# CURRICULUM VITAE

**Фамилия Имя Отчество** **Габриелян Лилит Сергеевна**

**Занимаемая должность:** *Биологический факультет Ереванского государственного университета (ЕГУ)*
Доцент кафедры биохимии, микробиологии и биотехнологии.
Председатель конкурсной комиссии ученого совета биологического факультета.

**Занимаемая должность:** *Институт биомедицины и фармации Российско-Армянского университета (РАУ)*
Доцент кафедры медицинской биохимии и биотехнологии

**Служебный адрес** Ереванский государственный университет, биологический факультет, А. Манукяна 1, 0025, Ереван, Армения

**Эл.-почта** lgabrielyan@ysu.am

**Индексы цитирования (05.02.2024)**: Scopus h-index – 18; Scopus citations – 757;

Google scholar h-index – 19; i10-index – 29; Google scholar citations – 1022.

**Профиль ORCID:** https://orcid.org/0000-0002-1863-0698

**Вебсайты:** https://scholar.google.com/citations?user=s0aFt0oAAAAJ&hl=en
https://www.scopus.com/authid/detail.uri?authorId=26027488200
https://www.researchgate.net/profile/Lilit-Gabrielyan

## Образование (учебное заведение, научные степени):

***2000–2003*** – ЕГУ, аспирантура, кафедре биофизики биологического факультета ЕГУ
***1994–1999*** – ЕГУ, отделение биофизики биологического факультета ЕГУ

## Научная степень, звания:

кандидат биологических наук (2006 г., Диплом Ա No. 03042, ВАК);
доцент (2012 г., Диплом Դ No. 02573, ВАК).

**Область научных интересов:**

- ✓ Биоэнергетика, биохимия и биотехнология фототрофных микроорганизмов (производство биоводорода; фотоферментация; регуляция роста микроорганизмов; окислительно-восстановительная регуляция; пурпурные бактерии; зеленые водоросли; цианобактерии);
- ✓ Биофизика и биоэнергетика биологических мембран (трансмембранный перенос ионов, мембранный потенциал, протонодвижущая сила, протонная АТФаза);
- ✓ Нанотехнология (зеленый синтез наночастиц, физико-химические характеристики, антибактериальный потенциал).

**Преподавательская деятельность:**

*На биологическом факультете ЕГУ с 2006 по сей день*

| *Бакалавриат* | *Магистратура* |
|---|---|
| Биохимия мембран | Биомембраны в норме и патологии |
| Биофизическая химия | Структура и функции прокариотических мембран |
| Микробиология и вирусология | Биотехнология микроорганизмов |
| | Основы биотехнологии микроорганизмов |

Руководство дипломными работами и магистерскими диссертациями

*В Институте биомедицины и фармации РАУ с 2007 по сей день*

Курс Микробиологии

**Профессиональная деятельность:**

*На кафедре микробиологии и биотехнологии растений биологического факультета ЕГУ*

***2015-2016 –*** доцент кафедры микробиологии и биотехнологии растений;

*на кафедре биофизики биологического факультета ЕГУ:*

***2012-2015 –*** доцент кафедры биофизики,

***2006 – 2012*** – ассистент кафедры биофизики,

***2006 – 2018*** – старший научный сотрудник кафедры биофизики,

***2003 – 2006*** – младший научный и научный сотрудник кафедры биофизики,

***2001 – 2003*** – старший лаборант кафедры биофизики.

**Гранты:**

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| 2023 по сей день | “Support Program for Young Postgraduate and PhD Students” from Higher Education and Science Committee, Ministry of Education, Science, Culture and Sports RA, Supervisor (23AA-1F003, PhD student Jemma Manoyan) |
| 2021 по сей день | Grant from Ministry of Education, Science, Culture and Sports RA Committee of Science, PI (21T-1F179). |
| 2021-2023 | Grant from Ministry of Education, Science, Culture and Sports RA Committee of Science and the State Committee for Science and Technology of the Republic of Belarus, PI (21SC-BRFFR-1F012). |
| 2021 | “Productive Scientist” grant (21PR-1F0222) from the Science Committee of |

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| | Ministry of Education, Science, Culture and Sport of Armenia. |
| 2020 | Grant for Productive Scientists from the Science Committee of Ministry of Education, Science, Culture and Sport of Armenia. |
| 2019 | ANSEF 2019 Grant Consultant (NS-Biotechnology-5351) |
| 2019 | Grant for Productive Scientists (Top-100) from the Science Committee of Ministry of Education, Science, Culture and Sport of Armenia. |
| 2018-2020 | Grant of Ministry of Education and Science RA State Committee of Science, Researcher (18T-1F045). |
| 2018 | Travel grant of Ministry of Education and Science of Armenia Science Committee to attend in the International scientific conference "Molecular, membrane and cellular fundamentals of biosystem operation", Minsk, Belarus. |
| 2018 | Grant for Productive Scientists (Top-100) from the Science Committee of Ministry of Education and Science of Armenia. |
| 2016 | Travel grant of Ministry of Education and Science RA State Committee of Science to attend in the International scientific conference "Molecular, membrane and cellular fundamentals of biosystem operation", Minsk, Belarus. |
| 2015-2017 | Grant of Ministry of Education and Science RA State Committee of Science, Researcher (15T-1F123). |
| 2015 | Calouste Gulbenkian Foundation grant to attend in the 10th EBSA Congress, Dresden, Germany. |
| 2015 | ANSEF 2015 Grant Principal Investigator (NS-Biotechnology-3777). |
| 2015 | ANSEF 2015 Grant Consultant (NS-Biotechnology-3921). |
| 2013-2015 | Grant of Ministry of Education and Science RA State Committee of Science, Researcher (13-1F002). |
| 2013 | Grant for Productive Scientists (Top-100) from the Science Committee of Ministry of Education and Science of Armenia. |
| 2013 | Calouste Gulbenkian Foundation grant to attend in the 38th FEBS Congress, St. Petersburg, Russian Federation. |
| 2012 | ANSEF 2012 Grant Principal Investigator (NS-Biotechnology-2704). |
| 2012 | Grant of International Association of Hydrogen Energy (IAHE) to attend in the NATO Advanced Research Workshop "The Black Sea: Strategy for Addressing its Energy Resource Development and Hydrogen Energy Problems", Batumi, Georgia. |
| 2011–2013 | Grant of Ministry of Education and Science RA State Committee of Science, Researcher (11-1f202). |
| 2009 | ANSEF 2009 Grant Principal Investigator (NS-Biotechnology-1668). |

**Награды**

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| 2022 | «Награда за выдающиеся достижения в области преподавания в Ереванском государственном университете» в категории «Естественные науки». |
| 2018-2021 | "Productive Scientist" award (Top-100) from the Science Committee of Ministry of Education, Science, Culture and Sport of Armenia. |

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| 2015 | Cleantech Armenia National Business Ideas Competition award (UNIDO GEF Global Cleantech Innovation Programme for SMEs in Armenia award). |
| 2013 | “Productive Scientist” award (Top-100) from the Science Committee of Ministry of Education and Science of Armenia. |
| 2012 | "We Demand Increase in Science Financing" initiative and "Tashir" charitable organization award. |
| 2011 | Награда «Лучшая научная работа» Национальной Академии Наук Армении, Всемирного Армянского Конгресса и Союза Армян России |

**Членство в профессиональных организациях**:

| | |
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| С 2013-го | Член Международной Ассоциации Водородной Энергии (IAHE) |
| С 2013-го | Член Американского Общества Микробиологов (ASM) |
| С 2011-го | Член Федерации Европейского Микробиологического Общества (FEMS) |
| С 2008-го | Член Федерации Биохимического Общества (FEBS) |

### Научные публикации

Более 50 статей в международных журналах, таких как *“International Journal of Hydrogen Energy”, “Biomass & Bioenergy”, “Applied Energy”, “Current Microbiology”, “Journal of Bioenergetics and Biomembranes”, “Journal of Photochemistry and Photobiology”* и др., и более 80 тезисов научных конференций.

## Список избранных публикаций

### 1. Лабораторный практикум для студентов

Trchounian A., Bagramyan K., Poladyan A., **Gabrielyan L.** (**2012**) Biophysics, Biochemistry and Bioenergetics of Biological Membranes. A student laboratory book. Yerevan, 130 p, ISBN: 978-5-8084-1552-2 (in Armenian).

### 2. Главы в книгах

Hakobyan L., **Gabrielyan L. (2024)** Phototrophic Microorganisms as the Future of Green Biotechnology. / In *Microbial essentialism: An industrial perspective.* Raghvendra Pratap Singh, Geetanjali Manchanda, Sreedevi Sarsan, Ajay Kumar, Hovik Panosyan (eds.). Elsevier: Academic Press, pp. 181-205, ISBN: 978-0-443-13932-1. https://doi.org/10.1016/B978-0-443-13932-1.00013-1.

Trchounian A., **Gabrielyan L.,** Mnatsakanyan N. **(2018)** Nanoparticles of various transition metals and their applications as antimicrobial agents. / In *Metal Nanoparticles: Properties, synthesis and applications.* Y. Saylor, V. Irby (eds.). Nova Sci. Publ. Inc., New York, pp. 161–210, ISBN: 978-1-53614-115-3.

Hakobyan L., **Gabrielyan L.,** Trchounian A. (**2013**) The effect of various metal ions on bio-hydrogen production and the $F_oF_1$-ATPase activity of *Rhodobacter sphaeroides*. / In *Black Sea Energy Resource Development and Hydrogen Energy Problems*, NATO Science for Peace and Security Series C: Environmental Security, A. Veziroglu, M. Tsitskishvili (Eds.), Springer

(Netherlands), pp. 165–177, Print ISBN: 978-94-007-6151-3; Online ISBN: 978-94-007-6152-0, doi: 10.1007/978-94-007-6152-0_15.

**Gabrielyan L.**, Trchounian A. (**2009**) Purple bacteria and cyanobacteria as potential producers of molecular hydrogen: An electrochemical and bioenergetic approach. / In *Bacterial Membranes*: *Ultrastructure, Bioelectrochemistry, Bioenergetics and Biophysics.* A. Trchounian (ed). Research Signpost: Kerala (India), pp. 233–273, ISBN: 978-81-308-0374-6.

## 3. Статьи (за последние 5 лет)

Manutsyan T, Blbulyan S, Vassilian A, Semashko T, Kirakosyan G, **Gabrielyan L,** Trchounian K, Poladyan A. **(2024)** Gold nanoparticles activate hydrogenase synthesis and improve heterotrophic growth of *Ralstonia eutropha* H16. *FEMS Microbiol Lett.* 371: fnad138. doi: 10.1093/femsle/fnad138.

Harutyunyan A.A., Manoyan J.G., Hambaryan L.R., **Gabrielyan L.S. (2023)** Effect of various carbon sources on the growth properties and morphology of *Spirulina platensis. Proceedings of the Yerevan State University, B: Chemical and Biological Sciences*, V. 57, N. 2 (261): 164-171. https://doi.org/10.46991/PYSU:B/2023.57.2.164.

Hovhannisyan Z., Timotina M., Manoyan J., **Gabrielyan L.,** Petrosyan M., Kusznierewicz B, Bartoszek A, Jacob C., Ginovyan M., Trchounian K., Sahakyan N., Nasim M.J. **(2022)** *Ribes nigrum* L. extract-mediated green synthesis of silver nanoparticles and their antibacterial action mechanisms. *Antibiotics,* 11, 1415. https://doi.org/10.3390/antibiotics11101415

Timotina M., Aghajanyan A., Schubert R., Trchounian K., **Gabrielyan L. (2022)** Biosynthesis of silver nanoparticles using extracts of *Stevia rebaudiana* and evaluation of antibacterial activity. *World J Microbiol Biotechnol* 38, 196. https://doi.org/10.1007/s11274-022-03393-3.

Manoyan J., Samovich T., Kozel N., Demidchik V., **Gabrielyan L. (2022)** Growth characteristics, biohydrogen production and photochemical activity of photosystems in green microalgae *Parachlorella kessleri* exposed to nitrogen deprivation. *International Journal of Hydrogen Energy,* 47 (38), 16815-16823, https://doi.org/10.1016/j.ijhydene.2022.03.194.

Manoyan J.G., **Gabrielyan L.S.** (**2021**) The ethanol industry waste as a valuable feedstock for hydrogen photoproduction by green algae *Chlorella vulgaris. Proceedings of Yerevan State University, B: Chemical and Biological Sciences* 55, 3 (256): 232-239. https://doi.org/10.46991/PYSU:B/2021.55.3.232.

Gevorgyan S., Schubert R., Yeranosyan M., **Gabrielyan L.**, Trchounian A., Lorenzen K., Trchounian K. (**2021**) Antibacterial Activity of Royal Jelly-mediated Green Synthesized Silver Nanoparticles. *AMB Express,* 11, 51, https://doi.org/10.1186/s13568-021-01213-9

Hakobyan L., **Gabrielyan L.,** Blbulyan S., Trchounian A. (**2021**) The prospects of brewery waste application in biohydrogen production by photofermentation of *Rhodobacter sphaeroides*. *International Journal of Hydrogen Energy*, V. 46, pp. 289-296, https://doi.org/10.1016/j.ijhydene.2020.09.184.

**Gabrielyan LS.** (**2021**) The prospects of alcohol industry wastes application in photoproduction of hydrogen by the purple bacteria *Rhodobacter sphaeroides*. *Journal of the Belarusian State University. Biology*, 1, pp. 70-77 (in Russian). https://doi.org/10.33581/2521-1722-2021-1-70-77

Manoyan J., **Gabrielyan L.,** Kalantaryan V., Trchounian A. (**2020**) Growth properties and hydrogen yield in green microalga *Parachlorella kessleri*: Effects of low-intensity electromagnetic irradiation at the frequencies of 51.8 GHz and 53.0 GHz. *Journal of Photochemistry and Photobiology B: Biology*, 211, 112016, https://doi.org/10.1016/j.jphotobiol.2020.112016.

**Gabrielyan L**., Badalyan H., Gevorgyan V., Trchounian A. (**2020**) Comparable antibacterial effects and action mechanisms of silver and iron oxide nanoparticles on *Escherichia coli* and *Salmonella typhimurium*. *Sci. Rep.* 10, 13145, https://doi.org/10.1038/s41598-020-70211-x.

Aghajanyan A., **Gabrielyan L**., Schubert R., Trchounian A. (**2020**) Silver ion bioreduction in nanoparticles using *Artemisia annua* L. extract: characterization and application as antibacterial agents. *AMB Express*, 10, 66, https://doi.org/10.1186/s13568-020-01002-w.

**Gabrielyan L.,** Trchounian A. **(2019)** Antibacterial activities of transient metals nanoparticles and membranous mechanisms of action. *World J. Microbiol. Biotechnol.* 35, 162. https://doi.org/10.1007/s11274-019-2742-6.

Manoyan J., **Gabrielyan L.,** Kozel N., Trchounian A. (**2019**) Regulation of biohydrogen production by protonophores in novel green microalgae *Parachlorella kessleri*. *Journal of Photochemistry and Photobiology B: Biology*, 199, 111597. https://doi.org/10.1016/j.jphotobiol.2019.111597.

Harutyunyan A.A., Timotina M.I., **Gabrielyan L.S.,** Rshtuni L.R., Trchounian A.H. (**2019**) Antibacterial effect of iron oxide nanoparticles on antibiotic-resistant *Escherichia coli* strain. Vestnik RAU (Herald of RAU), 1, pp. 81–91 (in Russian).

Kozel N.V., Radyuk M.S., Samovich T.V., Dremuk I.A., **Gabrielyan L.S.** (**2019**) Protein accumulation and expression of the nitrate reductase gene in *Spirulina platensis* cells depending on the spectral composition of LED illumination. *Proceedings of the National Academy of Sciences of Belarus. Biological series*, V. 64 (2), pp. 180–189 (in Russian), https://doi.org/10.29235/1029-8940-2019-64-2-180-189.

**Gabrielyan L.** (**2019**) Fe(II) and Mg(II) ions combination as an approach for increasing yield of biohydrogen in *Rhodobacter sphaeroides*. *Biol. J. Armenia*, 1 (71), pp. 60–66 (in Russian), ISSN 0366-5119.

**Gabrielyan L.,** Hakobyan L., Hovhannisyan A., Trchounian A. (**2019**) Effects of iron oxide ($Fe_3O_4$) nanoparticles on *Escherichia coli* antibiotic-resistant strains. *Journal of Applied Microbiology*, 126, pp. 1108-1116, doi: 10.1111/jam.14214.

**Gabrielyan L.,** Hovhannisyan A., Gevorgyan V., Ananyan M., Trchounian A. (**2019**) Antibacterial effects of iron oxide ($Fe_3O_4$) nanoparticles: distinguishing concentration-dependent effects with different bacterial cells growth and membrane-associated mechanisms. *Applied Microbiology and Biotechnology*, 103, pp. 2773-2782, https://doi.org/10.1007/s00253-019-09653-x.

Hakobyan L., **Gabrielyan L.,** Trchounian A. (**2019**) Biohydrogen by *Rhodobacter sphaeroides* during photo-fermentation: mixed vs. sole carbon sources enhance bacterial growth and $H_2$ production. *International Journal of Hydrogen Energy*, https://doi.org/10.1016/j.ijhydene.2018.11.082, V. 44 (2), pp. 674–679.