

# Gayane Yervand Avetisova

## Institute of Pharmacy

Ֆարմաքիմիայի և ֆարմակազնոգիայի ամբիոն  
Assistant

(077) 49-03-19

avetisovagayane@ysu.am

## Education

|                    |  |
|--------------------|--|
| <b>Institution</b> | Yerevan State University                       |
| <b>Faculty</b>     | Faculty of Biology, Department of Biochemistry |
| <b>Date</b>        | 1979 - 1984                                    |
| <b>Degree name</b> | Qualified specialist                           |

## Scientific Rank/degree

|                              |   |
|------------------------------|---|
| <b>Institution</b>           | «Scientific Research Institute of Biotechnology» CJSC   |
| <b>Date</b>                  | 2004  |
| <b>Degree name</b>           | Candidate   |
| <b>Specialty</b>             | Biological sciences   |
| <b>Scientific Supervisor</b> | Kocharyan Shavarsh  |
| <b>Research Topic</b>        | OBTAINING OF HIGHLY ACTIVE STRAINS PRODUCERS OF L-VALINE AT BREVIBACTERIUM FLAVUM. TECHNOLOGY OF BIOSYNTHESIS L-VALINE IN INDUSTRIAL CONDITIONS |

## Language skills

English

## Work experience

|                       |  |
|-----------------------|--|
| <b>Institution</b>    | Chair of Pharmchemistry and Pharmacognosy of Institute of Pharmacy of Yerevan State University |
| <b>Period of time</b> | 2006 till now  |
| <b>Rank/degree</b>    | assistant  |

|                       |   |
|-----------------------|---|
| <b>Institution</b>    | Scientific and Production Center “Armbiotechnology” SNPO NAS RA |
| <b>Period of time</b> | 1984 till now   |
| <b>Rank/degree</b>    | Leading researcher  |

## Scientific interests

- Biotechnology, Microbiology, Genetics

---

## Membership

---

|                    |   |
|--------------------|---|
| <b>Institution</b> | Scientific and Production Center “Armbiotechnology” SNPO NAS RA, Member in scientific council |
|--------------------|---|

|                       |               |
|-----------------------|---------------|
| <b>Period of time</b> | 2022 till now |
|-----------------------|---------------|

---

|                    |  |
|--------------------|--|
| <b>Institution</b> | secretary of scientists’ Board of Specialized Council 018 Biotechnology, |
|--------------------|--|

|                       |               |
|-----------------------|---------------|
| <b>Period of time</b> | 2008 till now |
|-----------------------|---------------|

---

|                    |  |
|--------------------|--|
| <b>Institution</b> | “Scientific Research Institute of Biotechnology” CJSC., scientific secretary of scientific council |
|--------------------|--|

|                       |             |
|-----------------------|-------------|
| <b>Period of time</b> | 2005 - 2009 |
|-----------------------|-------------|

---

## State awards and honorary titles

2013 Certificate of Merit of NAS RA (For irreproachable work in the system of the National Academy of Sciences of RA)

2006 Certificate of Honour of Ministry of Trade and Industry of RA (In connection with the 35th anniversary of the “Scientific Research Institute of Biotechnology” CJSC)

---

## Publications

*Article*

**Reducing nutrient requirement using nitrogen-fixing bacteria for microalgae cultivation**

L. Melkonyan, A. Ferreira, C.R.V. Bastos, D. Figueiredo, T. Lopes da Silva, G. Avetisova, Zh. Karapetyan, A. Toplaghalsyan, L. Gouveia

Bioresource Technology Reports 2025 102180

---

*Article*

**Consortium of microalgae/nitrogen-fixing bacteria as a next-generation biofertilizer, biostimulant and biopesticide**

Luisa Gouveia, Alice Ferreira, Carolina Vela Bastos, Gayane Avetisova, Zhaneta Karapetyan, Anna Toplaghalsyan, Lusine Melkonyan

Journal of Applied Phycology 2025 -

---

*Article*

**Obtaining of osmoresistant mutants in L-histidine-producing coryneform bacterium to improve efficiency of target amino acid biosynthesis**

Susanna Keleshyan, Zhaneta Karapetyan, Anna Toplaghalsyan, Lusine Melkonyan, Vahe Ghochikyan, Luiza Manukyan, Gevorg Tsarukyan, Sofya Martirosyan, Tamara Davidyan, Nelli Avetisyan,

Gayane Avetisova

Functional Food Science 2025 462–472

---

Article

**Characterization of important new industrial enzymes CGTase and their application in the transglycosylation of stevia glycosides**

Vahe Ghochikyan, Gayane Avetisova, Tigran Soghomonyan, Luiza Manukyan, Susanna Keleshyan,

Lusine Melkonyan

Functional Food Science 2025 717 - 732

---

Article

**Biofertilizer based on Agrobacterium as a key to food security**

Gayane Avetisova, Lusine Melkonyan, Vahe Ghochikyan, Gevorg Tsarukyan, Anna Toplaghaltsyan,

Zhaneta Karapetyan, Susanna Keleshyan

Bioactive Compounds in Health and Disease 2024 558-569

---

Article

**Antibiotic-resistant mutants of lactic acid bacteria: potential food control agents**

Keleshyan Susanna, Karapetyan Zhaneta, Toplaghaltsyan Anna, Khachaturyan Nune, Chitchyan Karine,

Gevorgyan Sona, Melkonyan Lusine, Ghochikyan Vahe, Tsarukyan Gevorg, Avetisova Gayane

Bioactive Compounds in Health and Disease 2024 430-443

---

Article

**Obtaining Osmo resistant Mutants in Nitrogen Fixing Bacteria Isolated from Saline Soils**

Keleshyan S. K., Karapetyan Z. V., Toplaghaltsyan A. G., Avetisova G. Y., Melkonyan L. H.,

Vardanyan A. A., Ghochikyan V. T.

Current Microbiology 2022 251

---

Article

**Brevibacterium flavum մանրէի հիման վրա L-տրիպտոֆանի շտամ-արտադրիչի ստացման գենետիկասելեկցիոն մոտեցումները**

Ավետիսովա Գ., Մելքոնյան Լ., Ծառուկյան Գ., Ղոչիկյան Վ., Զելեչյան Ս., Կարապետյան Ժ.,

Թովլաղալցյան Ա.

ՀԻՄՆԱՐԱՐ ԵՎ ԿԻՐԱՌԱԿԱՆ ԳԻՏԱԿԱՆ ՀԵՏԱԶՈՏՈՒԹՅՈՒՆՆԵՐ. ԱՐԴԻԱԿԱՆ ԽՆԴԻՐՆԵՐ ԵՎ

ՋԵՌՔԵՐՈՒՄՆԵՐ

2022 173-187

---

Article

**Microbial approaches for amino acids production**

A. Paloyan, L. Melkonyan, G. Avetisova

Microbial Syntrophy-Mediated Eco-enterprising 2022 177-209

---

Article

**Enzymatic activity of nitrogen-fixing bacteria isolated from armenian saline soils**

Toplaghaltsyan A., Karapetyan Zh., Keleshyan S., Avetisova G., Melkonyan L., Tsarukyan G.,

Ghochikyan V.

International Scientific Conference on Microbial Biotechnology, 5th edition 2022 55-60

---

Article

**Biostimulant and biopesticide potential of microalgae growing in piggery wastewater**

Alice Ferreira, Lusine Melkonyan, Sofia Carapinha, Belina Ribeiro, Daniel Figueiredo, Gayane Avetisova,

Luisa Gouveia

*Article*

**Co-cultivation of L-tryptophan-producing strain *Brevibacterium flavum* and *Azotobacter vinelandii* as an alternative method for indole-3-acetic acid production**

Avetisova G., Melkonyan L., Toplaghalsyan A., Tsarukyan G., Keleshyan S., Karapetyan Z.,

Ghochikyan V.

BIOTECHNOLOGY: SCIENCE AND PRACTICE, INNOVATION AND BUSINESS 2021 6-10

---

*Article*

**Influence of Vitamins on L-Tryptophan Production by *Brevibacterium flavum***

Melkonyan L., Avetisova G., Tsarukyan G., Keleshyan S., Karapetyan Z., Toplaghalsyan A.,

Ghochikyan V.

BIOTECHNOLOGY: SCIENCE AND PRACTICE, INNOVATION AND BUSINESS 2021 82-86

---

*Article*

***Scenedesmus obliquus* microalga-based biorefinery - from brewery effluent to bioactive compounds, biofuels and biofertilizers - aiming a circular bioeconomy**

A. Ferreira, B. Ribeiro, M.L.A. Tavares, J. Vladoic, S. Vidovic, D. Cvetkovic, L. Melkonyan, G. Avetisova,

V. Goginyan, L. Gouveia

Biofuels, Bioproducts and Biorefining 2019 1169-1186

---

*Article*

**Характеристика микрофлоры засоленных почв Армении**

С.К. Келешян, Ж. В. Карапетян, А.Г. Топлакалцян, Г.Е. Аветисова, Л.О. Мелконян, В.Т. Кочикян

Хранение и переработка сельхозсырья 2019 76-85

---

*Book*

**Combining Microalgae-Based Wastewater Treatment with Biofuel and Bio-Based Production in the Frame of a Biorefinery. In: Hallmann A., Rampelotto P. (eds) Grand Challenges in Algae Biotechnology. Grand Challenges in Biology and Biotechnology**

Alice Ferreira, Alberto Reis, Senka Vidovic, Jelena Vladoic, Spyros Gkelis, Lusine Melkonyan,

Gayane Avetisova, Roberta Congestri, Gabriel Ación, Raul Muñoz, Pierre Collet, Luisa Gouveia

2019 591

---

*Article*

**Новое биоудобрение «Азоцеовит-1» для органического овощеводства и его испытание на посадках перца и баклажана в Армении**

К.М. Сарикян, Г.Ж. Саргсян, Г.Е. Аветисова, Л.О. Мелконян

Неделя науки в Крутах -2017 2017 264-271

---

*Article*

**НОВЫЙ БИОПРЕПАРАТ «ЭКОБИОФИД+» ДЛЯ ОРГАНИЧЕСКОГО ЗЕМЛЕДЕЛИЯ И ЕГО ИСПЫТАНИЕ НА ПОСАДКАХ ТОМАТОВ В АРМЕНИИ**

Мелконян Л.О., Степанян С.Х., Аветисова Г.Е., Сарикян К. М.

INNOVATIVE APPROACHES AND PERSPECTIVE IDEAS OF YOUNG SCIENTISTS IN AGRARIAN SCIENCES. The proceedings of the international scientific-practical conference of young scientist 2017 384-387

---

*Article*

**Influence of Glutamate Dehydrogenase Activity on L-Proline Synthesis**

S.K. Keleshyan, Zh.V. Karapetyan, A.Kh. Chakhalyan, N.A. Hovhannisyan, G.Ye. Avetisova,  
M.B. Chitchyan, G.G. Oganezova, M.A. Melkumyan, N.S. Avetisyan, L.H. Melkonyan  
Applied Biochemistry and Microbiology 2017 470-476

---

*Article*

**Изучение ингибирующих свойств новых небелковых аминокислот и отбор эффективных аналогов L-аминокислот для селекции высокоактивных штаммов-продуцентов**

А.Х. Чахалян, С.К. Келешян, Ж.В. Карапетян, А.Г. Давтян, Г.Е. Аветисова, Л.О. Мелконян,  
А.С. Дадаян, А.С. Сагиян

Прикладная биохимия и микробиология (Applied Biochemistry and Microbiology) 2016 62-67  
[http://elibrary.ru/title\\_about.asp?id=7955](http://elibrary.ru/title_about.asp?id=7955)

---

*Article*

**The nitrogen-fixing strain for biopreparation**

L.H. Melkonyan, G.H. Tepanosyan, G.Ye. Avetisova, A.Kh. Chakhalyan, S.Gh. Keleshyan,

Zh.V. Karapetyan

Biological Journal of Armenia 2016 65-68

<http://www.flib.sci.am/eng/Biology/>

---

*Conference*

**BIOTECHNOLOGICAL APPROACHES FOR OBTAINING OF NEW COMPLEX BIOPREPARATION FOR ORGANIC AGRICULTURE**

L. Melkonyan, G. Avetisova, A. Chakhalyan, S. Keleshyan, Zh. Karapetyan, S. Stepanyan,

A. Toplaghalsyan, A. Saghyan

---

*Conference*

**Effect of " Ecobiofeed+ " Biopreparation on Eggplant (Solanum Melongena S.)**

G. Avetisova, L. Melkonyan, S. Stepanyan, K. Sarikyan, V. Ghochikyan, S. Keleshyan, Zh. Karapetyan,

A. Toplaghalsyan

---

*Conference*

**Screening of lactic acid bacteria with a wide spectrum of antifungal activity**

A. Toplaghalsyan, S. Keleshyan, Zh. Karapetyan, N. Khachaturian, G. Avetisova, L. Melkonyan,

S. Stepanyan

---

*Conference*

**Optimization of fermentation condition for  $\alpha$ -amylase production**

A. Paloyan, L. Melkonyan, A. Sargsyan, T. Arakelyan, M. Izmailyan, G. Avetisova, A. Hambardzumyan,

A. Saghyan

---

*Conference*

**Study of some metals effect on  $\alpha$ -amylase activity of *Bacillus amyloliquefaciens* MDC 1974 strain**

L. Melkonyan, A. Paloyan, A. Hambardzumyan, G. Avetisova, A. Mkhitarian, A. Sargsyan, S. Stepanyan,

S. Arabachyan, A. Saghyan

---

*Conference*

**Study of synthesis of amino acids by Azotobacter vinilandii AV1 strain**

G. Avetisova, L. Melkonyan, A. Paloyan, V. Ghochikyan, A. Tsaturyan, S. Keleshyan, Z. Karapetyan,

A. Toplaghalsyan

---

*Conference*

**Optimization of fermentation conditions for histidine producers resistant to non-protein amino acids**

A. Toplaghalsyan, S. Keleshyan, Z. Karapetyan, G. Avetisova, L. Melkonyan, A. Vardanyan

---

*Conference*

**New  $\alpha$ - amylase from Bacillus sp. MDC 3500 strain**

A. Paloyan, L. Melkonyan, A. Hambardzumyan, A. Mkhitarian, G. Avetisova

---

*Conference*

**Industrial wastewater-grown Scenedesmus obliquus biomass-to-fuels and biofertilizers production: an integrative approach**

A. Ferreira, B. Ribeiro, J. Vlastic, S. Vidovic, D. Cvetkovic, L. Melkonyan, G. Avetisova, A.F. Ferreira, A. Reis, L. Gouveia

---

*Conference*

**Tiny Microalgae For Huge Applications. Biorefinery Approach**

Alice Ferreira, Sofia Carapinha, Jelena Vlastic, Senka Vidovic, Dragoljub Cvetkovic, Lusine Melkonyan, Gayane Avetisova, Luisa Gouveia

---

*Conference*

**Agrobacterium sp. as nitrogen-fixing bacteria: effect of osmo-resistant strains on the growth of plants in saline soils of Armenia**

S. Keleshyan, Zh. Karapetyan, A. Toplaghalsyan, G. Avetisova, L. Melkonyan, G. Tsarukyan,

V. Ghochikyan

---

*Conference*

**ASSESSMENT OF BIOSTIMULANT AND BIOPESTICIDE POTENTIAL OF MICROALGAE FOLLOWING PIGGERY WASTEWATER TREATMENT**

A. Ferreira, L. Melkonyan, S. Carapinha, B. Ribeiro, D. Figueiredo, G. Avetisova, L. Gouveia

---

*Conference*

**Determination of Enzymatic Activity of Nitrogen-Fixing Bacteria Isolated from Saline Soils of Armenia**

Toplaghalsyan A., Keleshyan S., Karapetyan Z., Avetisova G., Melkonyan L., Tsarukyan G.

---

*Conference*

**ISOLATION AND CHARACTERIZATION OF NITROGEN-FIXING BACTERIA TO CREATE A NEW MULTIFUNCTIONAL BIOTECHNOLOGICAL MEAN FOR ORGANIC AGRICULTURE**

Lusine Melkonyan, Zhaneta Karapetyan, Anna Toplaghalsyan, Luisa Gouveia, Gayane Avetisova

---

*Conference*

**CREATING A CONSORTIUM OF NITROGEN-FIXING BACTERIUM AND MICROALGA FOR HEALTHIER ORGANIC FOOD**

Lusine Melkonyan, Alice Ferreira, Carolina Vela Bastos, Daniel Figueiredo, Gayane Avetisova,

Zhaneta Karapetyan, Anna Toplaghaltsyan, Luisa Gouveia

---

*Conference*

**MICROBIAL PRODUCTION OF THE ESSENTIAL AMINO ACID L-TRYPTOPHAN FOR FOOD AND NUTRITION**

Gayane Avetisova, Vahe Ghochikyan, Gevorg Tsarukyan, Susanna Keleshyan, Zhaneta Karapetyan, Anna Toplaghaltsyan, Lusine Melkonyan

---

*Conference*

**GROWTH DYNAMICS OF NITROGEN-FIXING BACTERIA AT INCREASED SALINITY**

Toplaghaltsyan A., Karapetyan Zh., Keleshyan S., Avetisova G., Melkonyan L., Tsarukyan G., Ghochikyan V.

---

*Conference*

**ENZYMATIC ACTIVITY OF NITROGEN-FIXING SOIL BACTERIA**

Toplaghaltsyan A., Karapetyan Zh., Keleshyan S., Avetisova G., Melkonyan L., Tsarukyan G., Ghochikyan V.

---

*Conference*

**ԱՉՈՏ ՖԻԶՍՈՂ ՄԱՆՐԵՆԵՐԻ ԵՎ ՄԻԿՐՈԶՐԻՄՈՒՄԻ ԿՈՆՍՈՐՑԻՈՒՄՆԵՐԸ՝ ՈՐՊԵՍ**

**ԿԵՆՍԱԴՊԱՐՏԱԼՅՈՒԹ, ԿԵՆՍԱԽԹԱՆԻՉ ՈՒ ԿԵՆՍԱԴՊԵՍԻՑԻՆԻ**

Մելքոնյան Լ., Ավետիսովա Գ., Կարապետյան Վ., Թովլաղալցյան Ա., Գուվեյա Լ. (Gouveia L.)

---

*Conference*

**BIOFERTILIZER BASED ON AGROBACTERIUM AS A KEY TO FOOD SECURITY**

Gayane Avetisova, Lusine Melkonyan, Vahe Ghochikyan, Gevorg Tsarukyan, Anna Toplaghaltsyan, Zhaneta Karapetyan, Susanna Keleshyan

---

*Conference*

**ANTIBIOTIC-RESISTANT MUTANTS OF LACTIC ACID BACTERIA: POTENTIAL FOOD CONTROL AGENTS**

Susanna Keleshyan, Zhaneta Karapetyan, Anna Toplaghaltsyan, Nune Khachaturyan, Karine Chitchyan, Sona Gevorgyan, Lusine Melkonyan, Vahe Ghochikyan, Gevorg Tsarukyan, Gayane Avetisova

---

*Conference*

**Some Features of Nitrogen-Fixing Bacterium and Microalga to Develop a Multifunctional Biobased Product for Sustainable Agriculture**

Lusine Melkonyan, Anna Toplaghaltsyan, Zhaneta Karapetyan, Luisa Gouveia, Gayane Avetisova

---