

# Nelly Datukishvili

## Personal information

## Contact Details

full name: Nelly Datukishvili

Email address:

Gender: Female

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Citizenship: საქართველო  
(Georgia)

Country: საქართველო (Georgia)

City: Tbilisi

## Languages

Language	Writing	Reading	Speaking
ქართული (Georgian)	C2	C2	C2
English	C1	C1	C1
Russian	C1	C2	C1

## Education

### Academic degree

Academic Degree: Doctoral/PhD, Ed.D or other equivalent

Year obtained: 27.06.1997

### Education

Academic Degree	Name of the Institution	Country	Major discipline	Start year	End year
Doctoral/PhD, Ed.D or other equivalent	I. Javakhishvili Tbilisi State University	საქართველო (Georgia)	Biology	1990	1997
Master/MS, MA, MR, MBA, m.Ed or other equivalent	Tbilisi State University	საქართველო (Georgia)	Biophysics	1974	1979

### Trainings / Seminars / Training courses

Training / Seminar / The theme of the course	Organization name	Start year	End year
Agricultural Biotechnologies and Biosafety – Basic Principles and concepts	Food and Agriculture Organization of the United Nations (FAO-UN)	2011	2011
GMO Detection Methods: “The analysis of food and feed samples for the presence of genetically modified organisms”	European Commission, Joint Research Centre	2010	2010
International Short Course in Food safety	Michigan State University, USA	2009	2009

## Projects

### Ongoing projects

Project title	Position	Project head	Start Date	Donor
STEM-22-637 Effect of food processing on the PCR detection of wheat gluten	Principal investigator	Nelly Datukishvili	23.12.2022	Shota Rustaveli National Science Foundation of Georgia

Project title	Position	Project head	Start Date	Donor
AR-22-636 „Multiplex PCR technology for detection of oil crops“	Principal investigator	Nelly Datukishvili	23.12.2022	Shota Rustaveli National Science Foundation of Georgia

### Completed projects

Project title	Position	Project head	Start Date	End Date	Donor
Allergen analysis in genetically modified plants by PCR coupled DNA-chip (CARYS-19-2035)	Principal investigator	Nelly Datukishvili	31.07.2020	30.11.2021	Shota Rustaveli National Science Foundation of Georgia
DNA diagnostic technology for identification of GM crops (№ STCU-2016-47)	Project Scientific Director / Manager	Nelly Datukishvili	09.06.2017	08.06.2019	Science and Technology Center in Ukraine and Shota Rustaveli National Science Foundation
Multiplex detection of biotechnology-derived plant products using nanotechnology (SRNSF № 04/16; STCU #6088)	Project Manager	Nelly Datukishvili	27.02.2015	26.02.2017	Science and Technology Center in Ukraine and Shota Rustaveli National Science Foundation
Development of nanobiotechnology for monitoring of genetically modified foods (№ 30/37)	Project Manager	Nelly Datukishvili	25.04.2013	24.04.2015	Shota Rustaveli National Science Foundation
Study of DNA markers for detection of genetically modified food (№ 9-13/04)	Main Participant	Georgi Muskhelishvili	20.12.2012	19.12.2015	Shota Rustaveli National Science Foundation
Development of the multiplex nanobiotechnology for control of the genetically modified organisms (SRNSF # 09/02; STCU # 5054)	Project Manager	Nelly Datukishvili	01.10.2010	30.09.2012	Science and Technology Center in Ukraine and Shota Rustaveli National Science Foundation
Tracing of genetically modified organisms in processed food (# 1-8 / 66)	Project Manager	Nelly Datukishvili	01.01.2010	31.12.2012	Shota Rustaveli National Science Foundation
Study of food DNA amplifiability for detection of genetically modified organisms (GNSF/ST07/8-273)	Project Manager	Tamara Kutateladze	01.01.2008	31.12.2009	Georgian National Science Foundation

### Scientific Fields (2018-2020)

#### Main Field

Field: 1. Natural sciences

Sub-Field: 1.6 Biological sciences

Subject area: 1.6.3 Biochemistry and molecular biology

#### Additional Field (1)

Field: 4. Agricultural sciences

Sub-Field: 4.4 Agricultural biotechnology

Subject area: 4.4.2 GM technology (crops and livestock)

### Scientific Fields (2021-2024)

#### Main Field

Field: 2. Life Sciences

Sub-Field: 2.9 Biotechnology and Biosystems Engineering

**Additional Field (1)**

Field: 2. Life Sciences

Sub-Field: 2.1 Molecular Biology, Biochemistry, Biophysics, Structural Biology

Subject area: 2.1.3 DNA and RNA biology

**Employment History****Current place(s) of employment**

Workplace	Name of the work department	Position	Main responsibilities	Start Date
Ilia State University	Faculty of Natural Sciences and Medicine	Associate Professor	Teaching lecture courses for master program in life sciences, lecture courses: molecular biology and biotechnology of microbes, molecular biotechnology, Food microbiology, GMOs and their detection in food, principles of biotechnology, for Bachelor program course: "Principles of Biotechnology"	05.04.2013
LEPL Ivane Beritashvili Center of Experimental Biomedicine	Laboratory of Genome Structure and Function	Main Researcher	Leading of Biotechnology group, scientific supervising and managing of research projects, development of new methods and technologies for reliable detection of genetically modified organisms and foods, establishment of international collaboration.	17.12.2010

**Work experience**

Company/Institution	Name of the department	Position	Main responsibilities	Start Date	End Date
Ilia State University	Faculty of Science and Arts	Assistant Professor	Teaching lecture courses: for master programs: "molecular biology and biotechnology of microbes", for postgraduate program: "Molecular biotechnology", "genomics of GMOs", "Molecular diagnostics of GM foods"; for bachelor program: "principles of biotechnology"; supervision of master and postgraduate thesis.	18.04.2011	04.04.2013
Ilia Chavchavadze State University	Faculty of Physics and Mathematics	Assistant Professor	Teaching lectures and laboratory courses for Master Program in speciality of Biophysics; courses: "Molecular Biology", "Practicum in Biophysics", "Practicum in Molecular Biology"; supervision of master thesis.	01.10.2008	20.11.2009
LEPL Institute of Molecular Biology and Biological Physics	Laboratory for GMO analysis	Main Scientist, Head of laboratory for GMO analysis	Establish laboratory for DNA analysis of genetically modified organisms (GMO). Development, optimization and harmonization of polymerase chain reaction (PCR) based methods for GMO detection according to international standards.	05.03.2008	01.11.2010
LEPL Institute of Molecular Biology and Biological Physics	Administration	Acting deputy Director	Participation in the establishment and reorganization of the Institute as Legal Entity of Public Law, supervising scientific research at the Institute; coordinating collaboration with other Georgian and International scientific-education Institutions and Universities.	12.06.2006	05.03.2008
Institute of Molecular Biology and Biological Physics of Georgian Academy of Sciences	Laboratory of Functional Genomics	Senior scientist, Head of Biotechnology group	Establishing and managing biotechnology research group, implementing molecular research of genetically modified organisms (GMO) in Georgia, development and optimization of methods of DNA analysis for GMO detection; managing state targeted scientific program (2005-2006); study visit in Gent Agricultural Research Centre (DVP-IVLO, Belgium, 2004): acquainting GMO regulatory system including issues of GMO control in European Union; study of biotechnological methods for GMO research and detection.	01.09.2000	11.06.2006
Institute of Molecular Biology and Biological Physics of Georgian Academy of Sciences	Laboratory of Enzymology of Archaeobacteria	Scientist - researcher	Carrying out research on the characterization and expression of DNA polymerase gene from thermophilic archaeon <i>Sulfolobus acidocaldarius</i> .	01.05.1999	31.08.2000

Company/Institution	Name of the department	Position	Main responsibilities	Start Date	End Date
Institute of Molecular Biology and Biological Physics of Georgian Academy of Sciences	Laboratory of Enzymology of Archaeobacteria	Junior scientist	Conducting postgraduate research and defending PhD thesis on the cloning and sequencing of DNA polymerase gene from archaeon <i>S. acidocaldarius</i> ; study visit in the Engelhardt Institute of Molecular Biology (Moscow, Russia, 1993-1996); participation in the international scientific programs	03.04.1990	30.04.1999
Institute of Molecular Biology and Biological Physics of Academy of Sciences of Georgian SSR	Postgraduate study	Postgraduate student	Conducting a postgraduate research on theme: isolation and purification of DNA polymerase A from thermophilic archaeobacteria <i>Sulfolobus acidocaldarius</i>	16.02.1988	02.04.1990
Tbilisi State Medical Institute	Research design office	Junior research associate	Analysis of biomacromolecules using biochemical and biophysical methods: Spectrophotometry, chromatography, electrophoresis. Scientific research supervision of students.	02.06.1980	01.04.1988

## Scientific Productivity

### Other products

Product Type	Registration number	Product Description	Year of Issue
Databases	გენბანკის მონაცემთა ბაზა, GenBank Database, Acc. No.U33846	<i>Sulfolobus acidocaldarius</i> DNA polymerase gene, complete cds	1995

### Article / Monograph / Manual

Type	Authors	Publication title	Source title	Year
Article	Bitskinashvili K., Kutateladze T., Vishnepolsky B., Ninidze T., Karseladze M., Datukishvili N.	Analysis of Genetically Modified Maize Allergens by PCR.	Bulletin of the Georgian National Academy of Sciences, v. 16 (1): 62 – 68	2022
Article	Kutateladze, T.; Bitskinashvili, K.; Sapojnikova, N.; Kartvelishvili, T.; Asatiani, N.; Vishnepolsky, B.; Datukishvili, N.	Development of Multiplex PCR Coupled DNA Chip Technology for Assessment of Endogenous and Exogenous Allergens in GM Soybean	Biosensors, 11, no. 12: 481, <a href="https://doi.org/10.3390/bios11120481">https://doi.org/10.3390/bios11120481</a>	2021
Article	Bitskinashvili K., Gabriadze I., Kutateladze T., Vishnepolsky B., Mikeladze D., Datukishvili N.	Influence of Heat Processing on DNA Degradation and PCR-Based Detection of Wild Type and Transgenic Maize	Journal of Food Quality, vol. 2019, Article ID 5657640, 11 pages, <a href="https://doi.org/10.1155/2019/5657640">https://doi.org/10.1155/2019/5657640</a>	2019
Article	Alipourfard, I., Datukishvili, N., Mikeladze, D.	TNF- $\alpha$ Downregulation Modifies Insulin Receptor Substrate 1 (IRS-1) in Metabolic Signaling of Diabetic Insulin-Resistant Hepatocytes	Mediators of Inflammation, V. 2019, Article ID 3560819, 6 pages	2019
Article	Alipourfard, I., Datukishvili, N., Bakhtiyari, S. Haghani, K., Di Renzo L., Costa de Miranda, R., Mikeladze, D.	MIG1 Glucose Repression on Metabolic Processes of <i>Saccharomyces Cereviceae</i> : Genetics to Metabolic Engineering	Avicenna Journal of Medical Biotechnology, vol. 11, no. 3, July-September 2019.	2019
Article	Alipourfard, I., Bakhtiyari, S., Datukishvili, N., Haghani, K., Di Renzo, L., De Miranda RC., Cioccoloni, G., Basiratanyazdi P., Mikeladze, D.	<i>Saccharomyces cerevisiae</i> , key role of MIG1 gene in metabolic switching: putative fermentation/oxidation	Journal of Biological Regulators & Homeostatic Agents, 32 (3): 649-654	2018
Article	Bitskinashvili, K., Gabriadze, I., Kutateladze, T., Vishnepolsky, B., Mikeladze, D., Datukishvili, N.	Effects of thermal-acid treatment on degradation and amplification of wheat and maize DNA	Journal of Food and Nutrition Research, Vol. 57, No. 3. 242-251.	2018

Type	Authors	Publication title	Source title	Year
Chapter in book	Datukishvili, N., Kutateladze, T., Gabriadze I., Bitskinashvili, K., Karseladze M.	DNA-based approaches for reliable detection of genetically modified ingredients in processed foods	Chapter 4 in Book "Systemic, Cellular and Molecular Mechanisms of Physiological Functions and Their Disorders", pp. 43-52, Nova Science Publishers, Inc., New York, USA. ISBN: 978-1-53614-396-6 (eBook)	2018
Chapter in book	Kutateladze, T., Gabriadze I., Vishnepolsky, B., Karseladze M., Datukishvili, N.,	Chapter 9 "Detection of genetically modified organisms by multiplex PCR"	Book "Systemic, Cellular and Molecular Mechanisms of Physiological Functions and Their Disorders" (Proceedings of I. Beritashvili Center for Experimental Biomedicine - 2015), pp. 85-93, Nova Science Publishers, Inc., New York, USA	2016
Article	Datukishvili N, Kutateladze T, Gabriadze I, Bitskinashvili K and Vishnepolsky B	New multiplex PCR methods for rapid screening of genetically modified organisms in foods.	Front. Microbiol. 6:757. doi: 10.3389/fmicb.2015.00757	2015
Article	Gabriadze I, Kutateladze T., Vishnepolsky B., Karseladze M., Zaalishvili T., Datukishvili N., Muskhelishvili G.	Polymerase Chain Reaction Based Assays for Specific Detection of Barley	Bulletin of the Georgian National Academy of Sciences, v. 9, N.1, pp. 145-150	2015
Article	Gabriadze I, Kutateladze, T., Vishnepolsky, B. Karseladze, M., Datukishvili, N.	Application of PCR-based methods for rapid detection of corn ingredients in processed foods	International Journal of Nutrition and Food Sciences, 3 (3), 199-202. DOI: 10.11648/j.ijnfs.20140303.21	2014
Article	Kutateladze, T., Gabriadze I, Vishnepolsky, B. Karseladze, M., Datukishvili, N.	Development of triplex PCR for simultaneous detection of maize, wheat and soybean	Food Control, 34, 698-702	2013
Article	Kutateladze, T.V., Gabriadze, I.I., Datukishvili, N.T., Karseladze, M.V., Zaalishvili, T.M.	Screening of genetically modified plants by duplex PCR	Annals of Agrarian Science, v. 11, n. 1, pp. 76-79	2013
Article	Datukishvili, N., Gabriadze I, Kutateladze, T., Karseladze, M., Vishnepolsky, B.	Comparative evaluation of DNA extraction methods for food crops	International Journal of Food Science and Technology, v. 45, 1316-1320	2010
Article	Kutateladze, T., Karseladze, M., Gabriadze I, Zaalishvili, G., Datukishvili, N.	Qualitative detection of genetically modified organisms	Proceedings of the Georgian Academy of Sciences, Biological Series, vol.7, N1-2, pp.12-15	2009
Article	Datukishvili, N., Kutateladze, T., Karseladze, M., Gabriadze I	Comparison of screening methods for reliable detection of genetically modified organisms /	Proceedings of the Georgian Academy of Sciences, Biological Series, vol.7, N3, pp. 4-8.	2009
Article	Kutateladze T, Karseladze M., Gabriadze I, Datukishvili, N	Optimisation of DNA-based Screening Methods for Genetically Modified Organisms	Journal of Biological Physics and Chemistry, V. 9 (2), 73-76	2009
Article	Datukishvili N., Karseladze M., Zaalishvili T., Kutateladze T	Seed testing by CaMV 35S promoter-specific PCR for detection of genetically modified organisms	Proceedings of the Georgian Academy of Sciences, Biological Series, vol.5, N2, pp. 21-25.	2007
Article	Kutateladze, T., Karseladze, M., Zaalishvili, G., Zaalishvili, T., Datukishvili, N.	PCR amplification of DNA from agricultural plants and genetically modified soybean	Bulletin of the Georgian Academy of Sciences, 171, pp. 345-347.	2005
Article	Datukishvili, N., Tarkhnishvili, G., Mikeladze, D., Beridze, T., Sanadze, G.	Isolation and purification of protein responsible for the conversion of dimethylallylpyrophosphate from Poplar leaves into isoprene.	Russian Journal of Plant Physiology, 48, pp. 222-225.	2001
Article	Datukishvili, N., Tarkhnishvili, G., Mikeladze, D., Sanadze, G.	Investigation of the enzymatic mechanism of isoprene biosynthesis.	Bulletin of the Georgian National Academy of Sciences, 162, pp. 523-525.	2000
Article	Datukishvili, N., Pokholok, D., Lottspeich, F., Prangishvili, D., Rechinsky, V.	The DNA polymerase- encoding gene from a thermoacidophilic archaeon Sulfolobus acidocaldarius.	Gene, 177, pp.271-273	1996

#### Scholarships and awards

Scholarships/awards name	Issuer	Year of Issue
Cochran Fellowship	United States Department of Agriculture's	2009
Research fellowship for visiting scientist	Gent Agricultural Research Centre (DVP-ILVO, Belgium)	2004

### Participation in scientific events

Scientific event name	Title of the presentation	Event venue	Year
International Scientific Conference "Biodiversity of agricultural plants and animals, their conservation and perspectives"	Investigation of glutenin genes in modern and Georgian endemic species of wheat	Tbilisi, Georgia	2023
International Scientific Conference "Biodiversity of agricultural plants and animals, their conservation and perspectives"	Detection of sunflower and maize used in food and biofuel production.	Tbilisi, Georgia	2023
FOOD ALLERGY FORUM – 3RD INTERNATIONAL CONFERENCE	Identification of effective DNA markers for wheat glutenin	Amsterdam, Netherlands	2023
6th Annual International Scientific Conference in Development Studies "Opportunities to Achieve the Sustainable Development Goals: Research and Development,	Innovative PCR Technologies for Sustainable Development of Biodiesel Industry	Tbilisi, Georgia	2023
The 4th International Electronic Conference on Foods	Evaluation of DNA extraction methods for PCR analysis of maize and sunflower oils	Online, Switzerland	2023
FOOD ALLERGY FORUM – 3RD INTERNATIONAL CONFERENCE	PCR- based detection of allergenic oil crops in foods	Amsterdam, Netherlands	2023
Advances in Neuroscience – a Multidisciplinary Event	Allergen identification in genetically modified maize by multiplex PCR for neuropathy prevention	Chakvi, Georgia	2022
1st International Traditional Foods and Sustainable Food Systems Symposium	Multiplex PCR for GM maize allergen detection in food	Mersin, Turkey	2022
12th OEGMBT Annual Meeting & the Life Science Tuesdays: BIOMOLECULES IN / FOR THE 21ST CENTURY. Life Science Tuesday #10/12: „Omics Data Analysis and Integration - Science Flash"	Multiplex PCR analysis of DNA markers for allergens of genetically modified Soybean	Vienna, Austria	2021
International Multidisciplinary Conference on Biomedicine (BIOMED 2021)	Allergen detection in genetically modified plants by multiplex PCR for food safety	Batumi, Georgia	2021
2nd Global Virtual Conference on Food and Nutrition	Development of multiplex PCR coupled DNA chip technology for assessment of endogenous and exogenous allergens in GM soybean	Online conference - Webinar	2021
IV International Conference of Ivane Beritashvili Society of Georgian Physiologists	Tracing of genetically modified organisms in food	Tbilisi, Georgia	2019
2nd Food Chemistry Conference: Shaping the Future of Food Quality, Safety, Nutrition and Health	Tracing of genetically modified foods by multiplex PCR technology	Seville, Spain	2019
International Multidisciplinary Conference on Biomedicine "BIOMED-2019"	Detection of genetically modified foods for health protection	Tsikhisdziri, Batumi, Georgia	2019
1st GHI World Congress on Food Safety and Security	DNA-based multiplex technologies for identification of genetically modified foods	Leiden, The Netherlands	2019
5th International Conference "Nanotechnologies"	Nanotechnological approach for monitoring of GM maize	Tbilisi, Georgia	2018
International Conference "The 1st "Beritashvili Talks", Neurophysiological Functions and their Disorders – Interdisciplinary Studies"	Thermal stability of soybean and maize genomes,	Tbilisi, Georgia	2018
International conference „Innovations in Food Analytics“	Tracing of GMOs in foods using Multiplex PCR coupled with DNA microarray	Munich, Germany	2018
19th International Conference on Food Processing and technology	Multiplex approach for detection of genetically modified foods	Paris, France	2017
30th EFFoST International Conference "Targeted technologies for sustainable food systems"	Multiplex PCR technology for control of genetically modified contamination in food	Vienna, Austria	2016
7th Central European Congress on Food	Multiplex polymerase chain reaction-PCR approaches for analysis of genetically modified ingredients in foods	Ohrid, Macedonia	2014
The 2nd International Congress on Food Technology	Simultaneous identification of wheat, corn and soy ingredients in foods	Kusadasi, Turkey	2014



Scientific event name	Title of the presentation	Event venue	Year
2013 EFFoST Annual Meeting	PCR-based analysis of genetically modified organisms for food authenticity and safety assessment	Bologna, Italy	2013
16th Annual Conference of the European BioSafety Association	Development of multiplex nanotechnology to control genetically modified organisms	Basel, Switzerland	2013
International Conference and Exhibition on Food Processing and Technology	Detection of genetically modified foods by PCR technology	Hyderabad, India	2012
The 9th Plant Genomics European Meeting (Plant GEM) meets global challenges	Multiplex PCR for effective detection of transgenic plants	Istanbul, Turkey	2011
International Scientific Conference "Recent Advances in Plant Genetic Engineering"	Detection of Genetically Engineered Plants by Multiplex PCR Technology	Kiev, Ukraine	2011
30th Nordic cereal congress, Joint meeting with COST Action FA0604 Tritigen	GMO Analysis in cereal food by DNA diagnostics	Copenhagen, Denmark	2009
1st Global Conference on GMO Analysis	PCR-based screening of genetically modified organisms	Como, Italy	2008
The 2nd Workshop TritiGen COST action FA0604,	Comparative Evaluation of Genomic DNAs from Triticeae species	Albena, Bulgaria	2008
The 3rd SNS Congress: "Food processing-Innovation-Nutrition-Healthy consumers"	DNA analysis of plant-derived food	Radenci, Slovenia,	2007
3rd International Symposium on Recent advances in food analysis	Detection of genetically modified organisms in food by PCR technology	Prague, Czech Republic	2007

#### Productivity index

#	Citation index	h-index
Google scholar	225.00	7.00
Scopus	116.00	6.00
Web of science	99.00	6.00