

# Anzhela Ashot Sargsyan

## Faculty of Biology

Chair of Genetics and Cytology

Head of the chair, assistant

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## Education

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology, Department of Genetics and Cytology
<b>Date</b>	2016 - 2020
<b>Degree name</b>	PhD student

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology, Department of Genetics and Cytology
<b>Date</b>	2014 - 2016
<b>Degree name</b>	Masters

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology
<b>Date</b>	2010 - 2014
<b>Degree name</b>	Bachelor

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## Scientific Rank/degree

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<b>Institution</b>	Yerevan State University
<b>Date</b>	2025
<b>Degree name</b>	Candidate
<b>Specialty</b>	Biological sciences
<b>Scientific Supervisor</b>	Rouben Aroutiounian
<b>Research Topic</b>	The genetic and epigenetic effects of xenobiotics in bioindicator organisms from different regions of Armenia

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## Language skills

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Հայերեն English Русский

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## Work experience

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<b>Institution</b>	Yerevan State University, Faculty of Biology, Research Institute of Biology, Group of Genomic Instability and Molecular Mutagenesis
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<b>Period of time</b>	2025 till now
<b>Rank/degree</b>	Researcher
<b>Institution</b>	Yerevan State University, Faculty of Biology, Research Institute of Biology, Laboratory of General and Molecular Genetics
<b>Period of time</b>	2024 - 2025
<b>Rank/degree</b>	Specialist of Laboratory
<b>Institution</b>	Yerevan State University, Faculty of Biology, Department of Genetics and Cytology
<b>Period of time</b>	2021 till now
<b>Rank/degree</b>	Lecturer
<b>Institution</b>	Yerevan State University, Faculty of Biology, Department of Genetics and Cytology
<b>Period of time</b>	2020 - 2023
<b>Rank/degree</b>	Head of Educational Laboratory
<b>Institution</b>	Yerevan State University, Faculty of Biology, Department of Genetics and Cytology
<b>Period of time</b>	2016 till now
<b>Rank/degree</b>	Senior Specialist of Laboratory

## Scientific interests

- Genetics
- Cell Biology
- Molecular cytogenetics
- Mutagenesis
- Ecogenotoxicology
- Genotoxicology and cytotoxicology
- Epigenetics

## Participation in international conferences and seminars

<b>01/07/2024 - 04/07/2024</b>	Third evolution-complexity conference: The Evolution of complexity and statistical physics A. Alikhanyan National Science Laboratory Armenia
<b>25/06/2023 - 30/06/2023</b>	72nd Lindau Nobel Laureate Meeting Council for the Lindau Nobel Laureate Meetings Germany
<b>27/03/2023 - 28/03/2023</b>	Armenian meeting – 2023. Climate changes: adaptation A. Alikhanyan National Science Laboratory Armenia

<b>04/07/2022 - 08/07/2022</b>	The 3rd International Workshop on "Ultrafast Beams and Applications" "CANDLE" synchrotron research institute Armenia
<b>05/10/2021 - 10/10/2021</b>	Fifth International Conference, Dedicated to N. W. Timofeeff-Ressovsky and His Scientific School "Modern Problems of Genetics, Radiobiology, Radioecology, and Evolution" Nor Amberd International Conference Centre of the Yerevan Physics Institute Armenia
<b>09/03/2021 - 11/03/2021</b>	1st DNAQUA International Conference COST Action DNAqua-Net, Online Germany
<b>11/04/2016 - 16/04/2016</b>	"Nobel days in Yerevan: Be inspired and create" Yerevan State Medical University after Mkhitar Heratsi Armenia
<b>23/06/2015 - 26/06/2015</b>	III International Scientific Conference of Young Researchers "Armbiotechnology" Scientific and Production Center of NAS RA Armenia
<b>16/06/2015 - 17/06/2015</b>	"Science from the first hands. Epigenetic" Young scientist school Yerevan State University Armenia
<b>07/11/2022 - 05/12/2022</b>	Business trip, Invited researcher Institute of Human Genetics Germany
<b>01/10/2019 - 10/11/2019</b>	Business trip, Invited researcher Institute of Human Genetics Germany
<b>09/03/2018 - 08/05/2018</b>	Business trip, Invited researcher Institute of Human Genetics Germany
<b>01/09/2017 - 30/11/2017</b>	Business trip, Invited researcher Institute of Human Genetics Germany

## Publications

### *Article*

**Application of Tradescantia-based test systems for the assessment of genotoxic effects of environmental radioactivity of undisturbed mountain soils (Aragats Massif, Armenia)**

Olga Belyaeva, Rimma Avalyan, Anzhela Sargsyan, Anahit Atoyants, Evelina Agadjanyan,

Rouben Aroutiounian

Isotopes in Environmental and Health Studies 2025 1-16

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*Article*

**Knockdown of histone H1-5 gene affects the sensitivity of MRC-5 and HeLa cells to DNA damaging agents**

Tigran Harutyunyan, Anzhela Sargsyan, Gohar Tadevosyan, Lily Kalashyan, Rouben Aroutiounian,

Galina Hovhannisyan

Human Gene 2025 1-9

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*Article*

**Changes in Telomere Length in Leukocytes and Leukemic Cells after Ultrashort Electron Beam Radiation**

Tigran Harutyunyan, Anzhela Sargsyan, Lily Kalashyan, Hovhannes Igityan, Bagrat Grigoryan,

Hakob Davtyan, Rouben Aroutiounian, Thomas Liehr, Galina Hovhannisyan

International Journal of Molecular Sciences 2024 6709

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*Article*

**CELL-FREE MITOCHONDRIAL DNA IN DOXORUBICIN-TREATED KCL22 AND K562 CELL LINES**

Tigran A. Harutyunyan, Anzhela A. Sargsyan, Lily A. Kalashyan, Hovhannes A. Igityan,

Rouben M. Aroutiounian, Galina G. Hovhannisyan

Proceedings of the YSU B: Chemical and Biological Sciences 2024 9-16

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*Article*

**DNA Damage in Moderate and Severe COVID-19 Cases: Relation to Demographic, Clinical, and Laboratory Parameters**

Tigran Harutyunyan, Anzhela Sargsyan, Lily Kalashyan, Naira Stepanyan, Rouben Aroutiounian,

Thomas Liehr, Galina Hovhannisyan

International Journal of Molecular Sciences 2024 10293

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*Article*

**EVALUATION OF GENOTOXIC EFFECTS IN COVID-19 PATIENTS AS A POTENTIAL MARKER OF VIRUS-HOST ADAPTATION**

Tigran Harutyunyan, Anzhela Sargsyan, Nara Stepanyan, Galina Hovhannisyan, Rouben Aroutiounian

ARMENIAN MEETING "Climate Changes: Adaptation" Yerevan, March 27-28, 2023 ABSTRACTS PAPERS BY YOUNG SCIENTISTS

2023 8-10

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*Article*

**Increase in the Level of Doxorubicin-Induced DNA Damage in HeLa Cells with CRISPR/Cas9 Mediated HIST1H1B Gene Knockout**

E. T. Kuchukyan, A. A. Sargsyan, T. A. Harutyunyan

Physics of Particles and Nuclei Letters 2022 287-288

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*Article*

**Application of land snail *Helix lucorum* for evaluation of genotoxicity of soil pollution**

Anzhela Sargsyan, Galina Hovhannisyan, Anna Simonyan, Marine Arakelyan, Meri Arzumanyan,

Rouben Aroutiounian

*Article*

**Increased Yield of Residual  $\gamma$ H2AX Foci in p53-Deficient Human Lung Carcinoma Cells Exposed to Subpicosecond Beams of Accelerated Electrons**

N. Yu. Vorobyeva, N. S. Babayan, B. A. Grigoryan, A. A. Sargsyan, L. G. Khondkaryan, L. S. Apresyan, A. K. Chigasova, E. I. Yashkina, D. V. Guryev, S. M. Rodneva, A. A. Tsishnatti, Yu. A. Fedotov, R. M. Arutyunyan, A. N. Osipov

БЮЛЛЕТЕНЬ ЭКСПЕРИМЕНТАЛЬНОЙ БИОЛОГИИ И МЕДИЦИНЫ (BULLETIN OF EXPERIMENTAL BIOLOGY AND MEDICINE)  
2022 760-763

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*Article*

**IDENTIFICATION OF CYTOGENETICALLY VISIBLE mtDNA IN INTERPHASE NUCLEI OF HUMAN BLOOD LYMPHOCYTES EXPOSED TO DOXORUBICIN**

T. A. HARUTYUNYAN, G. G. HOVHANNISYAN, A. A. SARGSYAN, T. LIEHR, A. AL-RIKABI,

R. M. AROUTIOUNIAN

Proceedings of the YSU B: Chemical and Biological Sciences 2020 63-67

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*Article*

**Doxorubicin-induced translocation of mtDNA into the nuclear genome of human lymphocytes detected using a molecular-cytogenetic approach**

Tigran Harutyunyan, Ahmed Al-Rikabi, Anzhela Sargsyan, Galina Hovhannisyanyan, Rouben Aroutiounian,

Thomas Liehr

International Journal of Molecular Sciences 2020 1-11

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*Article*

**Оценка повреждений ДНК с применением метода ДНК-комет в двух природных популяциях дождевых червей *Lumbricus terrestris***

A. A. Саргсян

Доклады НАН РА 2020 206-213

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*Article*

**Analysis of copy number variations induced by ultrashort electron beam radiation in human leukocytes in vitro**

Tigran Harutyunyan, Galina Hovhannisyanyan, Anzhela Sargsyan, Bagrat Grigoryan, Ahmed H. Al-Rikabi,

Anja Weise, Thomas Liehr, Rouben Aroutiounian

Molecular Cytogenetics 2019 18 (1-6)

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*Article*

**Application of the comet assay, micronucleus test and global DNA methylation analysis in *Darevskia* lizards as a sentinel organism for genotoxic monitoring of soil pollution**

Anzhela Sargsyan, Anna Simonyan, Galina Hovhannisyanyan, Marine Arakelyan, Rouben Aroutiounian

Mutation Research - Genetic Toxicology and Environmental Mutagenesis 2019 117-124

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*Article*

**DNA damage and micronuclei in parthenogenetic and bisexual *Darevskia* rock lizards from the areas with different levels of soil pollution**

Anna Simonyan, Galina Hovhannisyanyan, Anzhela Sargsyan, Marine Arakelyan, Seyran Minasyan,

*Article*

**Application of Crayfish *Astacus leptodactylus* for the Analysis of Water Genotoxicity in the Lake Sevan Basin**

A. E. Simonyan, A. A. Sargsyan, G. G. Hovhannisyan, N. S. Badalyan, S. H. Minasyan

JOURNAL OF WATER CHEMISTRY AND TECHNOLOGY 2018 367-369

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*Article*

**ԲԵՏԱՅԻՆԻ ՀԱՎԱՍՈՒՏԱԳԵՆԱՅԻՆ ՀԱՏՎՈՒԹՅՈՒՆՆԵՐԻ ԳՆԱՀԱՏՈՒՄԸ KCL - 22 ԲԶԻԶՆԵՐՈՒՄ ԴՆԹ - ԿՈՍԵՏ ՄԵԹՈԴՈՎ**

Անժելա Սարգսյան, Աննա Սիմոնյան, Գալինա Հովհաննիսյան

ԵՊՀ ՈՒԳԸ գիտական հոդվածների ժողովածու 2017 137-141

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*Article*

**АНАЛИЗ ПОВРЕЖДЕНИЙ ДНК У ЯЩЕРИЦ *DAREVSKIA RADDEI*, ОБИТАЮЩИХ В ЗОНАХ С РАЗЛИЧНЫМ УРОВНЕМ ЗАГРЯЗНЕНИЯ ПОЧВ, МЕТОДОМ ДНК-КОМЕТ**

А.Э. СИМОНЯН, А.Л. ГЕВОРКЯН, С.Г. МИНАСЯН, А.А. САРГСЯН, М.С. АРАКЕЛЯН

Հայաստանի կենսաբանական հանդես 2015 65-67

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

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*Conference*

**Photodynamic activity and structure/activity relationship of new porphyrins in vitro as potential photosensitizers for application in photodynamic therapy of cancer**

Angela A. Sargsyan, Sona V. Galstyan, Elen A. Hakobyan, Diana H. Vardanyan, Areg Galstyan,

Lusine H. Khondkaryan, Nelli S. Babayan

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*Conference*

**Assessment of aquatic genotoxicity of the Lake Sevan basin, Armenia using natural bioindicators**

Anzhela Sargsyan, Anna Simonyan, Galina Hovhannisyan, Bardukh Gabrielyan, Rouben Aroutiounian

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*Conference*

**APPLICATION OF BIOINDICATORS FOR ASSESSMENT OF HEAVY METALS' GENETIC AND EPIGENETIC EFFECTS IN DIFFERENT REGIONS OF ARMENIA**

Sargsyan A, Hovhannisyan G., Simonyan A., Arakelyan M., Minasyan S., Aroutiounian R.

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*Conference*

**DOXORUBICIN-INDUCED MTDNA INSERTIONS IN NUCLEAR GENOME OF HUMAN LYMPHOCYTES**

Aroutiounian R, Hovhannisyan G, Sargsyan A, Al-Rikabi A, Liehr T, Harutyunyan T

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*Conference*

**Genetic effects of ultrashort pulsed electron beam irradiation - 7 years of joint experience**

Rouben Aroutiounian, Tigran Harutyunyan, Andrean Osipov, Natalya Vorobyeva, Galina Hovhannisyan,

Anzhela Sargsyan, Bagrat Grigoryan, Samvel Haroutiounian, Thomas Liehr, Nelly Babayan

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*Conference*

**ԳԵՆԵՏԻԿԱԿԱՆ ԱՆԿԱՅՈՒՆՈՒԹՅԱՆ ԿԵՆՍԱՍՄԱՐԿԵՐՆԵՐԻ ԿԻՐԱՈՒՄԸ ՄԻԶԻՆ ԵՎ ԾԱՆՐ ԸՆԹԱՑՔՈՎ**

## **COVID-19 ՀԻՎԱՆԴՆԵՐԻ ԽՄԲԵՐՈՒՄ**

Հարությունյան Ռ., Հովհաննիսյան Գ., Սարգսյան Ա., Ստեփանյան Ն., Ղուկասյան Լ., Առաքելյան Ա.,  
Հարությունյան Տ.

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*Conference*

### **GENOTOXICOLOGICAL AND MOLECULAR-GENETIC RESEARCH OF CORONAVIRUS IN ARMENIA**

Tigran Harutyunyan, Anzhela Sargsyan, Nara Stepanyan, Galina Hovhannisyan, Lilit Ghoukasyan,  
Arsen Arakelyan, Rouben Aroutiounian

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*Conference*

### **Genotoxic effects of low LET irradiation by electron pulses in human cells**

R.M. Aroutiounian, G.G. Hovhannisyan, N. S. Babayan, A.A. Sargsyan, B.A. Grigoryan, T. Liehr,  
T.A. Harutyunyan

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*Conference*

### **Telomere Lengths of Human Chromosomes as Potential Biomarkers of Genomic Instability Induced by Electron Beam Radiation**

L.A. Kalashyan, A.A. Sargsyan, B.A. Grigoryan, H.D. Davtyan, R.M. Aroutiounian, T. Liehr,  
G.G. Hovhannisyan, T.A. Harutyunyan

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*Conference*

### **APPLICATION OF WATER GENOTOXICITY BIOMARKERS IN LAKE SEVAN**

Aroutiounian R.M., Hovhannisyan G.G., Avalyan R.E., Atoyants A.L., Gabrielyan B.K., Sargsyan A.A.

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*Conference*

### **Application of Modern Genetic Biomarkers in Environmental Monitoring**

Rouben Aroutiounian, Anzhela Sargsyan, Galina Hovhannisyan

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*Conference*

### **8-OHdG Elevation in Hypoxic COVID-19: A Potential Link to Inflammation and Disease Severity**

Tigran Harutyunyan, Gohar Tadevosyan, Anzhela Sargsyan, Lily Kalashyan, Naira Stepanyan,  
Rouben Aroutiounian, Galina Hovhannisyan

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*Conference*

### **Leukocyte Telomere Length Changes in Hypoxic COVID-19 patients**

Tigran Harutyunyan, Anzhela Sargsyan, Lily Kalashyan, Naira Stepanyan, Thomas Liehr,  
Rouben Aroutiounian, Galina Hovhannisyan

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*Conference*

### **Assessing the Environmental Impacts of Pesticides: A Case Study from Armenia**

L.V. Margaryan, M.V. Arzumanyan, N.A. Zakaryan, R.E. Matevosyan, I.M. Eloyan, I.V. Shahazizyan,  
A.A. Sargsyan, A.L. Atoyants, S.G. Nanagulyan

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*Conference*

### **Micronuclei levels in doxorubicin- and mitomycin C-treated MRC-5 and HeLa cells with knockdown of the histone H1-5 gene**

T. Harutyunyan, A. Sargsyan, G. Tadevosyan, L. Kalashyan, R. Aroutiounian, G. Hovhannisyan

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*Conference*

**Hybrid Track-Etched Membranes as Antiviral Filters**

Rouben Aroutiounian, Tigran Harutyunyan, Anzhela Sargsyan, Evgeny Andreev, Alexander Nechaev,  
Pavel Apel, Galina Hovhannisyan, Hovakim Zakaryan

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