Lusine Hovhannes Melkonyan

lusinemelkonyan@ysu.am

Institute of Pharmacy
Chair of Pharmaceutical Chemistry and Pharmacognosy
Assistant

Institute of Pharmacy
Chair of Pharmaceutical Chemistry and Pharmacognosy
Assistant

Education

Faculty	Faculty of Biology and Chemistry, Department of Bio-ecology
Date	2000 - 2005
Degree name	Qualified specialist

Scientific Rank/degree

Date	2014
Degree name	Candidate
Scientific Supervisor	Avetisova Gayane Ye.
Research Topic	"Obtaining of Highly Active Strain-Producers of L-alanine and Development of Biosynthesis Technology"

Language skills

English

Work experience

Institution	SPC “Armbiotechnology” NAS RA, SNPO
Period of time	2018 till now
Rank/degree	Senior Researcher

Institution	Institute of Pharmacy, Yerevan State University
Period of time	2017 till now
Rank/degree	Assistant Professor

Institution	Armenian State Pedagogical University after Kh. Abovyan, Chair of Human and Animals Physiology
Period of time	2015 - 2016
Rank/degree	Lecturer

Participation in international conferences and seminars

17/09/2022 - 03/11/2022	“21T-2I229: Development of a New Multifunctional Biotechnological Preparation as a Biofertilizer, Biostimulant, Biopesticide”, 2021-2024 (funded by the Science Committee of the Ministry of Education, Science, Culture and Sport RA), Project coordinator) Laboratório Nacional de Energia e Geologia, I.P. (LNEG), Lisbon Portugal
02/09/2022 - 16/09/2022	“BRISK2” Transnational Access (TA) (Grant Agreement nº 731101 – Horizon 2020 project funded by the European Commission), “Lneg4: Advantages of Mutualistic Relationships between Microalgae and Nitrogen-Fixing Bacteria”, grantee Laboratório Nacional de Energia e Geologia, I.P. (LNEG), Lisbon Portugal
16/06/2019 - 18/08/2019	“Phoenix (H2020-MSCA-RISE-2015 Grant Agreement NUMBER 690925, secondee) Laboratório Nacional de Energia e Geologia, I.P. (LNEG), Lisbon Portugal
19/07/2018 - 21/08/2018	“Phoenix (H2020-MSCA-RISE-2015 Grant Agreement NUMBER 690925, secondee) Laboratório Nacional de Energia e Geologia, I.P. (LNEG), Lisbon Portugal
07/07/2018 - 14/07/2018	43rd FEBS Congress (“FEBS Bursary” grantee) - Czech Republic (the)
09/07/2017 - 13/07/2017	7th Congress of European Microbiologists (FEMS) (#203719 “Short Term Conference and Travel Grant” funded by Calouste Gulbenkian Foundation, grantee) - Spain
13/12/2014 - 19/12/2014	International Conference “Translational Biocatalysis” (#137270 “Short Term Conference and Travel Grant” funded by Calouste Gulbenkian Foundation, grantee) - United Kingdom of Great Britain and Northern Ireland (the)

Membership

Institution	Federation of European Biochemical Societies (FEBS)
Period of time	2017 till now
Institution	Federation of European Microbiological Societies (FEMS)
Period of time	2016 till now
Institution	Armenian Association of Biochemists

Period of time	2017 till now

Institution	Armenian Microbiological Association
Period of time	2016 till now

Institution	Biotechnological Association of Armenia
Period of time	2009 till now

Other information

2005-2009: Post-graduate student (SPC "Armbiotechnology" NAS RA SNPO)

Publications

Article

Production of L-tryptophan for food, feed, and pharmaceutical applications
Gayane Avetisova, Lusine Melkonyan, Susanna Keleshyan, Gevorg Tsarukyan, Sofya Martirosyan, Anna Toplaghaltsyan, Zhaneta Karapetyan, Luiza Manukyan, Vahe Ghochikyan

Functional Food Science 2026 1-11

https://www.scopus.com/pages/publications/105029217169?origin=resultslist

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. Toplaghaltsyan, 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 Toplaghaltsyan, 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 Toplaghaltsyan, Lusine Melkonyan, Vahe Ghochikyan, Luiza Manukyan, Gevorg Tsarukyan, Sofya Martirosyan, Tamara Davidyan, Nelli Avetisyan, Gayane Avetisova

Functional Food Science 2025 462–472

Article

Optimizing Chlorella vulgaris production and exploring its impact on germination through microalga-N2-fixing bacteria consortia
Ana Sanchez-Zurano, Silvia Vilaró-Cos, Daniel Figueiredo, Lusine Melkonyan, Alice Ferreira,

Francisco Gabriel Acién, Tomas Lafarga, Luisa Gouveia

Journal of Biotechnology 2025 244-253

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

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 - Online ISSN 2574-0334 Print ISSN 2769-2426 2024 430-443

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 - Online ISSN 2574-0334 Print ISSN 2769-2426 2024 558-569

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

2024 74-75

https://www.functionalfoodscenter.net/conference-ffc32.html

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

2024 98-100

https://www.functionalfoodscenter.net/conference-ffc32.html

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

2024 23 - 23

http://wrfase.org/Conference/11902/IACSEAF/venue

Conference

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

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

2023 230-232

https://www.functionalfoodscenter.net/conference-ffc31.html

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

2023 233-236

https://www.functionalfoodscenter.net/conference-ffc31.html

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

2023 237-239

https://www.functionalfoodscenter.net/conference-ffc31.html

Conference

BACTERIAS FIJADORAS DE NITRÓGENO COMO ALTERNATIVA AL USO DE FERTILIZANTES QUÍMICOS PARA LA PRODUCCIÓN DE Chlorella vulgaris

Ana Sánchez-Zurano, Silvia Villaró Cos, Daniel Figueiredo, Lusiné Melkonian, Francisco Gabriel Acién, Tomás Lafarga, Luísa Gouveia

2023 274-275

http://www2.ual.es/jisdelmar4

Conference

ԱԶՈՏ ՖԻՔՍՈՂ ՄԱՆՐԷՆԵՐԻ ԵՎ ՄԻԿՐՈՋՐԻՄՈՒՌԻ ԿՈՆՍՈՐՑԻՈՒՄՆԵՐԸ՝ ՈՐՊԵՍ ԿԵՆՍԱՊԱՐԱՐՏԱՆՅՈՒԹ, ԿԵՆՍԱԽԹԱՆԻՉ ՈՒ ԿԵՆՍԱՊԵՍՏԻՑԻԴ

Մելքոնյան Լ., Ավետիսովա Գ., Կարապետյան Ժ., Թոփլաղալցյան Ա., Գուվեյա Լ. (Gouveia L.)

2023 190-191

https://www.ysu.am/conference/770

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., Քելեշյան Ս., Կարապետյան Ժ., Թոփլաղալցյան Ա.

ՀԻՄՆԱՐԱՐ ԵՎ ԿԻՐԱՌԱԿԱՆ ԳԻՏԱԿԱՆ ՀԵՏԱԶՈՏՈՒԹՅՈՒՆՆԵՐ. ԱՐԴԻԱԿԱՆ ԽՆԴԻՐՆԵՐ ԵՎ ՁԵՌՔԲԵՐՈՒՄՆԵՐ
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

Conference

GROWTH DYNAMICS OF NITROGEN-FIXING BACTERIA AT INCREASED SALINITY
Toplaghaltsyan A., Karapetyan Zh., Keleshyan S., Avetisova G., Melkonyan L., Tsarukyan G.,

Ghochikyan V.

2022 53 - 53

https://conferinte.stiu.md/sites/default/files/evenimente/International_Scienti...

Conference

ENZYMATIC ACTIVITY OF NITROGEN-FIXING SOIL BACTERIA
Toplaghaltsyan A., Karapetyan Zh., Keleshyan S., Avetisova G., Melkonyan L., Tsarukyan G.,

Ghochikyan V.

2022 54 - 54

https://conferinte.stiu.md/sites/default/files/evenimente/International_Scienti...

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

Environmental Advances 2021 100062

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., Toplaghaltsyan 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., Toplaghaltsyan A.,

Ghochikyan V.

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

Conference

Determination of Enzymatic Activity of Nitrogen-Fixing Bacteria Isolated from Saline Soils of Armenia
Toplaghaltsyan A., Keleshyan S., Karapetyan Z., Avetisova G., Melkonyan L., Tsarukyan G.

2021 78-79

https://biotechnology-spib-2021.com/

Article

Production and properties of a novel raw starch hydrolyzing α amylase from Bacillus amyloliquefaciens MDC1974

Paloyan A.M., Melkonyan L.H., Sargsyan A.S., Mkhitaryan A.V., Dyukova K.G., Hambardzumyan A.A.

Electronic Journal of Natural Sciences of NAS RA 2020 4-11

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

2020 17-19

http://algaeurope.org/conference-program-2020/

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. Vladic, 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

Conference

New α- amylase from Bacillus sp. MDC 3500 strain

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

2019 47

http://designer-biology.org/wp-content/uploads/2019/08/Designer-Biology-2019-Ab...

Conference

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

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

2019 2.B.8

http://eventos.uva.es/23274/detail/iwalgae-2019.html

Conference

Tiny Microalgae For Huge Applications. Biorefinery Approach

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

2019 251

http://www.tf.uns.ac.rs/site/dokumenta/icapp/programme.pdf

Conference

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

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

V. Ghochikyan

2019 31-32

https://fems-microbiology.org/opportunities/microbes-biologyapplication-2019-in...

Conference

New α-amylase with potential to commercialize
A. Paloyan, L. Melkonyan, A. Mkhitaryan, K. Dyukova, A. Hambardzumyan

2019 60

https://fems-microbiology.org/opportunities/microbes-biologyapplication-2019-in...

Textbook

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 Vladic, Spyros Gkelis, Lusine Melkonyan,

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

2019 591

Conference

Optimization of fermentation condition for a-amylase production
A. Paloyan, L. Melkonyan, A. Sargsyan, T. Arakelyan, M. Izmailyan, G. Avetisova, A. Hambardzumyan,

A. Saghyan

2018 177

https://2018.febscongress.org/

Conference

Study of some metals effect on a-amylase activity of Bacillus amyloliquefaciens MDC 1974 strain
L. Melkonyan, A. Paloyan, A. Hambardzumyan, G. Avetisova, A. Mkhitaryan, A. Sargsyan, S. Stepanyan,

S. Arabachyan, A. Saghyan

2018 178

https://2018.febscongress.org/

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. Toplaghaltsyan

2018 77-78

Conference

Optimization of fermentation conditions for histidine producers resistant to non-protein amino acids
A. Toplaghaltsyan, S. Keleshyan, Z. Karapetyan, G. Avetisova, L. Melkonyan, A. Vardanyan

2018 101

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

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. Toplaghaltsyan, A. Saghyan

2017 FEMS7-1142

https://fems-microbiology2017.kenes.com/

Conference

PURIFICATION AND CHARACTERIZATION OF A-AMYLASE FROM BACILLUS AMYLOLIQUIFACIENS
A. Paloyan, L. Melkonyan, A. Mkhitaryan, A. Hambardzumyan, A. Saghyan

2017 FEMS7-1099

https://fems-microbiology2017.kenes.com/

Conference

Substrate specifity of x-amylase isolated from B.amiloliquefaciens strain MDC1974
A. Paloyan, L. Melkonyan, A. Sargsyan, A. Mkhitaryan, A. Hambardzumyan

2017 37

http://armbiotech.am/arm/conf/conf4/index.html

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. Toplaghaltsyan

2017 63

http://armbiotech.am/arm/conf/conf4/index.html

Conference

Screening of lactic acid bacteria with a wide spectrum of antifungal activity
A. Toplaghaltsyan, S. Keleshyan, Zh. Karapetyan, N. Khachaturian, G. Avetisova, L. Melkonyan,

S. Stepanyan

2017 66-67

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

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/