

# Galina Georgiy Hovhannisyan

**Faculty of Biology**  
Chair of Genetics and Cytology  
Professor

✉ galinahovhannisyan@ysu.am



## Education

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| <b>Institution</b> | YSU                  |
| <b>Faculty</b>     | Faculty of Biology   |
| <b>Date</b>        | 1978 - 1983          |
| <b>Degree name</b> | Qualified specialist |

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## Scientific Rank/degree

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

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

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## Language skills

Հայերեն Русский English

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## Work experience

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| <b>Institution</b>    | YSU, Faculty of Biology, Research Institute of Biology, Laboratory of General and Molecular Genetics |
| <b>Period of time</b> | 2024 till now  |
| <b>Rank/degree</b>    | senior researcher  |

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**Institution** YSU, Faculty of Biology, Research Institute of Biology, Laboratory of General and Molecular Genetics  
**Period of time** 2020 - 2024  
**Rank/degree** leading researcher

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**Institution** YSU, Faculty of Biology, Department of Genetics and Cytology  
**Period of time** 2020 till now  
**Rank/degree** Professor

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**Institution** YSU, Faculty of Biology, Research Institute of Biology, Laboratory of General and Molecular Genetics  
**Period of time** 2014 - 2020  
**Rank/degree** senior researcher

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**Institution** YSU, Faculty of Biology, Laboratory of Cytogenetics  
**Period of time** 1995 - 2014  
**Rank/degree** senior researcher

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**Institution** YSU, Faculty of Biology, Laboratory of Cytogenetics  
**Period of time** 1994 - 1995  
**Rank/degree** researcher

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## Scientific interests

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

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**Institution** YSU Faculty of Biology Scientific Council  
**Period of time** 2019 till now

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**Institution** 042 Specialized Council at Institute of Molecular Biology of the National Academy of Sciences of the Republic of Armenia on Biochemistry  
**Period of time** 2022 till now

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**Institution** 051 Specialized Council at YSU on Biophysics  
**Period of time** 2019 till now

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## State awards and honorary titles

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2019 YSU Gold Medal

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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*

**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, Hovhannisyany 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 Hovhannisyany, 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 Hovhannisyany, 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 Hovhannisyany, Marine Arakelyan, Rouben Aroutiounian

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

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Article

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

Hovhannisyany 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 Hovhannisyany, 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 Haroutiunian, Rouben Aroutiounian

Journal of Radiation Research 2017 894-897

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

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Article

**ԲԵՏԱՅԻՆԻ ՀԱԿԱՍՈՒՏԱԳԵԼԱՅԻՆ ՀԱՏԿՈՒԹՅՈՒՆՆԵՐԻ ԳԼԱՀԱՏՈՒՄԸ KCL - 22 ԲԶԻԶԼԵՐՈՒՄ ԴՆԹ - ԿՈՍԵՏ ՍԵԹՈՂՈՎ**

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. Շահագիզյան

Բնագետ 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 Գալինա

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.

Journal of Pediatric Genetics 2015 199-200

<http://childscience.org/jpg/about.html>

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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 БАСЕЙНА 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., Hovhannisyanyan 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. Hovhannisyanyan, 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 Hovhannisyanyan, 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, Hovhannisyanyan 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 Haroutiounian, Thomas Liehr, Nelly Babayan

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Conference

**ԳԵՆԵՏԻԿԱԿԱՆ ԱՆԿԱՅՈՒՆՈՒԹՅԱՆ ԿԵՆՍԱՍԱՐԿԵՐՆԵՐԻ ԿԻՐԱՌՈՒՄԸ ՄԻՋԻՆ ԵՎ ԾԱՆՐ ԸՆԹԱՑՔՈՎ COVID-19 ՀԻՎԱՆԴՆԵՐԻ ԽՍՐԵՐՈՒՄ**

Հարությունյան Ռ., Հովհաննիսյան Գ., Սարգսյան Ա., Ստեփանյան Ն., Դուկասյան 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*

**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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