

# Galina Georgiy Hovhannisyan

✉ galinahovhannisyan@ysu.am

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## Faculty of Biology

Chair of Genetics and Cytology  
Professor

## 🎓 Education

Institution	YSU
Faculty	Faculty of Biology
Date	1978 - 1983
Degree name	Qualified specialist

## 🎓 Scientific Rank/degree

Institution	YSU
Date	2013
Degree name	Doctor
Specialty	Biological sciences
Research Topic	Localization of DNA and chromosomal damage in human cells

Institution	YSU
Date	1990
Degree name	Candidate
Specialty	Biological sciences
Scientific Supervisor	Rouben Aroutiounian
Research Topic	The study of anticlastogens under the action of chemical mutagens in the cells of allergic patients and healthy donors

## 🌐 Language skills

Հայերեն Russian English

## 💼 Work experience

Institution	YSU, Faculty of Biology
Period of time	2020 till now
Rank/degree	Professor

## ^K Scientific interests

- genetic toxicology, molecular cytogenetics, environmental genetics, mutagenesis, antimutagenesis
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## Membership

<b>Institution</b>	YSU Faculty of Biology Scientific Council
<b>Period of time</b>	2019 till now
<b>Institution</b>	042 Specialized Council at Institute of Molecular Biology of the National Academy of Sciences of the Republic of Armenia on Biochemistry
<b>Period of time</b>	2022 till now
<b>Institution</b>	051 Specialized Council at YSU on Biophysics
<b>Period of time</b>	2019 till now

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## State awards and honorary titles

2019 YSU Gold Medal

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## Publications

### *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

*Article*

**The Diagnostic, Prognostic, and Therapeutic Potential of Cell-Free DNA with a Special Focus on COVID-19 and Other Viral Infections**

Galina Hovhannisyan, Tigran Harutyunyan, Rouben Aroutiounian, Thomas Liehr

International Journal of Molecular Sciences 2023 14163

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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

MUTATION RESEARCH - GENETIC TOXICOLOGY AND ENVIRONMENTAL MUTAGENESIS 2022 503500

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*Manual*

**Cytogenomics: Approaches for studying epigenetic aspects of the human genome**

Harutyunyan Tigran, Hovhannisyan Galina

2021 54

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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 Hovhannisyan, Rouben Aroutiounian,

Thomas Liehr

International Journal of Molecular Sciences 2020 1-11

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*Manual*

**Մարդու գենետիկայի հիմունքները**

Լիր Թոմաս, Հարությունյան Տիգրան, Հովհաննիսյան Գալինա

2020 170

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*Article*

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

Tigran Harutyunyan, Galina Hovhannisyan, 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**

*Article*

**DNA Copy Number Variations as Markers of Mutagenic Impact**

Hovhannisyan Galina, Harutyunyan Tigran, Aroutiounian Rouben, Liehr Thomas

International Journal of Molecular Sciences 2019 1-19

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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 Hovhannisyan, Anzhela Sargsyan, Marine Arakelyan, Seyran Minasyan,

Rouben Aroutiounian

Ecotoxicology and Environmental Safety 2018 13-18

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*Article*

**Gender differences in DNA damage/repair after laser-generated ultrafast electron beam irradiation**

Babayan N, Grigoryan B, Hovhannisyan G, Tadevosyan G, Khondkaryan L, Grigoryan R, Sarkisyan N,

Aroutiounian R

International Journal of Radiology & Radiation Therapy 2018 85-86

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*Article*

**Micronuclei and what they can tell us in cytogenetic diagnostics**

Hovhannisyan Galina, Harutyunyan Tigran, Aroutiounian Rouben

Current Genetic Medicine Reports 2018 144-154

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*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*

**Dose-rate effect of ultrashort electron beam radiation on DNA damage and repair in vitro**

Nelly Babayan, Galina Hovhannisyan, Bagrat Grigoryan, Ruzanna Grigoryan, Natalia Sarkisyan,

Gohar Tsakanova, Samvel Haroutiounian, Rouben Aroutiounian

Journal of Radiation Research 2017 894-897

<https://academic.oup.com/jrr>

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*Article*

**ԲԵՏԱՅԻՆԻ ՀԱԿԱՄՈՒՏԱԳԵՆԱՅԻՆ ՀԱՏԿՈՒԹՅՈՒՆՆԵՐԻ ԳՆԱՀԱՏՈՒՄԸ KCL - 22 ԲԳԻՉՆԵՐՈՒՄ ԴՆԹ - ԿՈՄԵՏ ՄԵԹՈԴՈՎ**

Անժելա Սարգսյան, Աննա Սիմոնյան, Գալինա Հովհաննիսյան

ԵՊՀ ՈՒԳԸ գիտական հոդվածների ժողովածու 2017 137-141

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*Manual*

**Fluorescence in situ Hybridization (FISH) - Application Guide.PART V. INTERPHASE FISH.**

**Comet-FISH**

Hovhannisyan G, Aroutiounian R

2017 6

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*Manual*

**Micronucleus FISH, Fluorescence In Situ Hybridization (FISH) Application Guide, Second Edition**

Galina Hovhannisyan, Tigran Harutyunyan, Thomas Liehr

2017 379-383

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*Article*

**Comparative analysis of individual chromosome involvement in micronuclei induced by mitomycin C and bleomycin in human leukocytes.**

Hovhannisyan G, Aroutiounian R, Babayan N, Harutyunyan T, Liehr T

Molecular Cytogenetics 2016 7

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

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*Article*

**Genotoxicity of Water Contaminants from the Basin of Lake Sevan, Armenia Evaluated by the Comet Assay in Gibel Carp (*Carassius auratus gibelio*) and *Tradescantia* Bioassays**

Simonyan A, Gabrielyan B, Minasyan S, Hovhannisyan G, Aroutiounian R

Bulletin of Environmental Contamination and Toxicology 2016 309-313

<http://www.springer.com/environment/pollution+and+remediation/journal/128>

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*Article*

"Կենսաբանություն" առարկայից սովորողների գիտելիքների ընթացիկ գնահատման տեսակները  
Ա.Ֆ.Կարապետյան, Գ.Գ.Հովհաննիսյան, Ի.Վ.Շահազիզյան

Բնագետն 2016 31-39

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*Article*

**Cell viability and DNA damage in MRC5 and HeLa cell lines after histone H1 knockout by CRISPR-Cas9 genome editing technology**

Hovhannisyan G, Aroutiounian R, Harutyunyan T, Babayan N

Proceedings of the YSU B: Chemical and Biological Sciences 2016 64-66

<http://www.ysu.am/science/hy/journals>

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*Manual*

**Գենետիկական թունաբանության հիմունքներ**

Հովհաննիսյան Գայլիսա

2016 72

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*Article*

**Influence of aflatoxin B1 on copy number variants in human leukocytes in vitro.**

Harutyunyan T, Hovhannisyan G, Babayan N, Othman MA, Liehr T, Aroutiounian R

Molecular Cytogenetics 2015 25; 5

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

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*Article*

**A New Case of a Complex Small Supernumerary Marker Chromosome: A Der(9)t(7;9)(p22;q22) due to a Maternal Balanced Rearrangement.**

Manvelyan M., Simonyan I., Hovhannisyan G., Aroutiounian R., Hamid A.B., Liehr Th.

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*Article*

**Combined Genotoxic Effects of Aflatoxin B1, Ochratoxin A and Zearalenone in Rat Bone Marrow and Blood Leukocytes**

Harutyunyan Tigran, Karapetyan Anna, Hovhannisyan Galina, Aroutiounian Rouben

Korean Journal of Environmental Biology 2013 189-191

<http://www.ebr.or.kr/AboutUs/01.php>

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*Article*

**In vitro testing of cyto- and genotoxicity of new porphyrin water-soluble metal derivatives**

Gennadi Gasparyan, Galina Hovhannisyan, Robert Ghazaryan, Lida Sahakyan, Artak Tovmasyan,

Rusanna Grigoryan, Natalia Sarkissyan, Samvel Haroutiunian, Rouben Aroutiounian

International Journal of Toxicology 2007 497-502

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*Conference*

**DETECTION OF GENOTOXIC AND CLASTOGENIC EFFECTS OF SOILS POLLUTION IN ARMENIA WITH APPLICATION OF TRADESCANTIA (CLONE 02) TEST SYSTEM**

Atoyants A.L., Aghajanyan E.A., Avalyan R.E., Hovhanisyan G.G., Aroutiounian R.M.

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*Conference*

**ЭКОГЕНОТОКСИКОЛОГИЧЕСКОЕ ИССЛЕДОВАНИЕ БАССЕЙНА ОЗЕРА СЕВАН С ПРИМЕНЕНИЕМ РЕЧНЫХ РАКОВ (ASTACUS LEPTODACTYLUS) И ТРАДЕСКАНЦИИ**

А.Э. Симонян, Г.Г. Оганесян, Б.К. Габриелян, С.Г. МИНАСЯН, Т.А. Арутюнян, А.Л. Геворкян,

Р.М. Арутюнян

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*Conference*

**Изучение мутагенеза методами молекулярной цитогенетики.**

Арутюнян Р.М., Арутюнян Т.А., Симонян А.Э., Оганесян Г.Г.

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*Conference*

**Ecogenetic studies in Armenia.**

Aroutiounian R.M., Hovhannisyan G.G., Simonyan A.E.

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*Conference*

**PROTECTIVE EFFECTS OF SCHIFF BASE CYCLIC AMINO ACID DERIVATIVES AGAINST MYCOTOXINS GENO- AND CYTOTOXICITY**

Tigran HARUTYUNYAN, Galina HOVHANNISYAN, Nelli BABAYAN, Thomas LIEHR, Arsen ARAKELYAN,

Rouben AROUTIOUNIAN, Margarita MALAKYAN

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*Conference*

**Genetic effects: DNA radiation damage and repair**

R. Aroutiounian, G. Hovhannisyan, B. Grigoryan, G. Tsakanova, S. Haroutiunian, T. Harutyunyan,

N. Babayan

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*Conference*

**Genetic damage in bioindicator organisms and heavy metal content in ecogenotoxic studies**

Rouben Aroutiounian, Galina Hovhannisyan, Anna Simonyan

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*Conference*

**The genotoxic and cytotoxic effects of ochratoxin a and t-2 toxin in rats bone marrow and blood cells**

Harutyunyan Tigran, Hovhannisyan Galina, Babayan Nelli, Arakelyan Arsen, Aroutiounian Rouben

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*Conference*

**Оценка повреждений и репарации ДНК при облучении сверхкороткими импульсами ускоренных электронов.**

Арутюнян Р.М., Оганесян Г.Г., Григорян Б.А., Цаканова Г.В., Арутюнян С.Г., Арутюнян Т.А.,  
Бабаян Н.С.

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*Conference*

**Кинетика репарации ДНК и эпигенетические изменения при облучении сверхкороткими импульсами ускоренных электронов**

Арутюнян Р.М., Оганесян Г.Г., Григорян Б.А., Арутюнян Т.А., Бабаян Н.С.

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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 Haroutiunian, Thomas Liehr, Nelly Babayan

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*Conference*

**ԳԵԼԵՏԻԿԱԿԱՆ ԱՆԿԱՅՈՒՆՈՒԹՅԱՆ ԿԵՆՍԱՄԱՐԿԵՐՆԵՐԻ ԿԻՐԱՊՈՒՄԸ ՄԻԶԻՆ ԵՎ ԾԱԼՐ ԸՆԹԱՑՔՆ 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