Arsen Arakelyan

CURRICULUM VITAE

Personal Information

Full name:	Arsen Arakelyan
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Phone:	+37410 440566
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Year of Birth:	10 Feb 1979
Place of Birth:	Yerevan, Armenia
Citizenship:	Republic of Armenia
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Current Work Details

Position:	Senior Researcher, Head of Group
Degree:	PhD
Organization:	Institute of Molecular Biology NAS RA
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Education

SEP 1995- JUL 1999	**Bachelor's degree in Biochemistry** ***Specialization: Biochemistry*** Faculty of Biology, Yerevan State University
SEP 1999 - JUL 2001	**Master's degree in Biochemistry** ***Specialization: Biochemistry*** Faculty of Biology, Yerevan State University
SEP 2001 - MAR 2004	**PhD in Biology** ***Specialization: Molecular and Cellular Biology*** Institute of Molecular Biology of the National Academy of Sciences of the Republic of Armenia (NAS RA)

Professional Experience

Permanent Positions:

FEB 2015 - to date	**Director**
	Institute of Molecular Biology NAS RA, Armenia
JAN 2011 - to date	**Group Leader**
	Research Group of Bioinformatics
	Institute of Molecular Biology NAS RA, Armenia
JAN 2011 - to date	**Senior Researcher**
	Research Group of Bioinformatics
	Institute of Molecular Biology NAS RA, Armenia
JAN 2008 - OCT 2014	**Deputy Director**
	Institute of Molecular Biology NAS RA, Armenia
NOV2007 - JAN 2011	**Researcher**
	Laboratory of Macromolecular Complexes
	Institute of Molecular Biology, NAS RA, Armenia
JUN 2007 - NOV 2007	**Visiting scientist**
	Laboratory of Immunogenomics
	Palacky University, Czech Republic
JUN 2004 - JUN 2007	**Researcher**
	Laboratory of Macromolecular Complexes
	Institute of Molecular Biology, NAS RA, Armenia
OCT 2001 - JUN 2004	**Junior researcher**
	Laboratory of Macromolecular Complexes
	Institute of Molecular Biology, NAS RA, Armenia
APR 1998 - OCT 2001	**Research assistant**
	Laboratory of Macromolecular Complexes
	Institute of Molecular Biology, NAS RA, Armenia

Part-time Positions:

JAN 2018-to date	**Director**
	Institute of Biomedicine and Pharmacy of Russian-Armenian (Slavonic) University
JAN 2015- JAN 2018	**Head of Department**
	Department of Bioengineering and Bioinformatics of the Institute of Mathematics and High-Technologies of the Russian-Armenian (Slavonic) University

SEP 2014 - MAY 2019	**Adjunct Lecturer** ***Undergraduate General Education Courses:*** ***F100 level course – Introduction to Biosciences*** ***F200 level course – Quantitative Biology*** American University of Armenia (affiliated with the University of California, see http://aua.am/accreditation-affiliations/)
SEP 2012 - to date	**Lecturer** ***Graduate Courses:*** ***Introduction to Bioinformatics*** ***Introduction to Biostatistics*** Department Molecular and Cellular Biology International Scientific-Educational Center of NAS RA

Research Experience and Technical Skills

Bioinformatics skills and tools	Protein modeling, biostatistics, high-throughput gene expression analysis, signal processing, image processing, primer design, association analysis, R, BLAST, GO tools, MATLAB Bioinformatics tools, GSEA
Bioinformatics packages developed/ contributed	**KEGGParser: parsing and editing KEGG pathway maps in Matlab** http://www.mathworks.com/matlabcentral/fileexchange/37561-keggparser--parsing-and-editing-kegg-pathway-maps-in-matlab **Geometric Gaussian-Kernel Bolstered Error Estimation for Linear Classification** http://www.mathworks.com/matlabcentral/fileexchange/40118-geometric-gaussian-kernel-bolstered-error-estimation-for-linear-classification **CyKEGGParser: a Cytoscape app for parsing and automatic corrections of KEGG pathway maps** http://apps.cytoscape.org/apps/cykeggparser **Computel: R based software for computation of mean telomere length of NGS Whole Genome Sequencing data** https://github.com/lilit-nersisyan/computel
Laboratory skills	DNA isolation, PCR-SSP, qRT-PCR, ELISA, flow cytometry, PAGE/WB, Sanger Sequencing
Programming skills	C, Matlab 6.0-10.0, R, little experience with Pyton Matlab FileExchange Submission: 6 files, 73 + 23 downloads last 30 days (two

	different accounts: http://www.mathworks.com/matlabcentral/fileexchange/authors/13183 http://www.mathworks.com/matlabcentral/fileexchange/authors/89768
Statistical tools	SPSS, GraphPad Prism
Languages	Russian – fluent, English – fluent, Czech - fair, Armenian - native

Honors/Awards

2019	**Most productive scientists in the year 2018** Awarded by the State Committee of Science of the Ministry of Education and Science of the Republic of Armenia
2015	**Most productive scientists in the year 2014** Awarded by the State Committee of Science of the Ministry of Education and Science of the Republic of Armenia
2013	**Most productive scientists in the year 2012** Awarded by the State Committee of Science of the Ministry of Education and Science of the Republic of Armenia
2013	**Winner of the Young Scientists Competition "Best Scientific Work 2013", Section of Biology** Awarded by the National Academy of Sciences of the Republic of Armenia, the World Armenian Congress, the Union of Armenians in Russia, and Ministry of Diaspora of the RA
2012	**Award for publications with the highest citations in international peer-reviewed journals** Awarded by the "Tashir" Foundation and "Young Scientists Support" Initiative, Armenia
2011	**Award for impact factor publications** Awarded by "Gagik Tsarukyan" Foundation and "Young Scientists Support" Initiative, Armenia
2011	**Invitation to the 61st Meeting of Nobel Laureates in Lindau as a Young Researcher** Council for the Lindau Nobel Prize Laureate Meetings, Germany
2010	**Award for best scientific development (3rd class diploma)**

	Awarded by the "Development of education, science and health" Foundation, Russian Federation
2010	**Award for the best presentation at the Young Scientists School "Bioinformatics and Systems Biology"** Awarded by the Young Scientists School Organizing Committee, Russian Federation

Research grants/awards

2021-2026	**Molecular characterization of cancers with longread RNA sequencing - building new multidisciplinary competence for life sciences in Armenia** ***Role in Project: PI*** Grant of the State Committee of Science RA (21AG-1F021)
2021-2023	**Development of new methods for identification of complex biomarkers and phenotype classification of cancers using biological pathways and high throughput data** ***Role in project: PI*** Grant of the State Committee of Science RA (21SC-BRFFR-1F020)
2018-2020	**Mechanisms underlying resistance of BRCA1-deficient ovarian cancers to PARP-inhibitors** ***Role in project: PI*** Grant of the State Committee of Science RA (18RF-112)
2017-2019	**oBIG:Partner Initiative in Bioinformatics, Systems Medicine and Health** ***Role in project: Co-PI*** Federal Ministry of Education and Research, Germany (FFE-034)
2017-2019	**PathwayMaps: Cartography of pathogenic pathway states** ***Role in project: Principle investigator*** Grant of the State Committee of Science RA (16GE-025)
2015-2017	**Assessment of the impact of genomic and epigenetic alterations on gene expression and biological pathway activation in cancers** ***Role in project: Principle investigator*** Grant of the State Committee of Science RA (15T-1F150)
2013-2015	**Analysis of biomolecular pathways involved in complex human diseases** ***Role in project: Principle investigator*** Grant of the State Committee of Science RA (13YR-1F0022)
2014	**Multiclass growing support set algorithm for analysis of high-throughput gene**

	expression data
	Role in project: Principle investigator
	Grant of the Armenian National Science and Education Fund, ANSEF, USA (molbio-3507)
2011-2013	**In silico structure-function characterization of Familial Mediterranean fever gene product (pyrin): insights into disease pathogenesis**
	Role in project: Principle investigator
	Grant of the State Committee of Science RA (11B-1f014)
2012	**Express test-system for diagnostics of overtraining syndrome**
	Role in project: Principle investigator
	Grant of the Ministry of Economics of RA and Civilian Research and Development Foundation, USA (CRDF-9070)
2011	**Growing support sets for pathway specific microarray gene expression analysis**
	Role in project: Principle investigator
	Grant of the Armenian National Science and Education Fund, ANSEF, USA (NS-molbio-2319)

Academic Fellowships and Visits

2013	DAAD Research Stay Award
2008	Cardiff University International Collaboration Award, UK
2005	Royal Society International Joint Project Award, UK
2003, 2004	INTAS NIS Young Scientist Fellowship, EU

Additional Professional Activities & Membership

Membership in associations and societies:

2012-to date	The Protein Society
2012-to date	The International Society for Computational Biology (ISCB)
2010-to date	European Respiratory Society
2010-to date	European Academy for Allergy and Clinical Immunology
2010-to date	International Brain Research Organization (IBRO)
2008-to date	Armenian Federation of Biochemists Affiliated to FEBS

Evaluation activities:

2014-to date	Reviewer of Computational and Structural Biotechnology Journal
2013-to date	Reviewer of PLOS One
2013-to date	Expert of the State Committee of Science of the Republic of Armenia
2010-to date	Expert of the Commercialization Reactor Events, Lativa

Supervision of graduate students

Supervision of 10 graduate projects, 2 PhD Student

Patents

Boyadjyan A., Khoyetsyan A., Arakelyan A. Method for schizophrenia diagnostics. AM 2347, G01N 33/48, 2010-01-25

Author Profile

Google Scholar: https://scholar.google.com/citations?user=z8SFEuAAAAAJ&hl=en

Scopus: http://www.scopus.com/inward/authorDetails.url?authorID=7005343835

ORCID: https://orcid.org/0000-0002-6851-1056

List of publications

Book chapters

1. **Arakelyan A**, Nersisyan L, Hakobyan A. Application of MATLAB in -Omics and Systems Biology. Applications from Engineering with MATLAB Concepts, Associate Prof. Jan Valdman (Ed.), ISBN: 978-953-51-2459-7. InTech, Croatia, 2016. DOI: 10.5772/62847.
2. **Arakelyan A**, Aslanyan L, Boyajyan A. High-throughput Gene Expression Analysis Concepts and Applications. Sequence and Genome Analysis II – Bacteria, Viruses and Metabolic Pathways. ISBN: 978-1-480254-14-5. iConcept Press Ltd, USA , 2013, 71-95 http://www.iconceptpress.com/books/sequence-and-genome-analysis-ii--bacteria-viruses-and-metabolic-pathways
3. Boyajyan A, **Arakelyan A,** Ayvazyan V. Chapter 5. Lipoprotein-X in diseases. In: Handbook of lipoprotein research (Editor: J.E. Rathbond), Nova Science Publishers Inc., USA, 2011, 109-124
4. **Arakelyan A**, Boyajyan A, Sahakyan H, Aslanyan L, Ivanova K, Mitov I. Growing support set systems in analysis of high-throughput gene expression data. In: New trends in classification and data mining (Editors: K. Markov, V. Ryazanov, V. Velychko, L. Aslanyan), Sofia: ITHEA, 2010, 47-53.

5. Di Napoli M, **Arakelyan A**, Boyajyan A, Godoy A, Papa F. Chapter III: The acute phase inflammatory response in stroke: systemic inflammation and neuroinflammation. In: Progress in Inflammation Research (Editor: J. A. Pitzer), Nova Science Publishers Inc., USA, 2005, 95-145.

Articles

1. Cinar M, Martinez-Medina L, Puvvula PK, **Arakelyan A**, Vardarajan BN, Anthony N, Nagaraju GP, Park D, Feng L, Sheff F, Mosunjac M, Saxe D, Flygare S, Alese OB, Kaufman JL, Lonial S, Sarmiento JM, Lossos IS, Vertino PM, Lopez JA, El-Rayes B, Bernal-Mizrachi L. Transposon DNA sequences facilitate the tissue-specific gene transfer of circulating tumor DNA between human cells. Nucleic Acids Res. 2024 Jul 22;52(13):7539-7555. doi: 10.1093/nar/gkae427. PMID: 38783375; PMCID: PMC11260451.
2. Grigor'eva EV, Karapetyan LV, Malakhova AA, Medvedev SP, Minina JM, Hayrapetyan VH, Vardanyan VS, Zakian SM, **Arakelyan A**, Zakharyan R. Generation of iPSCs from a Patient with the M694V Mutation in the MEFV Gene Associated with Familial Mediterranean Fever and Their Differentiation into Macrophages. Int J Mol Sci. 2024 Jun 1;25(11):6102. doi: 10.3390/ijms25116102. PMID: 38892289; PMCID: PMC11173119.
3. Hakobyan M, Binder H, **Arakelyan A**. Pan-cancer analysis of telomere maintenance mechanisms. J Biol Chem. 2024 Jun;300(6):107392. doi: 10.1016/j.jbc.2024.107392. Epub 2024 May 18. PMID: 38763334; PMCID: PMC11225560.
4. **Arakelyan A**, Avagyan S, Kurnosov A, Mkrtchyan T, Mkrtchyan G, Zakharyan R, Mayilyan KR, Binder H. Temporal changes of gene expression in health, schizophrenia, bipolar disorder, and major depressive disorder. Schizophrenia (Heidelb). 2024 Feb 17;10(1):19. doi: 10.1038/s41537-024-00443-7. PMID: 38368435; PMCID: PMC10874418.
5. Grigor'eva EV, Malakhova AA, Ghukasyan L, Hayrapetyan V, Atshemyan S, Vardanyan V, Zakian SM, Zakharyan R, **Arakelyan A**. Generation of three induced pluripotent stem cell lines (RAUi001-A, RAUi001-B and RAUi001-C) from peripheral blood mononuclear cells of a healthy Armenian individual. Stem Cell Res. 2023 Sep;71:103147. doi: 10.1016/j.scr.2023.103147. Epub 2023 Jun 17. PMID: 37354743.
6. Hakobyan S, Stepanyan A, Nersisyan L, Binder H, **Arakelyan A**. PSF toolkit: an R package for pathway curation and topology-aware analysis. Front Genet. 2023 Aug 23;14:1264656. doi: 10.3389/fgene.2023.1264656. PMID: 37680201; PMCID: PMC10482229.
7. Stepanyan A, Petrackova A, Hakobyan S, Savara J, Davitavyan S, Kriegova E, **Arakelyan A**. Long-term environmental metal exposure is associated with hypomethylation of CpG sites in NFKB1 and other genes related to oncogenesis. Clin Epigenetics. 2023 Aug 7;15(1):126. doi: 10.1186/s13148-023-01536-3. Erratum in: Clin Epigenetics. 2023 Sep 5;15(1):143. doi: 10.1186/s13148-023-01559-w. PMID: 37550793; PMCID: PMC10405444.
8. Ashekyan O, Shahbazyan N, Bareghamyan Y, Kudryavzeva A, Mandel D, Schmidt M, Loeffler-Wirth H, Uduman M, Chand D, Underwood D, Armen G, **Arakelyan A**, Nersisyan L, Binder H. Transcriptomic Maps of Colorectal Liver Metastasis: Machine Learning of Gene Activation Patterns

and Epigenetic Trajectories in Support of Precision Medicine. Cancers (Basel). 2023 Jul 28;15(15):3835. doi: 10.3390/cancers15153835. PMID: 37568651; PMCID: PMC10417131.

9. Loeffler-Wirth H, Rade M, **Arakelyan A**, Kreuz M, Loeffler M, Koehl U, Reiche K, Binder H. Transcriptional states of CAR-T infusion relate to neurotoxicity - lessons from high-resolution single-cell SOM expression portraying. Front Immunol. 2022 Sep 28;13:994885. doi: 10.3389/fimmu.2022.994885. PMID: 36248848; PMCID: PMC9558919.
10. Rai AK, Rajan KS, Bisserier M, Brojakowska A, Sebastian A, Evans AC, Coleman MA, Mills PJ, **Arakelyan A**, Uchida S, Hadri L, Goukassian DA, Garikipati VNS. Spaceflight-Associated Changes of snoRNAs in Peripheral Blood Mononuclear Cells and Plasma Exosomes-A Pilot Study. Front Cardiovasc Med. 2022 Jun 24;9:886689. doi: 10.3389/fcvm.2022.886689. PMID: 35811715; PMCID: PMC9267956.
11. Bisserier M, Brojakowska A, Saffran N, Rai AK, Lee B, Coleman M, Sebastian A, Evans A, Mills PJ, Addya S, **Arakelyan A**, Garikipati VNS, Hadri L, Goukassian DA. Astronauts Plasma-Derived Exosomes Induced Aberrant EZH2-Mediated H3K27me3 Epigenetic Regulation of the Vitamin D Receptor. Front Cardiovasc Med. 2022 Jun 16;9:855181. doi: 10.3389/fcvm.2022.855181. PMID: 35783863; PMCID: PMC9243458.
12. Tsakanova G, Avetisyan A, Karalova E, Abroyan L, Hakobyan L, Semerjyan A, Karalyan N, Arakelova E, Ayvazyan V, Matevosyan L, Navasardyan A, Ayvazyan A, Davtyan H, Grigoryan B, Arakelyan A, Karalyan Z. The Effect of Low-Energy Laser-Driven Ultrashort Pulsed Electron Beam Irradiation on Erythropoiesis and Oxidative Stress in Rats. Int J Mol Sci. 2022 Jun 15;23(12):6692. doi: 10.3390/ijms23126692. PMID: 35743135; PMCID: PMC9223873.
13. Binder H, Schmidt M, Hopp L, Davitavyan S, **Arakelyan A**, Loeffler-Wirth H. Integrated Multi-Omics Maps of Lower-Grade Gliomas. Cancers (Basel). 2022 Jun 4;14(11):2797. doi: 10.3390/cancers14112797. PMID: 35681780; PMCID: PMC9179546.
14. Goukassian D, **Arakelyan A**, Brojakowska A, Bisserier M, Hakobyan S, Hadri L, Rai AK, Evans A, Sebastian A, Truongcao M, Gonzalez C, Bajpai A, Cheng Z, Dubey PK, Addya S, Mills P, Walsh K, Kishore R, Coleman M, Garikipati VNS. Space flight associated changes in astronauts' plasma-derived small extracellular vesicle microRNA: Biomarker identification. Clin Transl Med. 2022 Jun;12(6):e845. doi: 10.1002/ctm2.845. PMID: 35653543; PMCID: PMC9162436.
15. Avetyan D, Hakobyan S, Nikoghosyan M, Ghukasyan L, Khachatryan G, Sirunyan T, Muradyan N, Zakharyan R, Chavushyan A, Hayrapetyan V, Hovhannisyan A, Mohamed Bakhash SA, Jerome KR, Roychoudhury P, Greninger AL, Niazyan L, Davidyants M, Melik-Andreasyan G, Sargsyan S, Nersisyan L, **Arakelyan A**. Molecular Analysis of SARS-CoV-2 Lineages in Armenia. Viruses. 2022 May 17;14(5):1074. doi: 10.3390/v14051074. PMID: 35632815; PMCID: PMC9142918.
16. Loeffler-Wirth H, Hopp L, Schmidt M, Zakharyan R, **Arakelyan A**, Binder H. The Transcriptome and Methylome of the Developing and Aging Brain and Their Relations to Gliomas and Psychological Disorders. Cells. 2022 Jan 21;11(3):362. doi: 10.3390/cells11030362. PMID: 35159171; PMCID: PMC8834030.

17. Bisserier M, Saffran N, Brojakowska A, Sebastian A, Evans AC, Coleman MA, Walsh K, Mills PJ, Garikipati VNS, **Arakelyan A**, Hadri L, Goukassian DA. Emerging Role of Exosomal Long Non-coding RNAs in Spaceflight-Associated Risks in Astronauts. Front Genet. 2022 Jan 17;12:812188. doi: 10.3389/fgene.2021.812188. PMID: 35111205; PMCID: PMC8803151.
18. Bisserier M, Shanmughapriya S, Rai AK, Gonzalez C, Brojakowska A, Garikipati VNS, Madesh M, Mills PJ, Walsh K, **Arakelyan A**, Kishore R, Hadri L, Goukassian DA. Cell-Free Mitochondrial DNA as a Potential Biomarker for Astronauts' Health. J Am Heart Assoc. 2021 Oct 20:e022055. doi: 10.1161/JAHA.121.022055. Epub ahead of print. PMID: 34666498.
19. Schmidt M, Arshad M, Bernhart SH, Hakobyan S, **Arakelyan A**, Loeffler-Wirth H, Binder H. The Evolving Faces of the SARS-CoV-2 Genome. Viruses. 2021 Sep 3;13(9):1764. doi: 10.3390/v13091764. PMID: 34578345; PMCID: PMC8472651.
20. Tsakanova G, Arakelova E, Ayvazyan V, Karalyan Z, Matevosyan L, **Arakelyan A**, Amirkhanyan Z, Davtyan H, Khachatryan V, Grigoryan B. The LD50 for Low-Energy Ultrashort-Pulsed Laser Driven Electron Beam Whole-Body Irradiation of Wistar Rats. Radiat Res. 2021 Sep 3. doi: 10.1667/RADE-20-00198.1. Epub ahead of print. PMID: 34478547.
21. Avetyan D, Chavushyan A, Ghazaryan H, Melkonyan A, Stepanyan A, Zakharyan R, Hayrapetyan V, Atshemyan S, Khachatryan G, Sirunyan T, Davitavyan S, Martirosyan G, Melik-Andreasyan G, Sargsyan S, Ghazazyan A, Aleksanyan N, Yin X, **Arakelyan A**. SARS-CoV-2 detection by extraction-free qRT-PCR for massive and rapid COVID-19 diagnosis during a pandemic in Armenia. J Virol Methods. 2021 Sep;295:114199. doi: 10.1016/j.jviromet.2021.114199. Epub 2021 Jun 4. PMID: 34091213; PMCID: PMC8175123.
22. Hakobyan S, Loeffler-Wirth H, **Arakelyan A**, Binder H, Kunz M. A Transcriptome-Wide Isoform Landscape of Melanocytic Nevi and Primary Melanomas Identifies Gene Isoforms Associated with Malignancy. Int J Mol Sci. 2021 Jul 2;22(13):7165. doi: 10.3390/ijms22137165. PMID: 34281234; PMCID: PMC8268681.
23. Willscher E, Hopp L, Kreuz M, Schmidt M, Hakobyan S, **Arakelyan A**, Hentschel B, Jones DTW, Pfister SM, Loeffler M, Loeffler-Wirth H, Binder H. High-Resolution Cartography of the Transcriptome and Methylome Landscapes of Diffuse Gliomas. Cancers (Basel). 2021 Jun 26;13(13):3198. doi: 10.3390/cancers13133198. PMID: 34206856; PMCID: PMC8268631.
24. Tsakanova G, Stepanyan A, Arakelova E, Ayvazyan V, Tonoyan V, **Arakelyan A**, Hildebrandt G, Schültke E. The radioenhancement potential of Schiff base derived copper (II) compounds against lung carcinoma in vitro. PLoS One. 2021 Jun 18;16(6):e0253553. doi: 10.1371/journal.pone.0253553. PMID: 34143847; PMCID: PMC8213134.
25. Nersisyan L, Simonyan A, Binder H, **Arakelyan A**. Telomere Maintenance Pathway Activity Analysis Enables Tissue- and Gene-Level Inferences. Front Genet. 2021 Apr 7;12:662464. doi: 10.3389/fgene.2021.662464. PMID: 33897770; PMCID: PMC8058386.
26. Tsakanova G, Ayvazyan V, Arakelova E, Ayvazyan A, Tatikyan S, Djavadovna L, Babayan N, Grigoryan R, Sargsyan N, **Arakelyan A**. Helix pomatia albumen gland water soluble protein extract as

powerful antiaging agent. Exp Gerontol. 2021 Apr;146:111244. doi: 10.1016/j.exger.2021.111244. Epub 2021 Jan 15. PMID: 33454353.

27. Garikipati VNS, **Arakelyan A**, Blakely EA, Chang PY, Truongcao MM, Cimini M, Malaredy V, Bajpai A, Addya S, Bisserier M, Brojakowska A, Eskandari A, Khlgatian MK, Hadri L, Fish KM, Kishore R, Goukassian DA. Long-Term Effects of Very Low Dose Particle Radiation on Gene Expression in the Heart: Degenerative Disease Risks. Cells. 2021 Feb 13;10(2):387. doi: 10.3390/cells10020387. PMID: 33668521; PMCID: PMC7917872.
28. **Arakelyan A**, Melkonyan A, Hakobyan S, Boyarskih U, Simonyan A, Nersisyan L, Nikoghosyan M, Filipenko M, Binder H. Transcriptome Patterns of BRCA1- and BRCA2- Mutated Breast and Ovarian Cancers. Int J Mol Sci. 2021 Jan 28;22(3):1266. doi: 10.3390/ijms22031266. PMID: 33525353; PMCID: PMC7865215.
29. Tsakanova G, Ayvazyan V, Arakelova E, Ayvazyan A, Tatikyan S, Djavadovna L, Babayan N, Grigoryan R, Sargsyan N, **Arakelyan A**. Helix pomatia albumen gland water soluble protein extract as powerful antiaging agent. Exp Gerontol. 2021 Apr;146:111244. doi: 10.1016/j.exger.2021.111244. Epub 2021 Jan 15. PMID: 33454353.
30. Sedrakyan AM, Ktsoyan ZA, Arakelova KA, Zakharyan MK, Hovhannisyan AI, Gevorgyan ZU, Mnatsakanyan AA, Kakabadze EG, Makalatia KB, Chanishvili NA, Pirnay JP, **Arakelyan AA**, Aminov RI. Extended-Spectrum β-Lactamases in Human Isolates of Multidrug-Resistant Non-typhoidal Salmonella enterica. Front Microbiol. 2020 Dec 22;11:592223. doi: 10.3389/fmicb.2020.592223. PMID: 33414769; PMCID: PMC7783090.
31. Binder H, **Arakelyan A**. Special Issue "Disentangling Mechanisms of Genomic Regulation of Cell Functions at the Gene Level". Genes (Basel). 2020 Dec 7;11(12):1463. doi: 10.3390/genes11121463. PMID: 33297292; PMCID: PMC7762253.
32. Schmidt M, Hopp L, **Arakelyan A**, Kirsten H, Engel C, Wirkner K, Krohn K, Burkhardt R, Thiery J, Loeffler M, Loeffler-Wirth H, Binder H. The Human Blood Transcriptome in a Large Population Cohort and Its Relation to Aging and Health. Front Big Data. 2020 Oct 30;3:548873. doi: 10.3389/fdata.2020.548873. PMID: 33693414; PMCID: PMC7931910.
33. Nikoghosyan M, Schmidt M, Margaryan K, Loeffler-Wirth H, **Arakelyan A**, Binder H. SOMmelier-Intuitive Visualization of the Topology of Grapevine Genome Landscapes Using Artificial Neural Networks. Genes (Basel). 2020 Jul 17;11(7):817. doi: 10.3390/genes11070817. PMID: 32709105; PMCID: PMC7397337.
34. Boyarskikh UA, Gulyaeva LF, Avdalyan AM, Kechin AA, Khrapov EA, Lazareva DG, Kushlinskii NE, Melkonyan A, **Arakelyan A**, Filipenko ML. Spectrum of TP53 Mutations in BRCA1/2 Associated High-Grade Serous Ovarian Cancer. Front Oncol. 2020 Jul 16;10:1103. doi: 10.3389/fonc.2020.01103. PMID: 32766142; PMCID: PMC7378769.
35. Tsakanova G, Arakelova E, Ayvazyan V, Ayvazyan A, Tatikyan S, Grigoryan R, Sargsyan N, **Arakelyan A.** Two-photon imaging of oxidative stress in living erythrocytes as a measure for human aging. Biomed Opt Express. 2020 Jun 2;11(7):3444-3454. doi: 10.1364/BOE.393898. PMID: 33014543; PMCID: PMC7510891.

36. Zakharyan R, Ghazaryan H, Kocourkova L, Chavushyan A, Mkrtchyan A, Zizkova V, **Arakelyan A**, Petrek M. Association of Genetic Variants of Dopamine and Serotonin In Schizophrenia. Arch Med Res. 2020 Jan;51(1):13-20. doi: 10.1016/j.arcmed.2019.12.011. Epub 2020 Feb 18. PMID: 32086104.
37. **Arakelyan A**, Nersisyan L, Nikoghosyan M, Hakobyan S, Simonyan A, Hopp L, Loeffler-Wirth H, Binder H. Transcriptome-Guided Drug Repositioning. Pharmaceutics. 2019 Dec 12;11(12):677. doi: 10.3390/pharmaceutics11120677. PMID: 31842375; PMCID: PMC6969900.
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