

## Резюме: Ямпольский Илья Викторович



### Адрес

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

### Контакты

<https://www.ibch.ru/ru/users/276>

## 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	<a href="#">Национальная премия в области будущих технологий ВЫЗОВ</a>	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 — Биорганическая химия)
2009	Кандидат наук (Химические науки, 03.00.04)

## Ссылки и контакты

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## Гранты и проекты

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

## Публикации

- Zamuner CK, Gomes TMV, Bastos EL, Palkina KA, **Yampolsky IV**, Bechara EJH, Stevani CV (2026). A Fungal Bioluminescent Pathway (FBP)-Based Yeast Biosensor for Caffeic Acid Quantification in Food and Beverages. *ACS Sens* , , [10.1021/acssensors.6c00051](#)
- 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](#)
- 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](#)
- 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](#)
- 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](#)
- 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](#)
- Shcheglov AS, Lukyanov SA, **Yampolsky IV** (2026). A Bacterial Bioluminescent System as a Tool for Monitoring Biogenic Aldehydes. *Dokl Biochem Biophys* , , [10.1134/S1607672926600041](#)
- 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](#)
- 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](#)
- 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](#)
- 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](#)

12. 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](https://doi.org/10.3390/ijms262412119)
13. 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)
14. 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)
15. 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)
16. 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)
17. 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)
18. 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)
19. 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/microbiores15040131](https://doi.org/10.3390/microbiores15040131)
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22. 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)
23. 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)
24. Shakhova ES, Karataeva TA, Markina NM, Mitiouchkina T, Palkina KA, Perfilov MM, Wood MG, Hoang TT, Hall MP, Fakhranurova LI, Alekberova AE, Malyshevskaiia 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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26. Dmitrieva DA, Belozero OA, Mishin AV, **Yampolsky IV**, Kotlobay AA (2024). New transaminase from *Odontosyllis undecimdonga* 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)

27. 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)
28. Kotlobay AA, Dubinnyi MA, Kovalchuk SI, Makhin AP, Miturich VS, Lyakhovich MS, Fontaine DM, Southworth TL, Shmygarev VI, Yatskin ON, Branchini BR, **Yampolsky IV**, Kaskova ZM (2023). Structure elucidation of Keroplatus (Diptera:Keroplataidae) fungus gnat oxyluciferin. *Biochem Biophys Res Commun* 676, 1–5, [10.1016/j.bbrc.2023.07.035](https://doi.org/10.1016/j.bbrc.2023.07.035)
29. Bolt YV, Dubinnyi MA, Litvinenko VV, Kotlobay AA, Belozero OA, Zagitova RI, Shmygarev VI, Yatskin ON, Guglya EB, Kublitski VS, Baranov MS, **Yampolsky IV**, Kaskova ZM, Tsarkova AS (2023). Total Synthesis of Racemic Thieno[3,2-f]thiochromene Tricarboxylate, a Luciferin from Marine Polychaeta *Odontosyllis undecimdonata*. *Org Lett* 25 (26), 4892–4897, [10.1021/acs.orglett.3c01696](https://doi.org/10.1021/acs.orglett.3c01696)
30. 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)
31. 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)
32. 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)
33. 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)
34. 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)
35. 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)
36. (конференция) Blokhina AE, Palkina KA, Sarkisyan KS, **Yampolsky IV**, Markina NM (2022). Biosynthesis Catalyzed by Plant Type III Polyketide Synthases in Mammalian Cells. , , [10.1002/2211-5463.13440](https://doi.org/10.1002/2211-5463.13440)
37. 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, Ilina 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)
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41. 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)

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45. 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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