira AG, Bechara EJ, Shakhova ES, Sarkisyan KS, **Yampolsky IV**, Kaskova ZM (2024). The living light from fungi. *Journal of Photochemistry and Photobiology C: Photochemistry Reviews* 58, , [10.1016/j.jphotochemrev.2024.100654](https://doi.org/10.1016/j.jphotochemrev.2024.100654)
23. Shakhova ES, Karataeva TA, Markina NM, Mitiouchkina T, Palkina KA, Perfilov MM, Wood MG, Hoang TT, Hall MP, Fakhranurova LI, Alekberova AE, Malyshevskaja AK, Gorbachev DA, Bugaeva EN, Pletneva LK, Babenko VV, Boldyreva DI, Gorokhovatsky AY, Balakireva AV, Gao F, Choob VV, Encell LP, Wood KV, **Yampolsky IV**, Sarkisyan KS, Mishin AS (2024). An improved pathway for autonomous bioluminescence imaging in eukaryotes. *Nat Methods* 21 (3), 406–410, [10.1038/s41592-023-02152-y](https://doi.org/10.1038/s41592-023-02152-y)
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25. Dmitrieva DA, Belozero OA, Mishin AV, **Yampolsky IV**, Kotlobay AA (2024). New transaminase from *Odontosyllis undecimdongata* the first potential enzyme of the luciferin biosynthesis pathway. *Biochimie* 228, 82–88, [10.1016/j.biochi.2024.08.012](https://doi.org/10.1016/j.biochi.2024.08.012)
26. Mujawar A, Phadte P, Palkina KA, Markina NM, Mohammad A, Thakur BL, Sarkisyan KS, Balakireva AV, Ray P, **Yampolsky I**, De A (2023). Triple Reporter Assay: A Non-Overlapping Luciferase Assay for the Measurement of Complex Macromolecular Regulation in Cancer Cells Using a New Mushroom Luciferase–

- Luciferin Pair. *Sensors (Basel)* 23 (17), , [10.3390/s23177313](https://doi.org/10.3390/s23177313)
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 29. Zagitova RI, Purtov KV, Shcheglov AS, Mineev KS, Dubinnyi MA, Myasnyanko IN, Belozero OA, Pakhomova VG, Petushkov VN, Rodionova NS, Lushpa VA, Guglya EB, Kovalchuk S, Kozhemyako VB, Mirza JD, Oliveira AG, **Yampolsky IV**, Kaskova ZM, Tsarkova AS (2023). Conjugated Dienoic Acid Peroxides as Substrates in Chaetopterus Bioluminescence System. *Int J Mol Sci* 24 (11), 9466, [10.3390/ijms24119466](https://doi.org/10.3390/ijms24119466)
 30. Palkina KA, Balakireva AV, Belozero OA, Chepurnykh TV, Markina NM, Kovalchuk SI, Tsarkova AS, Mishin AS, **Yampolsky IV**, Sarkisyan KS (2023). Domain Truncation in Hispidin Synthase Orthologs from Non-Bioluminescent Fungi Does Not Lead to Hispidin Biosynthesis. *Int J Mol Sci* 24 (2), 1317, [10.3390/ijms24021317](https://doi.org/10.3390/ijms24021317)
 31. Terekhov SS, Shmygarev VI, Purtov KV, Smirnov IV, **Yampolsky IV**, Tsarkova AS (2022). Drug design strategies for the treatment of coronavirus infection. *Bulletin of Russian State Medical University* 6 (6), 126–128, [10.24075/brsmu.2022.067](https://doi.org/10.24075/brsmu.2022.067)
 32. Shmygarev VI, Prokopenko YA, Terekhov SS, Zakharova MY, Dubinnyi MA, Smirnov IV, **Yampolsky IV**, Tsarkova AS (2022). Amicoumacin-based prodrug development approach. *Bulletin of Russian State Medical University* 6 (2022), 99–105, [10.24075/brsmu.2022.073](https://doi.org/10.24075/brsmu.2022.073)
 33. Petushkov VN, Vavilov MV, Ivanov IA, Ziganshin RH, Rodionova NS, **Yampolsky IV**, Tsarkova AS, Dubinnyi MA (2022). Deazaflavin cofactor boosts earthworms Henlea bioluminescence. *Org Biomol Chem* 21 (2), 415–427, [10.1039/D2OB01946A](https://doi.org/10.1039/D2OB01946A)
 34. Shakhova ES, Markina NM, Mitiouchkina TY, Bugaeva EN, Karataeva TA, Palkina KA, Fakhranurova LI, **Yampolsky IV**, Sarkisyan KS, Mishin AS (2022). Systematic Comparison of Plant Promoters in Nicotiana spp. Expression Systems. *Int J Mol Sci* 23 (23), 15441, [10.3390/ijms232315441](https://doi.org/10.3390/ijms232315441)
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 36. Makarieva TN, Romanenko LA, Mineev KS, Shubina LK, Guglya EB, Kalinovskaya NI, Ivanchina NV, Guzii AG, Belozero OA, Kovalchuk SI, Popov RS, Denisenko VA, Mikhailov VV, Babenko VV, Iliina EN, Malakhova MV, Terekhov SS, Kudzhaev AM, Dmitrenok PS, **Yampolsky IV**, Stonik VA (2022). Streptocinnamides A and B, Depsipeptides from Streptomyces sp. KMM 9044. *Org Lett* 24 (27), 4892–4895, [10.1021/acs.orglett.2c01714](https://doi.org/10.1021/acs.orglett.2c01714)
 37. Gerasimov AS, Rogozhkin SO, Shakhova ES, Chepurnykh TV, Gorokhovatsky AY, Myshkina NM, Balakireva AV, **Yampolsky IV** (2021). Recombinant Production of Hispidin-3-Hydroxylase: the Key Enzyme in Fungal Luciferin Biosynthesis. *Russ. J. Bioorganic Chem.* 47 (5), 1066–1076, [10.1134/S1068162021040099](https://doi.org/10.1134/S1068162021040099)
 38. Burakova LP, Lyakhovich MS, Mineev KS, Petushkov VN, Zagitova RI, Tsarkova AS, Kovalchuk SI, **Yampolsky IV**, Vysotski ES, Kaskova ZM (2021). Unexpected Coelenterazine Degradation Products of Photoprotein Photoinactivation. *Org Lett* 23 (17), 6846–6849, [10.1021/acs.orglett.1c02410](https://doi.org/10.1021/acs.orglett.1c02410)
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 40. Beregovaya KA, Myshkina NM, Chepurnykh TV, Kotlobay AA, Purtov KV, Petushkov VN, Rodionova NS, **Yampolsky IV** (2021). Rational Design and Mutagenesis of Fungal Luciferase from Neonothopanus nambi. *Dokl Biochem Biophys* 496 (1), 14–17, [10.1134/S1607672921010026](https://doi.org/10.1134/S1607672921010026)
 41. Mitiouchkina T, Mishin AS, Somermeyer LG, Markina NM, Chepurnykh TV, Guglya EB, Karataeva TA, Palkina KA, Shakhova ES, Fakhranurova LI, Chekova SV, Tsarkova AS, Golubev YV, Negrebetsky VV, Dolgushin SA, Shalae PV, Shlykov D, Melnik OA, Shipunova VO, Deyev SM, Bubyrev AI, Pushin AS, Choob VV,

- Dolgov SV, Kondrashov FA, **Yampolsky IV**, Sarkisyan KS (2020). Author Correction: Plants with genetically encoded autoluminescence. *Nat Biotechnol* 38 (8), 1001, [10.1038/s41587-020-0578-0](https://doi.org/10.1038/s41587-020-0578-0)
42. Kotlobay AA, Kaskova ZM, **Yampolsky IV** (2020). Palette of Luciferases: Natural Biotoools for New Applications in Biomedicine. *Acta Naturae* 12 (2), 15–27, [10.32607/actanaturae.10967](https://doi.org/10.32607/actanaturae.10967)
43. Mitiouchkina T, Mishin AS, Somermeyer LG, Markina NM, Chepurnyh TV, Guglya EB, Karataeva TA, Palkina KA, Shakhova ES, Fakhranurova LI, Chekova SV, Tsarkova AS, Golubev YV, Negrebetsky VV, Dolgushin SA, Shalaev PV, Shlykov D, Melnik OA, Shipunova VO, Deyev SM, Bubyrev AI, Pushin AS, Choob VV, Dolgov SV, Kondrashov FA, **Yampolsky IV**, Sarkisyan KS (2020). Plants with genetically encoded autoluminescence. *Nat Biotechnol* 38 (8), 944–946, [10.1038/s41587-020-0500-9](https://doi.org/10.1038/s41587-020-0500-9)
44. Mirza JD, Migotto AE, **Yampolsky IV**, Moraes GV, Tsarkova AS, Oliveira AG (2020). Chaetopterus variopedatus bioluminescence: A review of light emission within a species complex. *Photochem Photobiol* 96 (4), 768–778, [10.1111/php.13221](https://doi.org/10.1111/php.13221)
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46. Kotlobay AA, Dubinnyi MA, Purtov KV, Guglya EB, Rodionova NS, Petushkov VN, Bolt YV, Kublitski VS, Kaskova ZM, Ziganshin RH, Nelyubina YV, Dorovatovskii PV, Eliseev IE, Branchini BR, Bourenkov G, Ivanov IA, Oba Y, **Yampolsky IV**, Tsarkova AS (2019). Bioluminescence chemistry of fireworm *Odontosyllis*. *Proc Natl Acad Sci U S A* 116 (38), 18911–18916, [10.1073/pnas.1902095116](https://doi.org/10.1073/pnas.1902095116)
47. (книга) Shimomura O, Stevani CV, Kaskova ZM, Tsarkova AS, **Yampolsky IV** (2019). Luminous fungi. , 301–348.
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49. Osipova ZM, Shcheglov AS, **Yampolsky IV** (2019). Autonomous bioluminescent systems: Prospects for use in the imaging of living organisms. *Bulletin of Russian State Medical University* 9 (6), 62–65, [10.24075/brsmu.2019.083](https://doi.org/10.24075/brsmu.2019.083)
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