# Резюме: Генералова Алла Николаевна


## 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

| | | | |
|---|---|---|---|
| 2019–наст.вр. | Россия, Москва | Институт биоорганической химии им. М.М. | Диплом доктора химических наук |
| 2000–2000 | Россия, Москва | Институт биоорганической химии им. М.М. Шемякина и Ю.А. Овчинникова | Диплом кандидата химических наук |
| 1982–1988 | Россия, Москва | Московский институт тонкой химической технологии им. М.В. Ломоносова | Диплом химика |

## Работа в ИБХ

Заведующий лабораторией

## Членство в советах и комиссиях ИБХ

Ученый совет

## Научные интересы

Она является специалистом в области синтеза полимерных частиц для иммуноанализа, содержащих цветные, флуоресцентные или магнитные метки; модификации поверхности полимерных частиц с целью получения гибридных органо-неорганических микрочастиц; новых методов на основе реакции латексной агглютинации; биоспецифических реакций, межфазных слоев, монослоев. В настоящее время основное направление деятельности связано с биофункционализацией и использованием для решения задач тераностики неорганических наночастиц с антистоксовой флуоресценцией NaYF4:$Yb^{3+}$:$Er^{3+}$или $Tm^{3+}$

## Степени и звания

Доктор наук (Химические науки, 03.00.23 — Биотехнология)

## Гранты и проекты

| | |
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| 2019–наст.вр. | Скаффолды на основе модифицированной гиалуроновой кислоты с настраиваемыми свойствами для решения задач регенеративной медицины |
| 2018–наст.вр. | Гибридные апконвертирующие наноструктуры для эффективного детектирования ИК-излучения, усиления сигнала и конверсии в видимый и ближний ИК диапазоны |

## Публикации


1. Lakshmanan A, Akasov RA, Sholina NV, Demina PA, **Generalova AN**, Gangadharan A, Sardar DK, Lankamsetty KB, Khochenkov DA, Khaydukov EV, Gudkov SV, Jayaraman M, Jayaraman S (2021). Nanocurcumin-loaded UCNPs for cancer theranostics: Physicochemical properties, in vitro toxicity, and in vivo imaging studies. *Nanomaterials (Basel)* 11 (9), , 10.3390/nano11092234

2. Sochilina AV, Savelyev AG, Akasov RA, Zubov VP, Khaydukov EV, **Generalova AN** (2021). Preparing Modified Hyaluronic Acid with Tunable Content of Vinyl Groups for Use in Fabrication of Scaffolds by Photoinduced Crosslinking. *Russ. J. Bioorganic Chem.* 47 (4), 828–836, 10.1134/S1068162021040191
3. Demina PA, Sholina NV, Akasov RA, Khochenkov DA, Nechaev AV, Balalaeva IV, Khaydukov EV, **Generalova AN**, Deev SM (2021). Upconversion Nanoparticles Decorated with Polysialic Acid for Solid Tumors Visualization In Vivo. *Dokl Biochem Biophys* 497 (1), 81–85, 10.1134/S1607672921020034
4. Sajti L, Karimov DN, Rocheva VV, Arkharova NA, Khaydukov KV, Lebedev OI, Voloshin AE, **Generalova AN**, Chichkov BN, Khaydukov EV (2020). Pulsed laser reshaping and fragmentation of upconversion nanoparticles — from hexagonal prisms to 1D nanorods through “Medusa”-like structures. *Nano Res* 14 (4), 1141–1148, 10.1007/s12274-020-3163-4
5. **(конференция)** Demina ПА, Sholina , Akasov , Arkharova , Grigoriev , Asharchuk , Nechaev , Khaydukov EB, **Generalova AH** (2020). 2020 International Conference Laser Optics (ICLO). , , 10.1109/ICLO48556.2020.9285550
6. Karimov DN, Demina PA, Koshelev AV, Rocheva VV, Sokovikov AV, **Generalova AN**, Zubov VP, Khaydukov EV, Kovalchuk MV, Panchenko VY (2020). Upconversion Nanoparticles: Synthesis, Photoluminescence Properties, and Applications. *Nanotechnol Russ* 15 (11-12), 655–678, 10.1134/S1995078020060117
7. Akasov RA, Demina PA, Zasedateleva VV, Sholina NV, Khochenkov DA, **Generalova AN**, Selvan JS, Khaydukov EV, Panchenko VY (2020). Nanosized Anti-Stokes Phosphors for Antitumor Drug Delivery and Solid Tumor Theranostics. *Dokl Biochem Biophys* 494 (1), 227–230, 10.1134/S1607672920050014
8. Demina PA, Sholina NV, Akasov RA, Khochenkov DA, Arkharova NA, Nechaev AV, Khaydukov EV, **Generalova AN** (2020). A versatile platform for bioimaging based on colominic acid-decorated upconversion nanoparticles. *Biomater Sci* 8 (16), 4570–4580, 10.1039/d0bm00876a
9. Krylov IV, Akasov RA, Rocheva VV, Sholina NV, Khochenkov DA, Nechaev AV, Melnikova NV, Dmitriev AA, Ivanov AV, **Generalova AN**, Khaydukov EV (2020). Local Overheating of Biotissue Labeled With Upconversion Nanoparticles Under Yb3+ Resonance Excitation. *Front Chem* 8, 295, 10.3389/fchem.2020.00295
10. Mochalov KE, Agapova OI, **Generalova AN**, Vaskan IS, Soloveva DO, Oleinikov VA, Agapov II, Efimov AE (2020). Nanoscale Correlation Analysis of the Morphological, Optical, and Magnetic Structure of Polymer Microspheres for Multiplex Diagnostics. *TECH PHYS LETT*+ 46 (3), 224–227, 10.1134/S1063785020030128
11. Rocheva VV, Savelyev AG, Nechaev AV, **Generalova AN**, Semchishen VA, Zvyagin AV, Khaydukov EV (2019). Three-Dimensional Luminescence Tomographic Visualization of Biological Tissues. *Opt Spectrosc* 126 (1), 92–94, 10.1134/S0030400X19010144
12. Demina P, Arkharova N, Asharchuk I, Khaydukov K, Karimov D, Rocheva V, Nechaev A, Grigoriev Y, **Generalova A**, Khaydukov E (2019). Polymerization Assisted by Upconversion Nanoparticles under NIR Light. *Molecules* 24 (13), , 10.3390/molecules24132476
13. Akasov RA, Sholina NV, Khochenkov DA, Alova AV, Gorelkin PV, Erofeev AS, **Generalova AN**, Khaydukov EV (2019). Photodynamic therapy of melanoma by blue-light photoactivation of flavin mononucleotide. *Sci Rep* 9 (1), 9679, 10.1038/s41598-019-46115-w
14. Sochilina AV, Savelyev AG, Demina PA, Sizova SV, Zubov VP, Khaydukov EV, **Generalova AN** (2019). Quantitative detection of double bonds in hyaluronic acid derivative via permanganate ions reduction. *Meas Sci Technol* 30 (7), , 10.1088/1361-6501/ab0fb4
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17. **(конференция)** Savelyev AG, Semchishen VA, Nechaev AV, Khaydukov KV, Demina PA, **Generalova AN**, Khaydukov EV (2018). Near-infrared photopolymerization assisted by upconversion nanophosphors for biomedical applications. *EPJ Web of Conference* 190, 04018, 10.1051/epjconf/201819004018
18. **(конференция)** Khaydukov E, Rocheva V, Savelyev A, Khaydukov K, Asharchuk I, Nechaev A, Khochenkov D, Sochilina A, Semchishen V, **Generalova A** (2018). Emerging upconversion nanoparticles for industry and

biomedical application. *EPJ Web of Conference* 190, 03005, 10.1051/epjconf/201819003005
19. **(конференция)** Sholina N, Demina P, Khochenkov D, **Generalova A**, Nechaev A, Khaydukov E (2018). Deep tumor imaging by upconversion nanoparticles. *EPJ Web of Conference* 190, 04020, 10.1051/epjconf/201819004020
20. **(конференция) Generalova A**, Mironova K, Sholina N, Rocheva V, Nechaev A, Grebenik E, Guller A, Zvyagin A, Deyev S, Zubov V, Khaydukov E (2018). Upconversion nanoparticles: On the way from diagnostics to theranostics. *EPJ Web of Conference* 190, 03001, 10.1051/epjconf/201819003001
21. **(конференция)** Demina PA, Khaydukov EV, Sholina NV, Rocheva VV, Khochenkov DA, Akasov RA, **Generalova AN** (2018). Upconversion nanoparticles with anti-Stokes luminescence as bioimaging agents. *EPJ Web of Conference* 190, 04005, 10.1051/epjconf/201819004005
22. **(конференция)** Sochilina AV, Savelyev AG, Sholina NV, Karimov DN, Nechaev AV, Khaydukov EV, **Generalova AN** (2018). Nanohybrid scaffolds with luminescent remote control. *EPJ Web of Conference* 190, 04022, 10.1051/epjconf/201819004022
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26. **(конференция)** Sholina N, Akasov RA, Khochenkov D, Rocheva V, Gorelkin P, Alova AV, Erofeev AS, **Generalova AN**, Khaydukov E (2018). Flavin mononucleotide as a photosensitizer for melanoma treatment. *FEBS Open Bio* 8, 323.
27. **(конференция)** Миронова КЕ, Апарин ИО, Шипунова ВО, **Генералова АН**, Деев СМ (2018). UV-emitting upconversion nanoparticles for the treatment of estrogen-dependent tumors. *FEBS Open Bio* 8, 274–274.
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