

## Mariam Betsiashvili

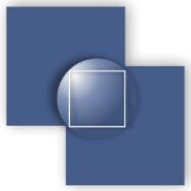
Ph.D., Professor

### Professional Career:

2021 – till now	Shota Rustaveli National Science Foundation of Georgia, Deputy Head of the Science Department
2021 – till now	The University of Georgia, Department of Natural Sciences, School of Science and Technology, Professor
2017 – 2021	Georgian Technical University, International Agronomy Master's Program, Invited Professor
2015 - 2021	Agricultural University of Georgia, The Bank of Plant Genetic Resources, Genebank Manager
2013 - 2021	Agricultural University of Georgia, Associate Professor
2017 - 2018	University of California San Diego, Division of Biological Sciences, Affiliated Researcher
2014 - 2017	Caucasus International University, Master's Program in Plant Selection and Genetics, Associate Professor
2013 - 2015	Agricultural University of Georgia, Institute of Crop Sciences, Research Scientist
2013 - 2014	Cornell University, Boyce Thompson Institute for Plant Research, Affiliated Researcher
1998 - 2012	Durmishidze Institute of Biochemistry and Biotechnology, Research Scientist

### Educational background:

2003	Durmishidze Institute of Biochemistry and Biotechnology, Candidate of Biological Sciences (Ph.D.)
1995 – 1998	Durmishidze Institute of Biochemistry and Biotechnology, Ph.D. Student
1990 – 1995	Georgian Technical University, Biotechnology
2006, 2009, 2012	Institute of pharmacy and food chemistry, University of Würzburg, Germany, Post-doctoral researcher



## Trainings and Courses

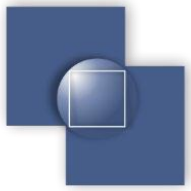
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2021	Training course on <b>Program Budgeting</b> , Public Audit Institute (PAI) of State Audit Office (SAO), Tbilisi, Georgia
2019	International course on <b>Integrated pest management and food safety</b> . Wageningen Centre for Development Innovation, WUR, Wageningen, Netherlands
2018	ICRA (International Centre for development-oriented Research in Agriculture) course for professionals working in tertiary agricultural and rural education on “ <b>Learning, action research and outreach - Making higher education boost food security</b> ”, Wageningen, Netherlands
2018	GIZ IBIS Training of Trainers of the Course on Integrating Ecosystem Services into Development Planning (IES Training), 24-28 September, Kakheti, Georgia
2016	International course on <b>Contemporary approaches to genetic resources conservation and use</b> . Centre for Development Innovation (CDI), Wageningen University, Wageningen, Netherlands
2015	International course on <b>Plant genetic resources and seeds: community resilience in the face of change</b> . Centre for Development Innovation (CDI), Wageningen UR, Chennai, India
2015	ELLS Course on <b>Genetic Resources in Crop Breeding - Conservation, Characterization and Utilization</b> . Swedish University of Agricultural Sciences (SLU), Alnarp, Sweden
2007	International Training for Trainers in <b>Strategic Environmental Assessment (SEA)</b> , UNDP, Prague, Czech Republic, 2007
2006	40th UNEP/UNESCO/BMU International Course on <b>Environmental Management for Developing and Emerging Countries - Soil Management</b> ; Technical University of Dresden. Dresden, Germany
2006	International post-graduate course on <b>Biotechnology and Bioinformatics in Agriculture: Plants and Microorganisms</b> ” the Hebrew University of Jerusalem, Faculty of Agricultural, Food and Environmental Quality Sciences. Rehovot, Israel
2004	<b>Grant-Writing Workshop: Competing More Effectively</b> . The Science and Technology Center in Ukraine (STCU). Tashkent, Uzbekistan
2001	Training Course - Cost Accounting, USAID-GESP and Georgian Federation of Professional Accountants and Auditors (GFPAA) joint project, Tbilisi, Georgia

## Research Grants

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2016-2019	Project leader - "Acquisition, regeneration and characterization of unique samples of local genetic resources of plants protected in foreign genebanks", Shota Rustaveli National Science Foundation, FR Grant # 218050
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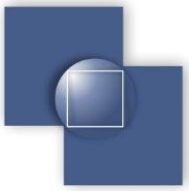
2017-2018	Visiting Researcher - "Identification of Antimicrobial Defense Regulatory Genes in Maize", University of California, San Diego, USA. Fulbright (Fulbright Visiting Scholar Program) grant # E0581299
2014	Young scientist - "Determining the corn resistance locus against aphids", Cornell University, USA, National Science Foundation of Georgia, YS / 52 / 10-101 / 13;
2013	Young Scientist - "Investigation of Biochemical and Genetic Basis of Maize Resistance to Aphids", Cornell University, USA, National Science Foundation of Georgia, YS / 36 / 10-101 / 12
2006, 2009, 2012	Post-doctoral researcher - "Uncovering the role of glucosinolates in plant defense mechanisms against pollution stress", University of Würzburg, Germany, German Academic Exchange Service (DAAD) - A / 12/05139
2010-2013	Project manager - "Bean bacterioses in Georgia: isolation and study of their causative pathogens <i>Xanthomonas phaseoli</i> and <i>Pseudomonas phaseolicola</i> and specific bacteriophages for the development of a biological method of combating the disease", National Science Foundation of Georgia, project # 1-8/35
2010	Participant - GCCW - USAID Caucasus Cooperative Agreement # AID-114-A-09-00008 "Forestry in Georgia: Sustainable Production, Sustainable Consumption"
2006 – 2009	Team leader - STCU project 3802 "A new approach to improve environmental assurance of oil pipelines"
2006 – 2008	Participant - CRDF SCI-01002-SC-05 project "Creation of biotechnological bases by establishment of regional microbial culture collection of the Caucasus"
2005 – 2008	Team leader - ISTC project #G-1129 "Bacteriophage, an effective biological tool against plant diseases caused by pathogenic bacteria"
2004 – 2007	Participant - STCU project #P-196 "Microbial diversity for new biotechnological applications"
2002 – 2005	Team leader - ISTC project #G-718 "Development of a new strategy for phytoremediation and long-term protection of hydrocarbon-contaminated environment"

### Scientific Publications

2020	Ding, Y., Weckwerth, P.R., Poretsky,.. <b>Betsiashvili M.</b> , Dressano K., Köllner T., Briggs S., Zerbe P., Schmelz E., Huffaker A. Genetic elucidation of interconnected antibiotic pathways mediating maize innate immunity, <i>Nature Plants</i> , <i>Springer Nature</i> , 6, 1375–1388
2020	<b>M. Betsiashvili</b> , Ts. Samadashvili, N. Simonishvili, N. Silagava, U. Lohwasser. Agromorphological and biochemical characterization of Georgian common wheat ( <i>T. aestivum</i> ) – „ <i>Dolis puri</i> ” sub-varieties. <i>Annals of Agrarian Science</i> . Elsevier. # 4,
2019	<b>M. Betsiashvili</b> , Ts. Samadashvili, N. Silagava, N. Simonishvili. Georgian Field Crops Biodiversity Catalogue, <i>Free and Agricultural Universities Press</i> . 204 p.
2019	<b>Betsiashvili M.</b> , Weber Ch., Bank. St., and Holzgrave U. Revelation of the role of glucosinolates in plant defense responses against pollution stress. <i>Proceedings of the International Conference on Plant, Cellular &amp; Molecular Biology – Plant - 2019</i> .



2018	Mafu S., Ding Y., Murphy K.M., Yaacoobi O., Addison J.B., Wang Q., Shen Z., Briggs S.P., Bohlma J., Castro G.A., Hughes Ch.C., <b>Betsiashvili M.</b> Zerbe Ph. Discovery, biosynthesis and stress-related accumulation of dolabradiene-derived defenses in maize. <i>Plant Physiology</i> , Vol. 176, 4, pp. 2677–2690.
2015	<b>Betsiashvili M.</b> , Ahern K. R., and Jander G. Additive effects of two quantitative trait loci that confer <i>Rhopalosiphum maidis</i> (corn leaf aphid) resistance in maize inbred line Mo17. <i>Journal of Experimental Botany</i> , 66 (2): 571-578.
2012	Sadunishvili T., Giorgobiani N., Amashukeli N., <b>Betsiashvili M.</b> , Kuprava N., Zaalishvili G., Strategy of biological control of phytopathogenic bacteria in Georgia. <i>Annals of Agrarian Science</i> , 10:2.
2009	Sadunishvili T, Kvesitadze E., <b>Betsiashvili M.</b> , Kuprava N., Zaalishvili G., Kvesitadze G. Influence of Hydrocarbons on Plant Cell Ultrastructure and Main Metabolic Enzymes. <i>World Academy of Science, Engineering and Technology</i> , ISSN 2070-3724. Vol.3, pp.261-266.
2009	Sadunishvili T, Kvesitadze E., <b>Betsiashvili M.</b> , Kuprava N., Amashukeli N., Zaalishvili G. Plant basic metabolism enzymes and cell ultrastructure under contamination stress. <i>The ukrainian Biochemical Journal</i> , ISSN-8470. Vol. 81, #4, p.310.
2008	Sadunishvili T., <b>Betsiashvili M.</b> , Kuprava N., Amashukeli N., Dzamukashvili N. Key metabolic and oxidative enzymes activities in affected by bacterial spot tomato. <i>Journal of Plant Pathology</i> , Vol. 90, P.239
2008	Lomsianidze I., Mitaishvili T., <b>Betsiashvili M.</b> , Vashakmadze V., Kuprava N. Influence of ammonium nitrate introduction on glutamate dehydrogenase and glutamine synthetase activities and protein content in roots and leaves of maize. <i>Proceedings of the Georgian Academy of Sciences</i> . Vol. 6, No. 3-4, pp 1-5.
2007	Tsulukidze N., <b>Betsiashvili M.</b> , Dzamukashvili N., Sadunishvili T., Kvesitadze E. The impact of bioactive preparations on the resistance of regrass exposed to organic tocants – benzene, 3, 4 –benzpyrene and trinitrotoluene. <i>Proceedings of the Georgian Academy of Sciences</i> . Vol. 5, No. 1, pp 1-7
2006	Sadunishvili T., Kuprava N., Aplakov V., <b>Betsiashvili M.</b> , Zaalishvili G., Mitaishvili T., Kvesitadze E. Ammonia Assimilation Enzymes and cell ultrastructure in Maize and Soybean. <i>Proceedings of the Georgian Academy of Sciences</i> . Vol. 14 No. 2, pp 16-22,
2006	Kuprava N., <b>Betsiashvili M.</b> , Dzamukashvili N. Sadunishvili T., and academician Nutsbidze N. Influence of Rhizobium and free-living nitrogen-fixing bacteria on nitrogen assimilation enzymes of soybean plant. <i>Bulletin of the Georgian Academy of Sciences</i> . Vol.173 N 2, pp 348-351
2005	Sadunishvili T., <b>Betsiashvili M.</b> , Zaalishvili G. and Kvesitadze G. Structural-functional changes in plant cell as a result of aromatic hydrocarbons penetration. <i>15th Annual West Coast Conference on Soil, Sediments and Water</i> , San Diego, CA. March 14-17.

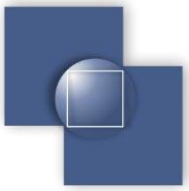


2004	Gigolashvili G., Amashukeli N., Sadunishvili T., <b>Betsiashvili M.</b> , Tsulukidze N. Establishment of cereal cultures interspecific differences by the method of isoelectrofocusing. <i>Bulletin of the Georgian Academy of Science</i> . vol. 170, No. 2, p. 367-369.
2004	<b>Betsiashvili M.</b> , Sadunishvili T., Amashukeli N., Tsulukidze N., Shapovalova N., Dzamukashvili N. and Nutsbidze N. Effect of aromatic hydrocarbons on main metabolic and energetic enzymes in maize, ryegrass and kidney bean seedlings. <i>Bulletin of the Georgian Academy of Science</i> . vol. 170, No. 1, p. 172-174.
2004	<b>Betsiashvili M.</b> , Sadunishvili T., Amashukeli N., Kuprava N., Tsulukidze N. Effect of different concentrations of alkanes on maize, ryegrass and kidney bean seedlings. <i>Proceedings of the Georgian Academy of Sciences</i> . vol. 2, No.1-2, p.1-5.
2003	<b>Betsiashvili M.</b> , Kuprava N., Sadunishvili T., Nutsbidze N. Study of the Soybean Protein Amino Acid Composition and Preparation of High Nutritional Value Food Protein Product, <i>Bulletin of the Georgian Academy of Sciences</i> . vol. 167, No 1, 130-133.
2002	<b>Betsiashvili M.</b> , Sadunishvili T., Gigolashvili G., Nutsbidze N., Kvesitadze G. Valuable food protein preparation from soybean. <i>Advances in Food Sciences</i> . 24, 1, 20-23. <a href="http://www.psp-parlar.de/">http://www.psp-parlar.de/</a> ISSN: 1431-7737

### Conference presentations

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2019	The 5th Conference on Cereal Biotechnology and Breeding (CBB) – “Characterization of Georgian Soft Wheat Germplasm Diversity”. November 4-7, 2019, Budapest, Hungary
2019	International Conference on Plant, Cellular & Molecular Biology – Plant – 2019. “Revelation of the role of glucosinolates in plant defense responses against pollution stress. February 18 - 20, 2019, Valencia, Spain
2019	The XIII International Scientific and Practical Conference - International Trends in Science and Technology “Wild ancestors of Georgian wheat and their genomic evolution”. May 31, 2019, Warsaw, Poland
2018	2nd ISSS Workshop on Seed Longevity “Study of Naturally Aged Seeds Germination Ability and Antioxidant Enzyme Activity as a Result of Priming” / “Characterization of Unique Georgian Plant Genetic Resources” July 30 - Aug 1, Fort Collins, CO, USA
2016	Plant InterCluster 2016 Technology and Business Meetings; September 19-20, 2016; Agropolis International, Montpellier, France
2016	ISEB 10th Conference 2016 (International Society for Environmental Biotechnology) “The impact of PAHs on garden cress leaves glucosinolate composition and oxidative potential”, June 1-3, Barcelona, Spain



<b>2015</b>	Seed Longevity Workshop of the International Society for Seed Science (ISSS) 2015 “Changes in maize germination ability and antioxidant enzymes activities during seed natural ageing and as a result of priming. July 5-8, Wernigerode, Germany
<b>2014</b>	International Conference on Food and Biotechnology, ICFB “Identification and quantification of glucosinolates in garden cress, watercress and radish” 11-12 September, Tbilisi, Georgia
<b>2012</b>	EMBO - Viruses of Microbes. Isolation and characterization of bacteriophages specific to Xanthomonas phaseoli and Pseudomonas phaseolicola causing brown spot and angular leaf spot of haricot., July 16-20, Brussels, Belgium
<b>2010</b>	International Conference & Exhibition Batumi – Spring – 2010 “Xanthomonas vesicatoria specific phage for tomato bacterial spot control.” May 7-9, Batumi, Georgia
<b>2008</b>	ISC 2008 - 27th International Symposium on Chromatography. Determination of the effect of benzene on glucosinolate pattern of Lepidium sativum leaves by capillary zone electrophoresis, September 21-25, Munster, Germany
<b>2008</b>	4th European BioRemediation Conference. Selection criteria for plants application in phytoremediation technologies. ID022, September 3-6. Chania, Crete, Greece
<b>2005</b>	Third International Conference on Plants and Environmental Pollution (ICPEP - 3). Plant response on aromatic hydrocarbons penetration, 29 November-2 December, Lucknow, India
<b>2000</b>	Biotechnology 2000. The World Congress on Biotechnology, 11th International Biotechnology Symposium and Exhibition, ICC-Berlin. Preparation of valuable food protein and amino acid mixtures from soybean, ICC-Berlin, Berlin, Germany

## Languages

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Georgian	Native
English	C1
Russian	C1