CURRICULUM VITAE

1. Personal information

Family name: Smolikova
First name: Galina
Citizenship: Russian Federation
E-mail: g.smolikova@spbu.ru

2. Education

09/1972 – 05/1982	Borovljanskaya Secondary School, Minsk, USSR
09/1983 – 08/1988	Belorussian State University, Faculty of Biology, Minsk, Belarus
06/1999	V.F.Kuprevich Institute of Experimental Botany, National Academy of Sciences of Belarus, Minsk, Belarus. Candidate of Sciences in Biology defense

3. Research activities

1990 - 2002	Laboratory of Plant Water Balance, V.F.Kuprevich Institute of Experimental Botany of National Academy of Sciences of Belarus, Minsk, Belarus (*Laboratory Assistant, Junior Researcher, Senior Researcher)*
2003 - 2009	Laboratory of Plant Growth and Development, V.F.Kuprevich Institute of Experimental Botany of National Academy of Sciences of Belarus, Minsk, Belarus (*Leader Researcher*)
02/2004 – 08/2004	The *visiting scientist* in the Laboratory of Seed Science and Technology, Agricultural Experimental Station, Department of Horticultural Sciences, Cornell University, NY, USA (Prof. A.G.Taylor).
2010 - 2014	Laboratory of Plant Developmental Biology, Biological Faculty, St.-Petersburg State University, St.-Petersburg, Russia (*Leader Researcher*)
Since - 2015	Department of Plant Physiology and Biochemistry, Biological Faculty, St.-Petersburg State University, St.-Petersburg, Russia (*Docent)*

4. Teaching experience

2015 – till now	Supervision of Master thesis of Marya Njukalova, Olga Shiroglazova (Saint Petersburg University). Supervision of Bachelor thesis of Veronica Chantseva, Valentina Timoshyk and Vasily Lopatov (Herzen University, Saint Petersburg), Svetlana Milrud and Renata Nakonechnikova (Saint Petersburg University)
2015 – till now	Lectures “Seed Physiology”, “Seed Biotechnology”, “Water Balance in Plant Ontogenesis”, “Photosynthesis and PAM-fluorimetry” for the Master program in the Biological Faculty of the Saint Petersburg University.

5. Grants

- Russian Science Foundation-Project “Mechanisms for the tolerance development in *Pisum sativum* L. and *Brassica napus* L. seeds to the oxidative stress and glycoxidative protein damage during a storage” 2016-2018 (*principal investigator*)
- Russian Foundation for Basic Research-Project “Mechanisms of plants adaptation to microgravity simulated by 3D-clinorotation” 2017-2019 (*principal investigator*)
- Russian Foundation for Basic Research-Project “Cellular basis of polar growth in plants” 2014-2016 (*principal investigator*)
- Belorussian Foundation for Basic Research-Project « Physiological, biochemical and cytogenetic peculiarities of dormancy and germination of castor beans (*Ricinus communis* L.) as a feedstock for biodiesel production in temperate zones» in collaboration with the Laboratory of Seed Science and Technology, Cornell University, NY, USA (Prof. A.G. Taylor) and Laboratory of Molecular Biology and Cytometry, University of Technology and Life Sciences, Bydgoszcz, Poland (Prof. E. Sliwinska) 04/2009 - 03/2011 (*own project*)
- Reintegration NATO Grant «Seeds of commercial crop plants as a natural source of carotenoids» 2005-2007 (*own project*)
- Fellowship from The Netherlands Ministry of Agriculture, Nature Management and Fisheries in Plant Research International, Wageningen, The Netherlands, (Dr. S.P.C. Groot) 02/2001 – 07/2001 (*own project*)

6. Membership of Professional Societies

Federation of European Societies of Plant Biology, International Society for Seed Science, Russian Society of Plant Physiologists

7. Language competence

Russian (native speaker), English (fluent)

8. Scientific interests

Plant embryogenesis, seed development, dormancy and germination, seed quality, photochemical reactions in seeds, seed proteomics, seed metabolomics

9. **Selected Publications**

1. Smolikova G., Shiroglazova O., Vinogradova G., Leppyanen I., Dinastia E., Bankin M., Yakovleva O., Dolgikh E., Titova G., Frolov A., Medvedev S. (2020) Comparative analysis of the plastid conversion, photo-chemical activity and chlorophyll degradation in developing embryos of green-seeded and yellow-seeded pea (*Pisum sativum* L.) cultivars. *Functional Plant Biology.*
2. Leonova T., Popova V., Tsarev A., Henning Ch., Antonova K., Rogovskaya N., Vikhnina M., Baldensperger T., Soboleva A., Dinastia E., Dorn M., Shiroglasova O., Grishina T., Balcke G.U., Ihling Ch., Smolikova G., Medvedev S., Zhukov V.A., Babakov V., Tikhonovich I.A., Glomb M.A., Bilova T. and Frolov A. (2020) Does protein glycation impact on the drought-related changes in metabolism and nutritional properties of mature pea (*Pisum sativum* L.) seeds? *International Journal of Molecular Sciences*.
3. Medvedev S., Voronina O., Tankelyun O., Suslov D., Bilova T., Bankin M., Mackievic V., Makavitskaya M., Shishova M., Martinec J., Smolikova G., Sharova E., Demidchik V. (2019) Phosphatidic acids mediate transport of Ca2+ and H+ through plant cell membranes. *Functional Plant Biology*. https://doi.org/10.1071/FP18242
4. Antonova K., Vikhnina M., Soboleva A.; Mehmood T.; Heymich M.; Leonova T., Bankin M., Lukashev E., Gensberger-Reig, S. Medvedev S. Smolikova G. Pischetsrieder M.; Frolov A. (2019) Analysis of chemically labile glycation adducts in seed proteins: case study of methylglyoxal-derived hydroimidazolone 1 (mg-h1). *International Journal of Molecular Sciences*. 20(15): 3659. https://doi.org/10.3390/ijms20153659.

5. Chantseva V., Bilova T., Smolikova G., Frolov A., Medvedev S. (2019) 3D-clinorotation induces specific alterations in metabolite profiles of germinating *Brassica napus* L. seeds. *Biological Communications*. 64(1). 55–74. https://doi.org/https://doi.org/10.21638/spbu03.2019.107
6. Shtark O.Y., Puzanskiy R.K., Avdeeva G.S., Yurkov A.P., Smolikova G.N., Yemelyanov V.V., Kliukova M.S., Shavarda A.L., Kirpichnikova A.A., Zhernakov A.I., Afonin A.M., Tikhonovich I.A., Zhukov V.A., Shishova M.F. (2019) Metabolic alterations in pea leaves during arbuscular mycorrhiza development. *PeerJ 7*:e7495. https://doi.org/10.7717/peerj.7495
7. Mamontova T., Lukasheva E., Mavropolo-Stolyarenko G., Proksch C., Bilova T., Kim A., Babakov V., Grishina T., Hoehenwarter W., Medvedev S., Smolikova G., Frolov A. (2018) Proteome map of pea (*Pisum sativum* L.) embryos containing different amounts of residual chlorophylls. *International Journal of Molecular Sciences*. 19(12). doi:10.3390/ijms19124066.
8. Frolov A., Didio A., Ihling C., Chantzeva V., Grishina T., Hoehenwarter W., Sinz A., Smolikova G., Bilova T., Medvedev S. (2018) The effect of simulated microgravity on *Brassica napus* seedling proteome. *Functional Plant Biology*. 45(4): 440-452. https://doi.org/10.1071/FP16378.
9. Li X., Makavitskaya M., Samokhina V., Mackievic V., Navaselsky I., Hryvusevich P., Smolikova G., Medvedev S., Shabala S., Yu M., Demidchik V. (2018) Effects of exogenously-applied L-ascorbic acid on root expansive growth and viability of the border-like cells. *Plant Signaling & Behavior*. 13(9): e1514895. doi: 10.1080/15592324.2018.1514895.
10. Frolov A., Mamontova T., Ihling Ch., Lukasheva E., Bankin M., Chantseva V., Vikhnina M., Soboleva A., Shumilina J., Mavropolo-Stolyarenko G., Grishina T., Osmolovskaya N., Zhukov V., Hoehenwarter W., Sinz A., Tikhonovich I., Wessjohann L.A., Bilova T., Smolikova G., Medvedev S. (2018) Mining seed proteome: from protein dynamics to modification profiles. *Biological Communications*. 63(1): 43-58. https://doi.org/10.21638/spbu03.2018.106.
11. Smolikova G., Dolgikh E., Vikhnina M., Frolov A., Medvedev S. (2017) Genetic and hormonal regulation of chlorophyll degradation during maturation of seeds with green embryos*. International Journal of Molecular Sciences*. 18(9). http://www.mdpi.com/1422-0067/18/9/1993.
12. Bilova T., Paudel G., Shilyaev N., Schmidt R., Brauch D., Tarakhovskaya E., Milrud S., Smolikova G., Tissier A., Vogt T., Sinz A., Brandt W., Birkemeyer C., Wessjohann L.A., Frolov A. (2017) Global proteomic analysis of advanced glycation end products in the arabidopsis proteome provides evidence for age-related glycation hotspots. *The Journal of Biological Chemistry*. 292(38):15758-15776. doi: 10.1074/jbc.M117.794537.
13. Smolikova G.N., Kreslavski V.D., Shiroglazova O.V., Sharova E.I., Bilova T.E., Frolov A.A., Medvedev S.S. (2017) Photochemical activity changes accompanying the embryogenesis of pea (*Pisum sativum* L.) with yellow and green cotyledons. *Functional Plant Biology*. 45(1-2 SI): 228–235 https://doi.org/10.1071/FP16379.
14. Smolikova G.N., Medvedev S.S. (2016) Photosynthesis in the seeds of chloroembryophytes. *Russian Journal of Plant Physiology*. 63(1): 1–12. doi: 10.1134/S1021443715060163.
15. Smolikova G.N., Shavarda A.L., Alekseichuk I.V., Chantseva V.V., Medvedev S.S. (2016) The metabolomic approach to the assessment of cultivar specificity of *Brassica napus* L. seeds. *Russian Journal of Genetics: Applied Research*. 6(1): 78-83. doi: 10.1134/S2079059716010147.
16. Smolikova G.N., Medvedev S.S. (2015) Seed carotenoids: synthesis, diversity, and function. *Russian Journal of Plant Physiology*. 62(1): 1-13. DOI: 10.7868/S0015330315010133.
17. Smolikova G.N., Laman N.A., Boriskevich O.V. (2011) Role of chlorophylls and carotenoids in seed tolerance to abiotic stressors. *Russian Journal of Plant Physiology*. 58(6): 965-973. doi: 10.1134/S1021443711060161.
18. Bulda O.V., Rassadina V.V., Alekseichuk (Smolikova) G.N., Laman N.A. (2008) Spectrophotometric measurement of carotenes, xanthophylls, and chlorophylls in extracts from plant seeds. *Russian Journal of Plant Physiology.* 55(4): 544-551. doi: 10.1134/S1021443708040171.

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Dr. Galina Smolikova