

# Armine Armen Margaryan

## Research Institute of Biology

Group Leader

✉ arminemargaryan@ysu.am



## Education

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology/Department of Microbiology and Biotechnology of Plants and Microorganisms
<b>Date</b>	2007 - 2012
<b>Degree name</b>	PhD student

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology/Department of Microbiology and Biotechnology of Plants and Microorganisms
<b>Date</b>	2005 - 2007
<b>Degree name</b>	Masters

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology/Department of Microbiology and Biotechnology of Plants and Microorganisms
<b>Date</b>	2001 - 2005
<b>Degree name</b>	Bachelor

## Scientific Rank/degree

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<b>Institution</b>	Yerevan State University
<b>Date</b>	2021
<b>Degree name</b>	Associate professor
<b>Specialty</b>	Biological sciences

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<b>Institution</b>	Yerevan State University
<b>Date</b>	2014
<b>Degree name</b>	Candidate
<b>Specialty</b>	Biological sciences
<b>Scientific Supervisor</b>	Hovik Panosyan
<b>Research Topic</b>	Microbiota of Armenian copper and gold mines, Isolation, identification and heavy metal resistance mechanisms of heavy metal resistant bacilli

## Language skills

## Work experience

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**Institution** Research Institute of Biology, Faculty of Biology, Yerevan State University  
**Period of time** 2023 till now  
**Rank/degree** Head of the scientific group

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**Institution** Department of Biochemistry, Microbiology and Biotechnology, Faculty of Biology, Yerevan State University  
**Period of time** 2021 till now  
**Rank/degree** Associate Professor

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**Institution** Medical Microbiology, Department of Bioscience, Traditional Medical University, Armenia  
**Period of time** 2018 - 2021  
**Rank/degree** Assistant Professor

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**Institution** Research Institute of Biology, Faculty of Biology, Yerevan State University  
**Period of time** 2012 - 2023  
**Rank/degree** Researcher

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**Institution** Department of Biochemistry, Microbiology and Biotechnology, Faculty of Biology, Yerevan State University  
**Period of time** 2011 - 2021  
**Rank/degree** Assistant Professor

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**Institution** Department of Microbiology and Biotechnology of Plants and Microorganisms, Faculty of Biology, Yerevan State University  
**Period of time** 2007 - 2012  
**Rank/degree** Senior Lab Assistant

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## Scientific interests

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- Microbiology
  - Microbial Ecology
  - Metagenomics
  - Extremophiles
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## Publications

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*Article*

**Mining thermophiles for biotechnologically relevant enzymes: evaluating the potential of**

### **European and Caucasian hot springs**

Hovik H. Panosyan, Armine Margaryan, Ani Paloyan, Christin Burkhardt, Leon Baruth,  
Neele Meyer-Heydecke, Barbara Klippel, Garabed Antranikian  
Extremophiles 2024 27

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*Article*

### **Polyhydroxyalkanoates produced by extremophiles: main structure, synthesis, and application**

Hovik Panosyan, Armine Margaryan, Diana Ghevondyan, Rafii Shakhmuradian  
Microbial Essentialism: An Industrial Prospective 2024 243-263

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*Article*

### **Detergent-resistant $\alpha$ -amylase derived from *Anoxybacillus karvacharensis* K1 and its production based on whey**

Hovik Panosyan, Armine Margaryan, Diana Ghevondyan, Ani Paloyan, Tigran Soghomonyan,  
Pargev Hovhannisyanyan, Nils Kare Birkeland, Garabed Antranikian  
Scientific Reports 2024 12682

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*Article*

### **Microbial thermostable hydrolases (amylases, lipases, and keratinases) and polymerases: biology and applications**

Hovik Panosyan, Mane Tadevosyan, Sahak Yeghiazaryan, Diana Ghevondyan, Ani Saghatelyan,  
Armine Margaryan  
Extremozymes and Their Industrial Applications 2022 177-204

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*Article*

### **Microbial Diversity of Terrestrial Geothermal Springs in Armenia and Nagorno-Karabakh: A Review**

Hovik Panosyan, Armine Margaryan, Ani Saghatelyan, Nils-Kåre Birkeland  
Microorganisms 2021 1473

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*Article*

### **Extremophiles Thriving in Extreme Ecosystems of Armenia**

Panosyan Hovik, Margaryan Armine  
Extreme Environments 2021 234-251

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*Article*

### ***Anoxybacillus karvacharensis* sp. nov., a novel thermophilic bacterium isolated from the Karvachar geothermal spring in Nagorno-Karabakh**

Hovik Panosyan, Armine Margaryan, Nils-Kare Birkeland  
INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY 2021 9

---

*Article*

### **Heavy Metal Resistance in Prokaryotes: Mechanism and Application**

Hovik Panosyan, Armine Margaryan, Birkeland NK.  
Microorganisms for Sustainability: Microbial Communities and their Interactions in the Extreme Environment  
2021 273-313

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*Article*

## **Microbial Diversity of High-Altitude Geothermal Springs in Tajikistan**

Hovik Panosyan, Armine Margaryan, Dzhuraeva M.M., Ratnadevi C.M., Birkeland N.K., Bobodzhanova K.I.

Microorganisms for Sustainability: Microbial Communities and their Interactions in the Extreme Environment  
2021 43-63

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### *Article*

## **Geothermal springs in Armenia and Nagorno-Karabakh: potential sources of hydrolase-producing thermophilic bacilli**

Hovik Panosyan, Armine Margaryan, Nils-Kåre Birkeland

Extremophiles 2020 519-536

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### *Manual*

## **ՄՈՆԻՏԻՆԳՆԻՆԳ ԵՎ ԲԱԿԵՏԻՆԳԻՆԳ ԼԱԲՈՐԱՏՈՐ ԱՇԽԱՏԱԼՔԵՐ**

Հ.Հ. Փանոսյան, Ա.Ա. Մարգարյան, Ի.Լ. Բազդուկյան, Ա.Հ. Թոչոնյան

2020 120

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### *Article*

## **Insights into the Bacterial Diversity of the Acidic Akhtala Mine Tailing in Armenia Using Molecular Approaches**

Armine Margaryan, Hovik Panosyan, Chonticha Mamimin, Armen Trchounian, Nils-Kåre Birkeland

Current Microbiology 2019 462-469

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### *Article*

## **The Effects of Low Doses of Gamma-Radiation on Growth and Membrane Activity of Pseudomonas aeruginosa GRP3 and Escherichia coli M17**

D. Soghomonyan, A. Margaryan, K. Trchounian, K. Ohanyan, H. Badalyan, A. Trchounian

Cell Biochemistry and Biophysics 2018 209-217

<https://link.springer.com/article/10.1007%2Fs12013-017-0831-4>

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### *Article*

## **Microbial Diversity of Terrestrial Geothermal Springs in Lesser Caucasus**

Hovik Panosyan, Armine Margaryan, Liana Poghosyan, Ani Saghatelyan, Ekaterine Gabashvili,

Ekaterine Jaiani, Nils-Kåre Birkeland

Microorganisms for Sustainability: Extremophiles in Eurasian Ecosystems: Ecology, Diversity, and Applications  
2018 81-117

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### *Article*

## **Geobacillus and Anoxybacillus spp. from Terrestrial Geothermal Springs Worldwide: Diversity and Biotechnological Applications**

Armine Margaryan, Grigor Shahinyan, Pargev Hovhannisyan, Hovik Panosyan, Armen Trchounian,

Nils-Kåre Birkeland

Microorganisms for Sustainability: Extremophiles in Eurasian Ecosystems: Ecology, Diversity, and Applications  
2018 119-166

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### *Article*

## **Identification and sequence analyses of novel lipase encoding novel thermophilic bacilli isolated from Armenian geothermal springs**

Grigor Shahinyan, Armine Margaryan, Hovik Panosyan, Armen Trchounian

BMC Microbiology 2017 1-11

<https://bmcmicrobiol.biomedcentral.com/>

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*Article*

**DENATURING GRADIENT GEL ELECTROPHORESIS (DGGE) PROFILES OF THE PARTIAL 16S rRNA GENES DEFINED BACTERIAL POPULATION INHABITING IN ARMENIAN GEOTHERMAL SPRINGS**

H.H. Panosyan, A. A. Margaryan, A.A. Trchounian

Biological Journal of Armenia 2017 102-109

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

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*Article*

**BACTERIAL COMMUNITY STRUCTURE OF ARMENIAN MINING TERRITORIES REVEALED BY PCR-DGGE FINGERPRINTING**

A.A. MARGARYAN

Biological Journal of Armenia 2017 56-62

<http://biology.asj-oa.am/>

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*Article*

**Comparative Analysis of UV Irradiation Effects on Escherichia coli and Pseudomonas aeruginosa Bacterial Cells Utilizing Biological and Computational Approaches**

A. Margaryan, H. Badalyan, A. Trchounian

Cell Biochemistry and Biophysics 2016 381-389

<http://link.springer.com/journal/12013>

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*Article*

**Isolation and characterization of lipase-producing bacilli from Tatev geothermal spring**

Vardanyan G., Margaryan A., Panosyan H.

ԵՊՀ ՈԻԳԸ գիտական հոդվածների ժողովածու 2015 33-36

<http://www.ysu.am/sss/hy>

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*Article*

**ISOLATION AND CHARACTERIZATION OF LIPASE-PRODUCING THERMOPHILIC BACILLI FROM GEOTHERMAL SPRINGS IN ARMENIA AND NAGORNO-KARABAKH**

G.S. Shahinyan, A.A. Margaryan, H.H. Panosyan, A.H. Trchounian

Հայաստանի կենսաբանական հանդես 2015 7-15

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

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*Article*

**АНТИМИКРОБНАЯ АКТИВНОСТЬ ХИТОЗАНОВЫХ ПЛЕНОК, МОДИФИЦИРОВАННЫХ ПИРАЗОЛ КАРБОНОВЫМИ КИСЛОТАМИ**

А.Э. Акопян, А.А. Маргарян, О.С. Аттарян, Г.В. Асратян, И.Л. Базукян, О.А. Паносян, А.А. Трчунян

Հայաստանի կենսաբանական հանդես 2015 45-49

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

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*Article*

**ТЕРМОФИЛЬНЫЕ БАЦИЛЛЫ, ВЫДЕЛЕННЫЕ ИЗ ГЕОТЕРМАЛЬНЫХ ИСТОЧНИКОВ АРМЕНИИ И НАГОРНОГО КАРАБАХА, КАК ПРОДУЦЕНТЫ ГИДРОЛИТИЧЕСКИХ ФЕРМЕНТОВ**

ВАРДАНЯН Г.Г., ОГАНЕСЯН П.А., МАРГАРЯН А.А., ПАНОСЯН О.А., ТРЧУНЯН А.А.

АКТУАЛЬНЫЕ ПРОБЛЕМЫ ГУМАНИТАРНЫХ И ЕСТЕСТВЕННЫХ НАУК 2014 47-50

[http://elibrary.ru/title\\_about.asp?id=28238](http://elibrary.ru/title_about.asp?id=28238)

Article

**ВЫДЕЛЕНИЕ И ИЗУЧЕНИЕ THERMUS SCOTODUCTUS KARVACHAR-1 ИЗ ГОРЯЧЕГО ИСТОЧНИКА КАРВАЧАР**

САГАТЕЛЯН А.Р., МАРГАРЯН А.А., ПАНОСЯН О.А., ТРЧУНЯН А.А.

АКТУАЛЬНЫЕ ПРОБЛЕМЫ ГУМАНИТАРНЫХ И ЕСТЕСТВЕННЫХ НАУК 2014 89-92

[http://elibrary.ru/title\\_about.asp?id=28238](http://elibrary.ru/title_about.asp?id=28238)

Article

**Բուհական կրթական համակարգում լաբորատոր աշխատանքների իրականացման ժամանակակից մոտեցումները:**

Հ.Հ. Փանոսյան, Ի.Լ. Բազուկյան, Ա.Ա. Մարգարյան, Յու.Գ. Պոպով, Ա.Հ. Թոչունյան

Բնագետ 2014 145-146

<http://www.ysu.am/bnaget>

Manual

**Մանրէաբանության լաբորատոր աշխատանքներ, ուսումնամեթոդական ձեռնարկ**

Թոչունյան Ա.Հ., Փանոսյան Հ.Հ., Բազուկյան Ի.Լ., Մարգարյան Ա.Ա., Պոպով Յու.Գ.

2014 316

Article

**Functional, structural and phylogenetic analysis of domains underlying the Al sensitivity of the aluminum-activated malate/anion transporter, TaALMT1**

Armine Margaryan, Ayalew Ligaba, Ingo Dreyer, David J. Schneider, Leon Kochian, Miguel Piñeros

Plant Journal 2013 766-780

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1365-313X](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-313X)

Article

**Heavy metal accumulation and the expression of the copA and nika genes in Bacillus subtilis AG4 isolated from the Sotk Gold Mine in Armenia**

A.A. Margaryan, H.H. Panosyan, A. Trchounian, N.-K. Birkeland

Biological Journal of Armenia 2013 51-57

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

Article

**Isolation and characterization of new metallotolerant bacilli strains**

Margaryan A., Panosyan H., Popov Yu.

Biotechnology & Biotechnological Equipment 2010 450-454

<http://www.tandfonline.com/loi/tbeq20#.V4SWt0t97cc>

Article

**Изучение распространения почвенных бактерий в 20 км зоне Армянской Атомной Электростанции (ААЭС)**

Паносян О.А., Маргарян А.А., Бозоян Л.А.

Գալվառի պետական համալսարանի գիտական հոդվածների ժողովածու 2010 61-67

<http://www.gsu.am/?go=menu32>

Article

**Выделение и изучение термофильных металлоустойчивых бацилл**

Маргарян А., Паносян О., Попов Ю.

Միջազգային գիտաժողովի նյութեր նվիրված ԱրՊՀ հիմնադրման 40-ամյակին 2009 135-137

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*Article*

**Новые штаммы металлоустойчивых термофильных бацилл**

O.A. Panosyan, A.A. Margaryan

ԵՊՀ Գիտական տեղեկագիր, Բնական գիտություններ 2008 109-112

<http://ysu.am/science/hy/1355990920>

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*Conference*

**Application of computational and biological approaches to detect UV radiation effects on bacterial cells**

Margaryan A., Ohanyan V., Torgomyan H., Soghomonyan D., Badalyan H., Trchounian A.

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*Conference*

**Diversity of thermophiles in Armenian geothermal springs**

Panosyan H., Saghatelian A, Margaryan A., Birkeland N.-K., Trchounian A.

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*Conference*

**Microbial Diversity in Armenian Mining Areas Revealed by Molecular Approach**

A. Margaryan, N-K. Birkeland, H. Panosyan, A. Trchounian

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*Conference*

**New Approach to Monitor Gamma-rays Effects on Different Bacteria in the Environment**

A. Margaryan, D. Soghomonyan, S. Astanyan, K. Ohanyan, H. Badalyan, A. Trchounian

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*Conference*

**Could Bacillus subtilis AG4 strain isolated from Armenian Gold Mine be a tool for bioremediation of heavy metal contaminated environment?**

Armine A. Margaryan., Hovik H. Panosyan., Armen Trchounian

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*Conference*

**Anoxybacillus flavitermus K103 strain as an active producer of amylolytic enzymes**

Pargev A. Hovhannisyanyan, Armine A. Margaryan., Hovik H. Panosyan, Armen Trchounian

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*Conference*

**Distribution of Heavy Metal Resistant Bacteria in Armenian Copper and Gold Mines and their Response to Heavy Metal Stress**

Margaryan A., Birkeland N.-K., Trchounian A., Panosyan H.

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*Conference*

**ARMENIAN MINES AS A SOURCE OF HEAVY METAL ACCUMULATING METALOPHILIC BACILLI**

Margaryan A., Birkeland N.-K., Popov Yu., Panosyan H., Trchounian A.

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*Conference*

**THERMOSTABLE HYDROLYTIC ENZYME PRODUCING BACILLI ISOLATED FROM GEOTHERMAL SPRINGS OF ARMENIA AND NAGORNO-KARABAKH**

Hovhannisyanyan P., Vardanyan G., Margaryan A., Panosyan H., Trchounian A.

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Conference

**Термофильные бациллы, выделенные из геотермальных источников Армении, как продуценты гидролитических ферментов**

Оганнисян П. А., Варданян Г. Г., Маргарян А. А., Паносян О. А., Трчунян А. А.

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Conference

**Thermus scotoductus, изолированный из горячего источника Карвачар**

Сагателян А. Р., Маргарян А. А., Паносян О. А., Трчунян А. А.

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Conference

**НОВЫЕ МЕТАЛЛОУСТОЙЧИВЫЕ ШТАММЫ БАЦИЛЛ**

Маргарян А.А., Паносян О.А.

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Conference

**Амилазная активность металлоустойчивой термофильной бактерии Bacillus subtilis AG4 в присутствии Cu(II), Ni(II), Zn(II) и Cd(II)**

Маргарян А. А., Мкртчян А. С., Паносян О. А.

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Conference

**Bacterial diversity in the Alaverdi Copper Smelter (Armenia)**

Margaryan A., Birkeland N.-K., Panosyan H., Popov Y., Trchounian A.

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Conference

**Выделение и изучение металлоустойчивых термофильных бацилл**

Маргарян А. А., Бозоян Л. А., Паносян О. А.

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Conference

**Распространение экстремофильных бацилл в термальных горячих вод и соламчаков Армении**

Паносян О. А., Маргарян А. А.

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Conference

**Antibiotic resistant bacteria inhabiting Lake Sevan (ARmenia)**

Hovik Panosyan, Armine Margarayn, Inga Bazukyan, Ekaterine Jaiani, Ekaterine Gabashvili,

Marina Tediashvili

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Conference

**Микробиота рудных пород Армении, выделение металлоустойчивых микроорганизмов и изучение механизмов металлоустойчивости**

Маргарян А. А., Паносян О. А., Трчунян А. А.

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Conference

**Antibiotic resistant environmental bacilli and their bacteriophages isolated from freshwater and marine environments of Georgia and Armenia**

Ekaterine Gabashvili, Nino Janelidze, Elene Didebulidze, Hovik Panosyan, Armine Margaryan,

Inga Bazukyan, George Tsertsvadze, Marina Tediashvili, Ekaterine Jaiani

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Conference

**New Metal-Tolerant Bacilli Strains AS A Prospective Tool For Bioremediation**



Margaryan A.

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*Conference*

**The Modelling of Lipase Protein Structures Based on Newly Isolated Thermophilic Bacilli Gene Sequences**

G. Shahinyan, A. Margaryan, H. Panosyan, A. Trchounian

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*Conference*

**Heavy metal resistance of Bacillus subtilis AG4 isolated from the Sotk Gold Mine (Armenia)**

A. Margaryan, H. Panosyan, N.-K. Birkeland, A. Trchounian

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*Conference*

**Thermostable  $\alpha$ -amylase produced by Anoxibacillus flavitermus K103 isolated from an Armenian geothermal spring**

Panosyan H.H., Margaryan A.A., Birkeland N.-K.

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*Conference*

**The effect of combined heavy metal ions on copA, nika and czcD genes expression of metal-resistant bacilli**

Margaryan A., Birkeland N.-K., Panosyan H., Popov Y., Trchounian A.

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*Conference*

**New heavy metal tolerant alkalophilic bacteria isolated from Artsvanik tailing**

I. Ayvazyan, A. Margaryan, A. Trchounian

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*Conference*

**New acidophilic metal tolerant bacteria isolated from mining sites in Armenia**

S. Mirzoyan, A. Margaryan

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*Conference*

**Металлоустойчивые бактерии из хвостохранилища Арцваник: Идентификация бактерий и определение генов, обеспечивающих их металлоустойчивость**

Айвазян И. С., Маргарян А. А., Трчунян А. А.

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*Conference*

**Antibiotic Resistance of Bacteria: Novel Findings on Antimicrobial Agents and Activation of Resistance Genes**

I. Bazukyan, D. Soghomonyan, A. Margaryan, N. Sahakyan, M. Petrosyan, A. Trchounian

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*Conference*

**Microbial community of Armenian mining areas, their heavy metal resistance and th role in bioremediation**

Armine Margaryan, Hovik Panosyan, Armen Trchounian, Nils-Kare Birkeland

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*Conference*

**BACILLUS SUBTILIS AG4 AS A PROSPECTIVE TOOL FOR BIOREMEDIATION**

Armine Margaryan, Hovik Panosyan, Armen Trchounian, Birkeland Nils Kare

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*Conference*

**Bacterial Membrane Protein Activity Affected by <sup>60</sup>Co Gamma Radiation**

D. Soghomonyan, A. Margaryan, H. Badalyan, A. Trchounian

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*Conference*

**EXPLORING METAL RESISTANT MICROBES OF ARMENIAN MINING AREAS IN ORDER TO FIND NEW MEANS FOR BIOREMEDIATION**

Margaryan Armine, Shahinyan Grigor, Panosyan Hovik, Trchounian Armen

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*Conference*

**Metal resistant microbes of Armenian mining areas as new means for bioremediation**

Armine Margaryan

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*Conference*

**Heavy metal resistance of *Arthrobacter oryzaea* VL55 and *Pseudomonas* sp. AI2 strains**

D. Ghevondyan, O. Miqayelyan, A. Margaryan

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*Conference*

**The hexavalent-chromium reduction by the metal-resistant *Bacillus* sp. NA7 strain**

N. Abrahamyan, A. Margaryan

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*Conference*

**Metal resistant microbes of Armenian mining areas as new means for bioremediation**

Margaryan A.

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*Conference*

**Isolation and characterization of new heavy metal resistant alkaliphilic bacteria from Artsvanik Tailing**

I. Ayvazyan, A. Margaryan, A. Trchounian

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*Conference*

**The study of heavy metal resistance of newly isolated acidotolerant metal-resistant *Arthrobacter oryzaea* VL55 strain**

Ghevondyan D., S. Mirzoayn, A. Margaryan

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*Conference*

**Microbial Community structure of Armenian mining territories**

A.A. Margaryan, H.H. Panosyan, A.H. Trchounian

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*Conference*

**Fe ions effect on hydrogenase activity of *Ralstonia eutropha* H16 in various growth media**

Sona Nikolyan, Armine Margaryan, Anna Poladyan

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*Conference*

**Genomic and chemical insights into extracellular polymeric substances produced by thermophilic *Parageobacillus toebii* strain H - 70**

H. Panosyan, D. Ghevondyan, A. Margaryan, A. Cattaneo, I. Finore, A. Poli, N. Birkeland

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*Conference*

**Recombinant thermostable  $\alpha$ -amylase from *Anoxybacillus karvacharensis* k1**

Hovik Panosyan, Diana Ghevondyan, Armine Margaryan, Ani Paloyan, Garabed Antranikian,  
Nils-Kare Birkeland

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