

PERSONAL INFORMATION

Academician Maria DUCA



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Sex Female | Date of birth 19/06/1956 | Nationality Republic of Moldova

PROFESSIONAL EXPERIENCE

- 2020 – present** **Director of Doctoral School Natural Sciences**
Moldova State University, Chisinau, Republic of Moldova
- 2020 – present** **Senior researcher, Center of Functional Genetics**
Moldova State University, Chisinau, Republic of Moldova
- 2008 – 2018** **Rector of the University of the Academy of Sciences of Moldova**
Chisinau, Republic of Moldova
- 2008 - 2021** **Head of the Center of Functional Genetics**
University of the Academy of Sciences of Moldova (State University “Dimitrie Cantemir”) Chisinau, Republic of Moldova
- 2006 – 2009** **Dean of Biology and Soil Sciences Faculty**
Moldova State University, Chisinau, Republic of Moldova
- 1995 – 2005** **Head of Plant Biology Department**
Moldova State University, Chisinau, Republic of Moldova
- 1991– 1995** **Associate professor**
Moldova State University, Chisinau, Republic of Moldova
- 1986 – 1991** **Senior Lecturer**
Moldova State University, Chisinau, Republic of Moldova
- 1982 – 1986** **Scientific Researcher**
N. I. Vavilov All-Russian Research Institute of Plant Industry, Sankt-Petersburg, Russia
- 1978-1979** **Researcher**
Agricultural State University of Moldova, Chisinau, Republic of Moldova

EDUCATION

- 2012** **Academician** of the Academy of Sciences of Moldova, Specialty: Biology
Academy of Sciences of Moldova, Chisinau, Republic of Moldova
- 2008** **Corresponding member** of the Academy of Sciences of Moldova, Specialty: Biology
Academy of Sciences of Moldova, Chisinau, Republic of Moldova
- 2000** **Professor**
Specialty: Genetics and plant physiology
Moldova State University, Chisinau, Republic of Moldova

- 1998 Doctor Habilitated**
Postdoctoral studies, Specialty: Genetics, Plant Physiology,
Moldova State University, *Chisinau, Republic of Moldova*
- 1982 Ph.D. in sciences** Specialty: Genetics
N. I. Vavilov All-Russian Research Institute of Plant Industry, *Sankt-Petersburg, Russia*
- 1978 Diploma Bachelor's Degree,**
Specialty: Genetics and Plant Breeding
Agricultural State University of Moldova, *Chisinau, Republic of Moldova*

INSTITUTIONAL RESPONSIBILITIES

- 2020-present** Member of the profile committee in higher education, National Agency for Quality Assurance in Education and Research of **Republic of Moldova**
- 2015-present** Membre of National Committee of Biosecurity
- 2011** Senior researcher, Center for Risk Studies in Economic and Social Sciences, **Austria**
- 2008-2012** Member of Expert Commission of Supreme Attestation Commission of **Republic of Moldova**
- 2005** Biosafety Expert at Biosafety Cleaning-House, **Republic of Moldova**
- 2003-present** Member of National Commission for Biological Security, **Republic of Moldova**
- 2000** President of NGO "Association of Women in Science", **Republic of Moldova**
- 2000** Vice-president of the Supreme Council for Attestation in Biology, **Republic of Moldova**

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- 2018-present** Member of Board of Directors of International Sunflower Association (ISA), Paris, **France**
- 2011** Member of Federation of All European Academies (ALLEEA), Berlin, **Germany**
- 2010-present** President al of Scientific Association of Geneticists and Breeders of **Republic of Moldova**
- 2010-present** Member of International Sunflower Association (ISA), Paris, **France**
- 2009-2015** Representative of the Republic of Moldova in International Centre for Black Sea Studies (ICBSS), Athens, **Greece**

PRIZES/AWARDS/ ACADEMY MEMBERSHIP

- 2019** "Alexandru Ciubotaru" prize of the Academy of Sciences of Moldova, in the field of Biology and ecology
- 2015** State distinction "Order of the Republic"
- 2015** "Premio Italia" of Moldo-Italian Camera of Commerce and Industry
- 2014** Diploma of the journal "Spiritual Convergences Iasi-Chisinau" for studies and valuable works published in 2014 in the field of Science and Culture, Cultural League for the Romanian Unity everywhere, Moldova-Iasi Department, Romania
- 2011** Honorary Diploma of Member at the "Apollonia" University Senate, Iasi, Romania
- 2011** Honorary Diploma at the Congress with International Participation in the Days of "Apollonia" University, Iasi, Romania
- 2011** Medal "*Cuvioasa Parascheva*"
- 2011** Academician, International Academy of Higher School, Moscow, Russia
- 2010** Medal "*Ласковая мать*" awarded by Деде Горгуд, RA
- 2006** Gold Medal at 55th World Exhibition of Innovation, Research and New Technology Eureka!
- 2006** Honorary title "Emeritus Man"
- 2005** U.S. Embassy Federal Assistance Award SMD700-05-GR036
- 2003** Diploma of the Ministry of Education of RM for results in pedagogical activity
- 2003** Grant COBASE, Award #001028-001
- 2003** Laureate of Moldova State University contest for remarkable results in science

- 1998** Laureate of National Award in Science and Technologies for young researchers
1987 National Award for scientific achievements

ORGANISATION OF SCIENTIFIC EVENTS

President of the Scientific Committee

- 2021** International Congress of the Geneticists and Breeders from Republic of Moldova (XIth ed. 15-16.06.2021)
2018 International Congress On Oil and Protein Crops, 20-24.05.2018
2017, 2018 Scientific Conference with International participation *Biodiversity in the context of climate change* (I ed. 25.11.2017), (II ed. 23.11.2018)
2015, 2019 Conference *Life Sciences in the dialogue of generations: Connections between Universities, Academia and Business Community* (I ed. 25.03.2016), (II ed. 21-22.10.2019)
2015 International Congress of the Geneticists and Breeders (Xth ed. 22-24.05.2015)
2012-2018 International Scientific Conference of PhD students and young researchers *Contemporary trends of science development: visions of young researchers* (II editions)
2011 International Symposium on *Broomrape (Orobancha spp.) in Sunflower*, 25-27.08.2011
2011-2018 Scientific Conference of students and masters *The future starts now* (VII editions)
2010 National Congress with International participation of the Geneticists and Breeders of the Republic of Moldova (IXth ed.) 20-22.10. 2010
2008 International Symposium dedicated to 70 years of Professor Andrei Șutov „*Molecular - genetic mechanisms of metabolic processes*”, 04.09.2008

Vice-president / Member of Scientific Committee

- 2013** Third National Symposium with International participation *Advanced Biotechnologies - Achievements and Prospects*, 24-25.10.2013

Member of Scientific Committee

- 2018** International Conference *Modern breeding and agrotechnology of field crops – guarantees of stability in agriculture*, Albena, Bulgaria (25-28.09.2018)
2018 International Symposium on *Broomrape (Orobancha spp.) in Sunflower* (IVth ed. 2-4.06.2018)
2015 Scientific Symposium: „*Management and Legislation in Agriculture, Agrotourism, Food, Agrifood Economics, Environment and Consumer Protection*” Buzau, Romania, 23-24.10.2015
2015 II. International Plant Breeding Congress and EUCARPIA – Oil and Protein Crops section conference, Turkey, Antalya, 1-5.11.2015
2014, 2015 International Scientific Symposium *Conservation of Plant Diversity* (III ed. 22-24.05.2014), (IV ed. 28-30.09.2015)
2014 International Conference *Genetics, Physiology and Plant Breeding* (Vth ed. 23-24.10.2014)
2011 Conference *Genetics, physiology and Plant Breeding* dedicated to academician Anatolie Jacotă (21.06.2011)

DIRECTOR OF RESEARCH PROJECTS

- 2020-2023** 20.80009.5107.01: Genetico-molecular and biotechnological studies of the sunflower in the context of sustainable management of agricultural ecosystems – National Agency for Research and Development, Republic of Moldova
2018-2019 18.80.07.16A/PS: Creating decision support in next-generation sequencing reports for cancer somatic variants – National Agency for Research and Development, Republic of Moldova

- 2016-2018** 16.80013.5107.20/Ro: Evaluation of some sunflower hybrids to water and heat stress resistance in Romania and Republic of Moldova - The Supreme Council for Science and Technological Development, Academy of Sciences of Moldova, Republic of Moldova and The National Authority for Scientific Research from Romania
- 2016** 06/CE: Association for the European Research Infrastructure in the Field of Biology – National Agency for Research and Development, Republic of Moldova
- 2015-2019** 15.817.05.03F: Resistance of sunflower (*Helianthus annuus* L.) to broomrape (*Orobanche cumana* Wallr.): genetic-molecular and physiological mechanisms
- 2013-2014** 13.820.18.06/RoA: Intraspecific genetic polymorphism analysis in the development of chemotype molecular markers in medicinal and aromatic plants – The Supreme Council for Science and Technological Development, Academy of Sciences of Moldova, Republic of Moldova and The National Authority for Scientific Research from Romania
- 2013-2015** 13.820.15.10 GA: Digital holographic microscopy in the study of biological tissues using LabVIEW – The Supreme Council for Science and Technological Development, Academy of Sciences of Moldova, Republic of Moldova and German Federal Ministry of Education and Research
- 2011-2014** 11.817.04.19F: Functional and genetic-molecular aspects of the sunflower genome (*Helianthus annuus* L.) – The Supreme Council for Science and Technological Development, Academy of Sciences of Moldova, Republic of Moldova
- 2010-2012** 511275-TEMPUS-1-2010-1-GE-TEMPUS-JPCR: Student Active Learning in Science (SALiS) – TEMPUS
- 2009-2011** 144950-TEMPUS-2008-IT-JPHES: Entrepreneurial University as a Model for proper managerial Interrelation among Education, Science and Innovation – TEMPUS
- 2009-2010** 10.820.09.09/GA: Assessment of pharmaceutical potential of medicinal plants in the spontaneous flora of Moldova – The Supreme Council for Science and Technological Development, Academy of Sciences of Moldova, Republic of Moldova
- 2005** SMD700-05-GR036: GMOs: benefits and risks – U. S. Embassy Federal Assistance Award
- 2003** №001028-001 UCR: The influence of gibberellins on gene expression in sunflower – COBASE, SUA

REVIEWING ACTIVITIES

Member of Editorial Board of *Journal of Academy of Sciences of Moldova*. Life sciences
 Member of Editorial Board of *Scientific Annals of "Alexandru Ioan Cuza" University of Iasi*. New Series, Section 2. Vegetal Biology
 Member of Editorial Board of *Advances in Microbiological Hazards and Biotechnologies*
 Member of Editorial Board of Journal *Труды по прикладной ботанике, генетике и селекции*, "N. I. Vavilov" All-Russian Research Institute of Plant Industry, Sankt-Petersburg, Russia
 Member of Editorial Board of *Bulletin of Scientific Information Bioterra* University, Bucuresti, Romania

INVITED PRESENTATIONS TO INTERNATIONALLY CONFERENCES

- 2018** M. Duca // *Broomrape (Orobanche cumana Wallr.) parasite situation in sunflower crop in Moldova (Biology and genetics of the parasite Orobanche cumana Session)*, "TVth International Symposium on Broomrape (Orobanche spp.) in Sunflower" June 2-4, 2018, Bucuresti, Romania
- 2018** M. Duca // *Aspects resistance mechanism of sunflower (Helianthus annuus L.) to broomrape (Orobanche cumana Wallr.) (Agricultural Technologies Section)*, "Conference of Agriculture and Food Engineering", October 18-19, 2018, Iasi, Romania
- 2018** M. Duca // *Influence of environmental conditions on virulence and distribution of Orobanche cumana in the Republic of Moldova (Emergent pests and diseases Section)*, "International Symposium Sunflower and climate change" February 5-6, 2018, Toulouse, France
- 2017** M. Duca // *Phylogeographic distribution of Orobanche cumana Wallr. in the Republic of Moldova*

- (Plenary report), "Conference Agrophysics Trends: from actual challenges in arable farming and crop growing towards advanced technologies", September 27-29, 2017, Saint-Petersburg, Russia.
- 2017** M. Duca // *Aspects of functional genetics in plants* Public lecture at the Iasi Branch of the Romanian Academy, March 24, 2017, Iasi, Romania
- 2013** M. Duca // *Current situation of sunflower broomrape in the Republic of Moldova (Plenary report)*, International Symposium on Broomrape (*Orobanche spp.*) in Sunflower", June 3-5, 2013, Cordoba, Spain

SUPERVISING AND MENTORING ACTIVITIES

- 1998** **PORT Angela**, 03.00.12 – *Fiziologia vegetală*, Influența unor compuși chimici (acizi organici, săruri ale acizilor organici și anorganici, derivați ai acizilor tiocarbonici, peroxizi) asupra procesului de germinare a semințelor de *Phaseolus vulgaris* L.
- 1999** **BUDEANU Oleg**, 03.00.12 – *Fiziologia vegetală*, Modificarea conținutului AIA, GA3, AN, activitatea catalazei și peroxidazei în ontogeneza diferitelor genotipuri de floarea-soarelui (*Helianthus annuus* L.).
- 2002** **GLIJIN Aliona**, 03.00.04 – *Biochimie*, Acțiunea exogenă a giberelinelor asupra proteosintezei la floarea-soarelui.
- 2003** **BÎRSAN Ana**, 03.00.12 – *Fiziologia vegetală*, Influența unor factori abiotici (clorurii de sodiu, sulfatul de sodiu, nitrozodietilaminei, dualului) asupra normei de reacție la floarea-soarelui (*Helianthus annuus* L.).
- 2006** **CĂPĂȚĂNĂ Ana**, 03.00.15 – *Genetică*, Aspecte genetico-moleculare ale heterozisului la floarea-soarelui (*Helianthus annuus* L.)
- 2007** **LUPAȘCU Victor**, 03.00.15 – *Genetică*, Aspecte în evaluarea plantelor modificate genetic (*Nicotiana tabacum*, var. Xanthi) și metode de identificare a acestora.
- 2008** **LEVIȚCHI Alexei**, 03.00.15 – *Genetică*, Estimarea heterozisului la floarea-soarelui (*Helianthus annuus* L.) în baza algoritmilor informaționali.
- 2008** **DOGAN Ozdemir**, 03.00.15 – *Genetică*, Polimorfismul genetic în aspectul heterozisului la *Cucumis sativus* L.
- 2008** **MOVILĂ Alexandru**, 03.00.15 – *Genetica*, Diversitatea genetică a căpușelor ixodide *Ixodes ricinus* L. și microorganismelor transmisibile în focarele RM.
- 2010** **MIDONI Andrei**, 03.00.15 – *Genetică*, Identificarea și expresia unor gene (Rf) la floarea-soarelui (*Helianthus annuus* L.).
- 2010** **ROTARENCO Victoria**, 03.00.15 – *Fiziologia vegetală*, Aspecte morfofiziologice și genetice de interacțiune gazdă-parazit (*Helianthus annuus* L. – *Orobanche cumana* Wallr.).
- 2014** **ȘESTACOVA Tatiana**, 162.01 – *Genetica vegetală*, Controlul genetico-molecular al rezistenței florii-soarelui (*Helianthus annuus* L.) la mană (*Plasmopara halstedii* F. Berl et de Toni).
- 2016** **MARTEA Rodica**, 162.01 – *Genetica vegetală*, Variabilitatea genetico-moleculară a genotipurilor de *Salvia sclarea* L.
- 2017** **ABDUȘA Daniela**, 162.02 – *Genetica omului și animalelor*; Identificarea și evaluarea unor gene potențial implicate în bolile cardiovasculare; cotutelă: dr. hab. Pali Ina, IMSP, Institutul Mamei și Copilului
- 2018** **NECHIFOR Victoria**, 162.01 – *Genetica vegetală*, Acțiunea giberelinei asupra microsporogenezei la floarea-soarelui (*Helianthus annuus* L.).
- 2018** **CUCEREAVÎ Aliona**, 06.01.05 – *Ameliorarea și producerea semințelor*, Diversificarea germoplasmei de floarea-soarelui privind unele caracteristici importante pentru obținerea de hibridi comerciali competitivi pe piața de semințe europeană; cotutelă internațională: dr., prof. Maria Joița-Păcureanu, Fundulea, **România**.
- 2018** **GÎSCĂ Ion**, 06.01.05 – *Ameliorarea și producerea semințelor*, Aspecte privind parazitul florii-soarelui *Orobanche cumana* Wallr. cu referire specială la rezistența genetică; cotutelă internațională: dr., prof. Maria Joița-Păcureanu, Fundulea, **România**
- 2019** **MUTU Ana**, 164.02 – *Fiziologie vegetală*, Diversitatea structurală și funcțională la *Origanum vulgare* L.; cotutelă internațională: dr. Elvira GILLE, Piatra-Neamț, **România**

UP TO TEN REPRESENTATIVE PUBLICATIONS

- DUCA, M.**; PORT A.; OROZCO-CARDENAS M.; LOVATT C. Gibberellin-induced gene expression associated with cytoplasmic male sterility in sunflower. *Biotechnology & Biotechnological Equipment*, 2008, 22(2):691-698. (IF:1.97)
- DUCA, M.**; PORT A.; OROZCO-CARDENAS M.; LOVATT C. Transcript analyses for mitochondrial sterile type rearrangement in sunflower. *Roumanian Biotechnological Letters*, 2008,13(3):3701-3706. (IF: 0.61)
- DUCA, M.**; GLIJIN, A.; LUPASCU, V.; OROZCO-CARDENAS, M.L. Possible up-regulation of GS and Fd-GOGAT in transgenic tobacco as a response to phosphinothricin. *J. of Plant Genetics & Transgenics*, 2011, 29(1): 5-10.
- MOVILA, A.; GATEWOOD, A.; TODERAS, I.; **DUCA, M.**; PAPERIO, M.; USPENSKAIA, I.; CONOVALOV, J.; FISH, D. Prevalence of *Borrelia burgdorferi* sensu lato in *Ixodes ricinus* and *I. Lividus* ticks collected from wild birds in the Republic of Moldova, *International J. of Medical Microbiology*, 2008, vol. 298, s.1, p. 149-153. (IF: 3.486)
- DUCA, M.**; GLIJIN, A.; LUPASCU, V.; DUCA, D.; OROZCO-CARDENAS M.L. The expression of *CsLFY* and *bar* genes at transcription and translation levels in transgenic tobacco plants. *Romanian Biotechnological Letters*. 2009, 14(6), p. 4887-4892. (IF:0.152)
- SACARA V.; SCVORTSOVA, E.; **DUCA, M.**; GROPPA ST. Duchene/Becker muscular dystrophy, phenotype-genotype correlations and folate cycle genes interaction. *European Journal of Human Genetics*, 2010. Vol. 18, Suppl. 1: 314. (IF: 4.38).
- DUCA, M.**; PORT, A.; ȘESTACOVA, T.; SINIAUSKAYA, M.; AKSYONOVA, E.; DAVYDENKO, O. Microsatellite marker application in sunflower (*Helianthus annuus* L.) fingerprinting. *Biotechnology & Biotechnological Equipment*, 2013, 27(3): 3772-3775. (IF: 0.379)
- CUCEREAVII, A.; NECHIFOR, V.; PORT, A.; **DUCA, M.** Expression of *CYCD3* gene in meiosis of sunflower (*Helianthus annuus* L.), *Current Opinion in Biotechnology*, 2013, 24(1), Suppliment, Proceedings of European Biotechnology Congress S132. (IF: 8.04).
- GISCA, I.; ACCIU, A.; GLIJIN, A.; **DUCA, M.** Highly virulent races of sunflower broomrape in the Republic of Moldova, *Current Opinion in Biotechnology*. 2013, 24(1), Suppliment, Proceedings of European Biotechnology Congress, p.132. (IF: 8,04).
- ȘESTACOVA, T.; GISCA, I.; CUCEREAVII, A.; PORT, A.; **DUCA, M.** NPR1 expression in sunflower infected with downy mildew. *Current Opinion in Biotechnology*, 2013, 24(1), Suppliment, Proceedings of European Biotechnology Congress, p.131-132. (IF:8,04).
- DUCA, M.**; GLIJIN, A.; ACCIU, A. The biological cycle of sunflower broomrape. *J. of Plant Development*, 2013, vol. 20, p. 71-78.
- PLINGAU, E.; SIROCOVA, N.; BOICIUC, K.; USURELU, N.; GATCAN, S.; **DUCA, M.** Case-control analysis of VKORC1 gene polymorphism (G1639A, C1173T) in women of reproductive losses from Republic of Moldova. *European Journal of Human Genetics*, 2014, 61(suppl.1), 75 p. (IF: 4,225).
- ROJNOVEANU, GH.; GHIDIRIM, GH.; MISHIN, I.; VOZIAN, M.; MISHINA, A.; SACARA, V.; MOCAN, E.; SCURTU, V.; **DUCA, M.**; GROPPA, S. Interaction among folat/homocysteine metabolism genes and endothelial nitric oxide synthase gene polymorphisms predicts the severity of Duchenne muscular dystrophy in Moldavian patients. *European Journal of Human Genetics*, 2014, 22(1):199-200. (IF: 4,633).
- DUCA, M.** Historical Aspects of Sunflower Researches in the Republic of Moldova. *Helia*, 2015, 38(62):79-93. (IF 0.32).

- ȘESTACOVA, T.; GISCĂ, I.; CUCEREAVÎL, A.; PORT, A.; **DUCA, M.** Expression of defence-related genes in sunflower infected with broomrape. *Biotechnology and Biotechnology Equipment*, 2016, 30(4), p. 685-691. (IF: 1.05)
- DUCA, M.**; PORT, A.; BOICU, A.; ȘESTACOVA, T. Molecular characterization of broomrape populations from Republic of Moldova using SSR markers. *Helia*, 2017, 40(66):47-59. (IF 0.32).
- DUCA, M.**, BOICU A., Morphological Diversity of Seeds in *O. cumana* Accessions from Republic of Moldova, *Helia*, 2017, 40(67):161-175. (IF 0.32).
- DUCA, M.**; CLAPCO, S.; NEDEALCOV, M.; DENCICOV, L. Influence of environmental conditions on the virulence and distribution of *Orobanche cumana* Wallr. in the Republic of Moldova. *Journal OCL - Oilseeds and fats*, Crops and Lipids, September, 2018, 10 p.

- Granted patent (s)** UNIVERSITATEA DE STAT DIN MOLDOVA. Metodă de determinare a purității genetice a liniilor cosangvinizate de floarea-soarelui: brevet de invenție 3324 MD. Inventatori: M. DUCA, A. LEVIȚCHI, A. CĂPĂȚÂNĂ, N. LAPTEV. Int. Cl.: G01N 27/26, C07K 1/14, C07K 1/26, A01H 1/04. Nr depozit. a 2006 0194; data depozit. 2006.07.21; data publ. 2007.05.31. În: BOPI. 2007, nr. 5, p. 49-50. 430.
- UNIVERSITATEA DE STAT DIN MOLDOVA. Metodă de identificare a fracției mitocondriilor la floarea-soarelui: brevet de invenție 1772 MD. Inventatori: M. DUCA, P. GRIGORCEA, A. GLIJIN. Int. Cl.: C12N 11/16, G01N 30/90. Nr depozit. 99-0239; data depozit. 1999.09.30; data publ. 2001.10.31 În: BOPI. 2001, nr. 10, p. 25-26. 431.
- UNIVERSITATEA DE STAT DIN MOLDOVA. Metodă de determinare a concentrațiilor optime ale soluțiilor stimulatoarelor de creștere a plantelor: brevet de invenție 741 MD. Inventatori: M. DUCA, C. ZĂNOAGĂ, A. PORT, Gh. DUCA. Int. Cl.: A01N 25/00 - 25/02. Nr depozit. 96-0159; data depozit. 1996.07.10; data publ. 1997.06.30. În: BOPI. 1997, nr. 6, p. 16-17. 432.
- UNIVERSITATEA DE STAT DIN MOLDOVA. Procedeu de determinare a fitohormonilor : brevet de invenție 788 MD. Inventatori: M. DUCA, Gh. DUCA, O. BUDEANU. Int. Cl.: G01N 30/00, 30/02. Nr depozit. 96-0067; data depozit. 1996.03.20; data publ. 1997.07.31. În: BOPI. 1997, nr. 7, p. 37-38. 433.
- UNIVERSITATEA DE STAT DIN MOLDOVA. Procedeu de tratare a semințelor de fasole înainte de semănat: brevet de invenție 450 MD. Inventatori: M. DUCA, Gh. DUCA, A. PORT. Int. Cl.: A01C1/00. Nr depozit. 95-0420; data depozit. 1995.12.19; data publ. 1996.08.31. În: BOPI. 1996, nr. 8, p. 14. 434.
- UNIVERSITATEA DE STAT DIN MOLDOVA. Procedeu de tratare a semințelor de fasole înainte de semănat: brevet de invenție 451 MD. Inventatori: M. DUCA, Gh. DUCA, A. PORT. Int. Cl.: A01C 1/00, A01N 37/02. Nr depozit. 96-0011; data depozit. 1996.01.24; data publ. 1996.08.31. În: BOPI. 1996, nr. 8, p. 14.
- UNIVERSITATEA DE STAT DIN MOLDOVA. Procedeu de tratare a semințelor de fasole înainte de semănat: brevet de invenție 597 MD. Inventatori: M. DUCA, Gh. DUCA, A. PORT. Int. Cl.: A01C 1/00, A01N 37/02. Nr depozit. 96-0044; data depozit. 1996.02.28; data publ. 1996.11.30. În: BOPI. 1996, nr. 11, p. 11. 436.
- КИШИНЕВСКИЙ ГОС. УН-Т, ИН-Т ХИМ. ФИЗИКИ АН СССР. Способ стимулирования роста растений: а. с. SU 1544334. Inventatori: Г.Г. ДУКА, Ю.И. СКУРЛАТОВ, А.Я. СЫЧЕВ, Л.С. РОМАНЧУК, Л.Н. КАЙРЯК, Л.С. ЭРНЕСТОВА, М.В. ДУКА, Е.В. ШТАММ. Int. Cl.: A01N59/20, A01C1/00. Nr 4425709/31-15; заявл. 1988.04.11; опубл. 1990.02.23. В: Открытия. Изобретения: Бюл. 1990, nr. 7, p. 34. 437.
- Способ идентификации ЦМС у растений: а.с. SU 1264387. Inventatori: М.В. ДУКА, А.В. АНАЩЕНКО. В: Открытия. Изобретения: Бюл. 1986, nr. 38. (De uz intern.).

Research monographs,

- DUCA, M.**; CLAPCO, S.; MARTEA, R., TABARA O. *Lupoaia: Orobanche cumana Wallr. : Atlas*, Univ. de Stat „Dimitrie Cantemir”, – Chișinău : Î.E.P. Știința, 2019 (Tipogr. Bons

chapters

- Offices SRL) – 52 p.
- DUCA, M.,** V. MICU, A. PALII, E. COTENCO, C. MANOLACHE, S. CLAPCO, și R. MARTEA. Societatea Geneticienilor și Amelioratorilor din Republica Moldova: de la congres la congres. Ch.: S. n., 2016. 47 p. ISBN 978-9975-3089-5-3.
- DUCA, M.** Plant Physiology. Cham; Heidelberg; New York; Dordrecht; London: Springer, 2015. 316 p. (Biological and Medical Physics, Biomedical Engineering).
- PURCĂREA, C., A. POPA, Iu. IPATE, **M. DUCA**. Rolul științelor și tehnologiilor în siguranța alimentară în corelație cu alimentația sănătoasă și rolul său în prevenirea unor boli metabolice. Viena: Österreichisch Rumanischer Akademischer Verein, 2012. 187 p.
- DUCA, M.,** Iu. IPATE, D. ZGARDAN, și E. ROTARU. Organisme modificate genetic – soluție în asigurarea securității alimentare? Viena: Österreichisch Rumanischer Akademischer Verein, 2011. 181 p.
- DUCA, M.,** A. LEVIȚCHI, V. MUNTEANU, O. BUDEANU, și A. PORT. Bioinformatica: ghid practic pentru analiza genelor și proteinelor. Ch.: „Editerra Prim” SRL, 2010. 140 p.
- DUCA, M.,** A. LOZAN, A. PORT, A. GLIJIN, și V. LUPAȘCU. Aspecte metodologice în testarea plantelor modificate genetic. Ch.: S. n., 2008. 168 p.
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