

# Anahit Hambardzum Shirvanyan

## Research Institute of Biology

Laboratory of Microbiology, Bioenergetics and Biotechnology  
Junior Researcher

☎ 48-85

✉ anahitshirvanyan@ysu.am



## 🎓 Education

---

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology, Department of Biochemistry, Microbiology and Biotechnology
<b>Date</b>	2020 - 2023
<b>Degree name</b>	PhD student

---

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology, Department of Biochemistry, Microbiology and Biotechnology
<b>Date</b>	2018 - 2020
<b>Degree name</b>	Masters

---

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology, Department of Biochemistry, Microbiology and Biotechnology
<b>Date</b>	2014 - 2018
<b>Degree name</b>	Bachelor

---

## 🎓 Scientific Rank/degree

---

<b>Institution</b>	Yerevan State University
<b>Date</b>	2024
<b>Degree name</b>	Candidate
<b>Specialty</b>	Biological sciences
<b>Scientific Supervisor</b>	Թռչունյան Կարեն Արմենի
<b>Research Topic</b>	The action mechanisms of stress factors on some yeast growth parameters and antioxidant enzymes activity.

---

## 🌐 Language skills

---

Հայերեն Русский English

---

## 📁 Work experience

---

<b>Institution</b>	Yerevan State University
<b>Period of time</b>	2023 till now

<b>Rank/degree</b>	Researcher at 23LCG-1F003 “The role of global regulators and transcriptional activators in the regulation of metabolic and bioenergetic parameters of microorganisms under conditions of fermentation and respiration” research grant
<b>Institution</b>	Laboratory of Microbiology, Bioenergetics and Biotechnology of YSU Research Institute of Biology
<b>Period of time</b>	2023 till now
<b>Rank/degree</b>	Junior researcher
<b>Institution</b>	Yerevan State University
<b>Period of time</b>	2021 - 2023
<b>Rank/degree</b>	Researcher at 21AG-4D027 “The potential of plant origin compounds in the development of food and feed preservatives and new biologically active additives” research grant
<b>Institution</b>	Department of Biochemistry, Microbiology and Biotechnology of Faculty of Biology, YSU
<b>Period of time</b>	2019 - 2023
<b>Rank/degree</b>	Senior laboratory assistant
<b>Institution</b>	Norapat secondary school
<b>Period of time</b>	2018 - 2019
<b>Rank/degree</b>	Teacher of Biology



## Scientific interests

- Biochemistry
- Microbiology
- Biotechnology



## Participation in international conferences and seminars

<b>22/08/2022 - 23/09/2022</b>	Scientific expedition in framework of 21AG-4D027 research grant Gdansk University of Technology Poland
<b>09/07/2022 - 14/07/2022</b>	The Global Biochemistry summit Portugal
<b>01/04/2019 - 19/07/2019</b>	Erasmus+ Research program University of Saarland Germany

## Membership

---

**Institution** Armenian Microbiological Association (FEMS constituent society)  
**Period of time** 2023 - 2023

---

**Institution** Armenian Biochemical Association (FEBS founding society)  
**Period of time** 2021 - 2023

---

**Institution** OSA YSU and NAS RA student chapter  
**Period of time** 2020 - 2021

---

**Institution** ArMicro ASM Student Chapter  
**Period of time** 2019 - 2023

---

**Institution** Union of Biologists of Armenia  
**Period of time** 2016 - 2023

---

**Institution** YSU Student Scientific Society  
**Period of time** 2014 - 2020

---

## Publications

*Article*

**The potential of blackcurrant, fig, and grape leaf extracts in the development of new preparations for overcoming antibiotic resistance and enhancing the efficacy of chemotherapeutic agents**

Mikayel Ginovyan, Silvard Tadevosyan, Anahit Shirvanyan, Anush Babayan, Barbara Kusznierevicz, Izabela Koss-Mikołajczyk, Marika Mróz, Agnieszka Bartoszek, Naira Sahakyan  
BMC Complementary Medicine and Therapies 2025 1-54

---

*Article*

**Sodium transport and redox regulation in *Saccharomyces cerevisiae* under osmotic stress depending on oxygen availability**

Anahit Shirvanyan, Karen Trchounian  
Scientific Reports 2024 23982

---

*Article*

**EVALUATION OF ETHANOL AND BIOMASS PRODUCTION RATE BY DIFFERENT SACCHAROMYCES CEREVISIAE STRAINS DEPENDING ON EXTERNAL pH AND TEMPERATURE**

Anahit H. Shirvanyan  
Proceedings of the YSU B: Chemical and Biological Sciences 2023 141-153

---

*Article*

**The Action Mechanisms, Anti-Cancer and Antibiotic-Modulation Potential of *Vaccinium myrtillus* L. Extract**

Mikayel Ginovyan, Anush Babayan, Anahit Shirvanyan, Alvard Minasyan, Meri Qocharyan,

Barbara Kusznerewicz, Izabela Koss-Mikołajczyk, Nikolay Avtandilyan, Anne Vejux, Agnieszka Bartoszek,  
Naira Sahakyan  
Discovery Medicine 2023 590-611

---

*Article*

**Relationship between proton/ potassium fluxes and central carbon catabolic pathways in different *Saccharomyces cerevisiae* strains under osmotic stress conditions**

Anahit Shirvanyan, Satenik Mirzoyan, Karen Trchounian

Process Biochemistry 2023 309-318

---

*Article*

**CHEMICAL COMPOSITION AND ANTIBACTERIAL ACTIVITY OF ESSENTIAL OIL OF MENTHA ARVENSIS L. HARVESTED AT HIGH ALTITUDE ARMENIAN FLORA**

S. K. TADEVOSYAN, A. H. SHIRVANYAN, A. A. MARKOSIAN, M. T. PETROSYAN, N. Zh. SAHAKYAN

Proceedings of the YSU B: Chemical and Biological Sciences 2023 230-237

---

*Article*

**PECULIARITIES OF GROWTH PARAMETERS OF SACCHAROMYCES CEREVISIAE UNDER DIFFERENT CONDITIONS**

Anahit H. Shirvanyan, Satenik N. Mirzoyan, Karen A. Trchounian

Proceedings of the YSU B: Chemical and Biological Sciences 2021 255-265

---

*Article*

**Changes of ATPase activity and lipid peroxidation in conditions of long-term hypokinesia**

Shirvanyan A. A., Karapetyan H. M., Trchounian A. H.

Հայաստանի կենսաբանական հանդես 2020 80-84

---

*Conference*

**The effect of hydrogen peroxide-induced oxidative stress on catalase activity in yeast *Sacharomyces cerevisiae***

Shirvanyan A.H, Karapetyan H.M.

---

*Conference*

**Potassium and proton ions transport during glucose fermentation in *Saccharomyces cerevisiae* under glycerol-induced osmotic stress at different pHs**

A. Shirvanyan, S. Mirzoyan, K. Trchounian

---

*Conference*

**Antimicrobial and antioxidant potential of some plant crude extract**

Margarit Petrosyan, Alvard Minasyan, Anahit Shirvanyan, Anush Babayan, Mikayel Ginovyan,

Naira Sahakyan

---

*Conference*

**Prospects for the use of *Ficus carica* L. leave extract as bio-preservative agent**

Anahit Shirvanyan, Alvard Minasyan, Anush Babayan, Armine Moghrovyan, Naira Sahakyan,

Margarit Petrosyan, Karen Trchounian

---

*Conference*

**Regulation of catalase and superoxide dismutase activities by sodium and potassium ions in**

## **Saccharomyces cerevisiae**

A. Shirvanyan, S. Mirzoyan, K. Trchounian

---

*Conference*

### **THE OXIDATIVE STRESS AND POSSIBLE PREVENTIVE ACTION OF PLANT BORN POLYPHENOLS**

Anahit Shirvanyan, Anush Babayan, Alvard Minasyan, Margarit Petrosyan, Anna Poladyan,

Naira Sahakyan

---

*Conference*

### **The role of Saccharomyces cerevisiae ATPases in adaptation mechanisms to osmotic stress under aerobic conditions**

A. Shirvanyan, K. Trchounian

---

*Conference*

### **From metabolomics to medicine: exploiting the functional potential of plant extracts in human health, with emphasis on Ribes nigrum, Ficus carica and Vitis vinifera**

S. Tadevosyan, M. Ginovyan, N. Avtandilyan, A. Shirvanyan, A. Bartoszek, N. Sahakyan

---

*Conference*

### **From agro-bio-waste to application: the power of bilberry aerial part extract as anti-cancer and antibiotic-modulating agent**

N. Sahakyan, M. Ginovyan, A. Babayan, A. Shirvanyan, A. Minasyan, B. Kuszniereicz,

I. Koss-Mikołajczyk, N. Avtandilyan, A. Bartoszek

---

*Conference*

### **Harnessing plant extracts to overcome antibiotic resistance: leaf extracts of Ribes nigrum, Ficus carica, and Vitis vinifera as resistance modifiers of E. coli strains**

M. Ginovyan, A. Shirvanyan, S. Tadevosyan, A. Babayan, B. Kuszniereicz, N. Avtandilyan, A. Bartoszek,

N. Sahakyan

---

*Conference*

### **The impact of acetic acid stress on growth parameters and sodium flux of Saccharomyces cerevisiae strains under varying oxygen conditions**

Anahit H. Shirvanyan, Gohar S. Azbekyan, Karen A. Trchounian

---

*Conference*

### **Impact of menthol on ATPase activity and ion flux in antibiotic-resistant Escherichia coli**

Silvard K. Tadevosyan, Anahit Shirvanyan, Karen Trchounian, Naira Sahakyan

---