

CURRICULUM VITAE



Gregory A. Pozhvanov

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Education

- 2012 PhD in Plant Physiology and Biochemistry.
Thesis title: The role of phytohormones and actin cytoskeleton in the regulation of gravitropism in *Arabidopsis*
Supervisor: Prof. Dr. Sergei S. Medvedev (Saint-Petersburg State University, Russia).
- 2007 – 2009 Master of Science in Cell Biology / Nanobiology, *Department of Cytology and Histology*, and *Department of Plant Physiology and Biochemistry*, Saint-Petersburg State University, interfaculty curriculum in the field of Nanobiology, Faculty of Biology and Soil Sciences and Faculty of Chemistry SPbSU, Saint-Petersburg, Russia.
Major GPA: 5.0/5.0, Overall GPA: 5.0/5.0, Graduated with Honors.
- 2003 – 2007 Bachelor of Science in Plant Biology, *Department of Plant Physiology and Biochemistry*, Saint-Petersburg State University, Saint-Petersburg, Russia.
Major GPA: 5.0/5.0, Overall GPA: 5.0/5.0, Graduated with Honors.

Research Experience

- August 2013 – present Research associate and assistant lecturer, Department of Plant Physiology and Biochemistry, Faculty of Biology and Soil Science, Saint-Petersburg State University (current position)
- October – December 2015 Visiting scientist at Max-Planck Institute of Molecular Plant Physiology, Department Willmitzer, [Central Metabolism research group](#) (Supervisor Dr. Alisdair Fernie), Potsdam-Golm, Germany.
Supported by DAAD, Germany and SPbSU, Russia.
- June 2015 Visiting Scientist at University of Antwerp, Department of Biology (supervisor Prof. Dr. Kris Vissenberg), Antwerp, Belgium.
- October – November 2014 Visiting Scientist at University of Antwerp, Department of Biology (supervisor Prof. Dr. Kris Vissenberg), Antwerp, Belgium.
- October – November 2013 Visiting Scientist at University of Antwerp, Department of Biology (supervisor Prof. Dr. Kris Vissenberg), Antwerp, Belgium.
Studying *Arabidopsis* root growth under salt stress using robotic equipment.
- Sept. – October 2011 Visiting Scientist at University of Antwerp, Department of Biology (supervisor Prof. Dr. Kris Vissenberg), Antwerp, Belgium.
Studying *Arabidopsis* root gravitropic response using robotic equipment.
- July – Aug. 2010 Expedition of *Center for Forest Ecology and Productivity (RAS)* to *Pechora-Ilych State Biosphere Reserve*, Republic of Komi, Russia.
- 2010 – 2013 PhD research work at *Department of Plant Physiology and Biochemistry*, Saint-Petersburg State University, Russia.
- 2007 – 2009 Graduate research work at *Department of Plant Physiology and Biochemistry*, Saint-Petersburg State University, Saint-Petersburg, Russia;
Supervisor: Prof. Sergei S. Medvedev.
Master Thesis project title: Effect of gravity on the actin cytoskeleton organization and transport of IAA in the *Arabidopsis* roots.
- 2006 – 2007 Bachelor research work at *Laboratory of Plant Biophysics, Biology Research Institute* of Saint-Petersburg State University, Saint-Petersburg, Russia;
Supervisor: Prof. Sergei S. Medvedev.
Bachelor Thesis project title: Method for quantitative analysis of IAA content based on histochemical staining of GUS-activity.

Research Techniques

Confocal microscopy: study of GFP-labeled cytoskeleton structures in dynamics;
Gas chromatography / mass spectrometry: metabolite profiling, compound identification, method optimization for the analysis of metabolites found in nano- and pikomolar concentrations;
Histochemical staining of transgenic plants and quantitative digital image analysis.

Current Interest

Development of plant gravitropic response, gravity sensing, plant cytoskeleton, plant cell polar growth, plant metabolomics, nanoscale cell structures, prairie and arid region plant ecology, grass plant-plant interactions.

Awards and Fellowships

July 2015	Written Scientific Communication in English, diploma, SPbSU.
September 2013	UNIGEO / ScanEx RDC diploma for GIS application to nature conservation, project "Belogorie Nature Reserve web-GIS" with P. Ukrainski and V. Nemchenko
April 2012	A.N.Beketov nominal grant by Saint-Petersburg Society of Naturalists
March 2012	OPTEC / Carl Zeiss Grant for young scientists in Russia and CIS, project "Study of actin cytoskeleton organization and its role in the gravitropic reaction in roots of wild-type <i>Arabidopsis</i> and abruptus/pinoid mutants and in <i>GFP-fABD2</i> transformants"
November 2011	Saint-Petersburg Government Grant for master and Ph.D. students of High Schools and Academic Institutions of Saint-Petersburg City, project no. 2.6/16-05/219-A.
July 2009	Saint-Petersburg Government Grant for master and Ph.D. students of High Schools and Academic institutions of Saint-Petersburg City, project no. 2.6/22-04/004.
June 2008	Confocal and Fluorescence microscopy certificate, Carl Zeiss
2006	Saint-Petersburg Government Scholarship.

Teaching Experience

2015	<i>Elective course on Three-dimensional structure of biomolecules</i> for bachelor students of second and third year, Faculty of Biology, Saint-Petersburg State University.
2014, 2015	<i>Special course 3-Dimensional structure of biomolecules</i> for graders in Biology of Laboratory of Continuous Mathematical Education, Saint-Petersburg
2013 – present	Assistant lecturer at the Department of Plant Physiology and Biochemistry, Faculty of Biology, Saint-Petersburg State University. Courses taught: <i>English for professional purposes</i> – bachelor students of fourth year <i>Practical course on Plant physiology and biochemistry</i> – bachelor students of third year <i>Confocal microscopy methods for plant physiology</i> – Master students of first year, Department of Plant Physiology and Biochemistry <i>Practical course on Instrumental analysis methods</i> – bachelor students of second year <i>Plant cytoskeleton</i> topic in Practical course for third year bachelor students of Department of Plant Physiology and Biochemistry
2008 – present	Author of the original lecture focused on <i>molecular structures of plant receptor molecules</i> . Lecture materials are located at science.pozhvanov.com/mol/ Lecturer for an audience of ninety bachelor students of third year at Saint-Petersburg State University.
2008	Lecturer and laboratory teacher on Plant Physiology and Biochemistry for academic group of fifteen third-year bachelor students at Saint-Petersburg State University.
2007	Author and developer of supplementary educational materials on Molecular Biology for third-year students. Materials were published on the Faculty of Biology and Soil Sciences of SPbSU website, http://www.bio.spbu.ru/materials/molbio/ The original course on Molecular Biology is taught by Dr. Ludmila I. Tischenko, Dept. of Biochemistry, SPbSU.
2005 – 2008	Author of the original lecture focused on <i>molecular structures of plant photosynthetic systems</i> . Assistant lecturer for an audience of ninety third-year bachelor students.

Professional Society Memberships

The Federation of European Societies of Plant Biology (FESPB), Russian Federation division – since 2010.

Publications

Demidchik V., Straltsova D., Medvedev S., Pozhvanov G., Sokolik A., Yurin V. Stress-induced electrolyte leakage: the role of K⁺-permeable channels and involvement in programmed cell death and metabolic adjustment // *Journal of Experimental Botany*, 2014, vol. 65, pp. 1-12. DOI: 10.1093/jxb/eru004

Pozhvanov G. A., Shavarda A. L., Medvedev S. S. Quantitative analysis of IAA in DR5::GUS transgenic *Arabidopsis* plants // *Russian Journal of Plant Physiology*, 2013, vol. 60, No. 3, pp. 431-436.

Pozhvanov G., Suslov D., Medvedev S. Actin cytoskeleton reorganization during the gravitropic response of *Arabidopsis* roots // *Cell and Tissue Biol.*, 2013, vol. 7, No. 2, pp. 185-191.

Pozhvanov G., Suslov D., Medvedev S. Actin cytoskeleton reorganization during *Arabidopsis* root gravistimulation // *Proceedings of Tomsk State University*, 2010, vol. 275, pp. 305-308.

Pozhvanov G., Medvedev S. Method for quantitative analysis of IAA content based on histochemical staining of GUS-activity // Russ. J. Plant Physiol., 2008, vol. 55, no. 5, pp. 706-711.

Conferences

- Pozhvanov G., Medvedev S., Vissenberg K., Demidchik V. Oral report “The actin cytoskeleton is a target for hydroxyl radicals and NaCl under salt stress in roots of *Arabidopsis thaliana*” // 8th Congress of Russian Society of Plant Physiologists, Petrozavodsk, Russia, 21–26 September 2015.
- Pozhvanov G. Round table host, “Fascination of Plants Day in 2015 and 2016” // 8th Congress of Russian Society of Plant Physiologists, Petrozavodsk, Russia, 21–26 September 2015.
- Pozhvanov G., Suslov D., Demidchik V., Medvedev S. Oral report “Actin cytoskeleton rearrangements in *Arabidopsis* roots under stress and during gravitropic response” // 40th COSPAR Assembly, 2–10 August 2014, Moscow, Russia.
- Pozhvanov G., Medvedev S., Vissenberg K., Demidchik V. Report “The actin cytoskeleton is a target for NaCl and hydroxyl radicals in *Arabidopsis thaliana* root cells” // FESPB/EPSO Congress 2014, 22–26 June 2014, Dublin, Ireland.
- Medvedev S.S., Pozhvanov G.A., Smolikova G.N. Oral report “The cellular mechanisms of plant orientation in space” // Workshop on Experimental human bioregenerative life support systems. 2–4 December 2013, Beijing, China.
- Pozhvanov G.A., Ukrainski P.A. Oral report “Belogorie Nature Reserve web GIS: cross-platform interface in pre- ArcGIS Online epoch” // SCGIS Russia Conference. 28–29 September 2013, Moscow, Russia.
- Demidchik V., Pozhvanov G., Streltsova D., Tiurkina K., Subramaniam S., Sosan A., Lawson T., Svistunenko D., Medvedev S. Oral report “Modification of NaCl-induced Ca²⁺ signaling and cytoskeleton rearrangement by polyamines through scavenging hydroxyl radicals” // 1st International Symposium “Molecular features of plant redox metabolism”. 17–22 September 2013, Kazan, Russia.
- Pozhvanov G.A., Suslov D.V., Shavarda A.L., Medvedev S.S. Invited report “*Arabidopsis* root gravitropism is directed by IAA redistribution and subsequent actin cytoskeleton rearrangement” // FESPB 2012 Congress, Plant Biology in Space Satellite Symposium. 29 July – 3 August 2012, Friburg, Germany. P. 227.
- Pozhvanov G.A., Suslov D.V., Medvedev S.S. Oral report “Actin cytoskeleton rearrangement during the *Arabidopsis* root gravitropic response”; 7th Congress of Russian Society of Plant Physiologists, Nizhny Novgorod, Russia, 4 – 10 July 2011.
- Pozhvanov G.A. Oral report “The use of photosystem 3D interactive models to illustrate structural aspects of photosynthesis”; 7th Congress of Russian Society of Plant Physiologists, Nizhny Novgorod, Russia, 4 – 10 July 2011.
- Zlotnikova E., Pozhvanov G. The study of *Verbascum lychnitis* L. phytogenous field: complex approach; Section of Plant and Animal Ecology, 11th International Conference of Young Biologists, Puschino, Russia, 2007.
- Pozhvanov G. Report “The transformation of several environment factors in *Verbascum lychnitis* L. phytogenous field”; Section of Plant and Animal Ecology, 10th International Conference of Young Biologists, Puschino, Russia, 2006.

Languages

Russian (native), English (fluent).

Computer Skills

Mac OS X administration; DOS, MS Windows 98 – Windows 7 administration; MS Office XP – 2011 (Excel, Word, PowerPoint), iWork (mainly Keynote); Adobe Photoshop Lightroom, Adobe Illustrator, Adobe InDesign; RasMol, Jmol molecular graphics, ImageJ.

Adobe Certified Associate (Adobe Photoshop CS6), verification key: [wkrnz-22xr](#)

PHP and JavaScript for client-server web application development, see version 1 of Web GIS of State Nature Reserve “Belogorie”: science.pozhvanov.com/belmap/

Outside Interests

Nature and wildlife photography, art reproduction and macrophotography: see pozhvanov.com
Expeditions, pristine nature protection, nature and wildlife conservation.

Volunteer Work

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| 2015, 2013 | National Coordinator of II Fascination of Plants Day in Russia, May 18 th , see www.plantday.ru |
| 2013 | Project coordinator and web developer for version 1 of State Nature Reserve “Belogorie” Web GIS, see science.pozhvanov.com/belmap/ |
| 2007 | Content manager of the educational project “Nanobiology” web site, Saint-Petersburg State University, Russia. |
| 2006 – present | Wildlife photographer, State Nature Reserve “Belogorie”, Belgorod region, Russia. |

References

- Prof. Dr. Vadim Demidchik, Chair, department of Plant Cell Biology and Bioengineering, Faculty of Biology, Belarusian State University, 4 Nezavisimosti av., 220030 Minsk, Belarus. +375 17 209 59 34, dzemidchyk@bsu.by
- Prof. Dr. Georgy A. Romanov, Plant Physiology, Institute of Plant Physiology, Russian Academy of Sciences, 35 Botanicheskaya st., 127276 Moscow, Russia. +7 495 977 94 09, gar@ippras.ru
- Prof. Dr. Sergei S. Medvedev, Chair, department of Plant Physiology and Biochemistry, Faculty of Biology, Saint Petersburg State University, 7/9 Universitetskaya emb., 199034 St. Petersburg, Russia. +7 812 328 96 95, ssmedvedev@mail.ru