Dr. LARISA GOLOVKO **+1-281-942-8850** larisa@landviser.com

___*GRANTS, AWARDS, MEMBERSHIPS, and HONORS*_____

Solicited membership in **Global Soil Partnership** (**FAO**) for Landviser (USA and Czech Rep) to continue developing collaboration in support farmers worldwide with innovative tools to study and manage soils sustainably. **2022-**

Travel Grant to present a seminar "*Geophysical Sensors and Mechanistic Models Aid Sustainable Farming*" and discuss collaboration for further crop and soil model development. **USDA ARS Adaptive Cropping Systems Laboratory,** Beltsville, MD, $860, **August 31, 2023**

Travel Grant to attend *4th Atlas Georesources International Congress. AGIC-2023: Geoscience Innovations for Resource Management: Socio-Economic Challenges In An Environmentally Constrained World*. In Hammamet, Tunisia and present at "Geophysical Methods for Mapping and Monitoring Changes in Soils and Groundwater of Coastal Areas." $1400, **March 18-20, 2023**

As an active **10+ year member** of **Environmental and Engineering Geophysical Society** was nominated to run for **At-Large Board Member** position in **Jan 2022**

EU HORIZON2020 research and innovation program, PARSEC Consortium, **grant** agreement #824478 "*Crop Predictions Take flight – Linking Genomics and Geophysics*", total €100,000, my contribution valued at 33,000 for preparation of proposal and conducting R&D **Aug 2020 – Aug 2021:**

- Linked crop **genotype** with **Earth Observation** (EO) data improving ML crop phenotype prediction model for Computomics GmbH (Germany),
- Coordinated research and field tests of **EMGeoDrone** for SiberGeo (Estonia) integrating sensor's data streams with EO data and developed training materials for end-users.

"We Innovate" Award for developing ML **Python Apps** for **Rice Phenology Image Processing** & Crop Production Risks due to **Climate Change**, RiceTec Inc, $500, **2019**

Beachell Award - for **excellence** in **scientific accomplishment** contributing significantly to company goals (historical **rice GIS**, analyzed **Genotype x Environment** Interactions via GGE Biplot, and established five performance-ranked regions in the US, RiceTec Inc, $1500, **2007**

USDA-NASA Grant: Co-PI on "Enhanced **management of agricultural perennial systems** (eMAPs) using **GIS** and **Remote Sensing**" in Initiative for Future **Agriculture** and Food Systems (IFAFS) Program, $650 000, Rutgers University, my contribution valued at $300 000 in proposal preparation and subsequent research and extension activities **2001-2006**

Extension Grant Co-PI. "Develop irrigation management guidelines for commercial cranberry production in New Jersey". NJ Blueberry and Cranberry Research Council Competitive Grants. Individual grant $8,400, Rutgers University, **2005 – 2006**.

Extension Grant Co-PI. "Integrated water management for commercial cranberry production in New Jersey". NJ Blueberry and Cranberry Research Council Competitive Grants. Individual grant $8,280, Rutgers University, **2004 – 2005**

Selected for 2006 Edition of Marques' "**Who's Who in Science**", **2005**

Williams' Prize for the Best Scientific Monograph on New Frontiers in Science (Russian Agricultural Academy Award) for the book *"Stationary electrical fields in soils"*, **2001**

Advanced Ph.D. Students of Sigma-Delta **Honor Society** of ***Agriculture Award***, WY Chapter, University of Wyoming, **1999**

Graduate Assistantship, Full Tuition covered and Stipend of $36,000. Department of Renewable Resources, College of Agriculture, University of Wyoming, **1997-1999**

Selected for **1998** and **1999** edition "**Who's Who among students in Americans Universities & Colleges**"

Individual Research Grant #97-47047-FSU "Peat deposits: energetic and ecological aspects of usage" John D. and Catherine T. **MacArthur Foundation**. Program on Peace and International Cooperation. $14,955, **1997-1998**

Research Grant Co-PI. "Electromagnetic (non-stationary) fields in soil". Russian Foundation for Fundamental Research Competitive Grants. 8,000,000 rub, 1997-**1999**

Government Stipend for Advanced Young Researchers of Russia, **1996**

Research Grant Co-PI**.** "Evaluation of soil and groundwater pollution in North Siberia petroleum production area with electrical methods". Institution of Land Monitoring, Russia. 6,000,000 rub **1995**

Research Grant Co-PI. "Monitoring of groundwater rising in delta Volga and Astrakhan City using electrical methods". Institution of Land Monitoring, Russ Russia. 5,000,000 rub, **1994**

Award of the Department of Higher Education of Russia for **Best MSc Thesis**, **1992**

PUBLICATIONS

Note: On older publications and certifications my maiden's name, **Larisa A. Pozdnyakova**, was used

Peer-reviewed journal papers

Trubin, Aleksei, Yuri Manstein, and Larisa Golovko. 2022. "Electrical Geophysics for Agronomic Soil Characterization." *Modern Concepts & Developments in Agronomy* 11 (1): 1085–86. http://crimsonpublishers.com/mcda/fulltext/MCDA.000754.php.

Golovko, Larisa, Anatoly Pozdnyakov, and Antonina Pozdnyakova. 2010. "LandMapper ERM-02: Handheld Meter for Near-Surface Electrical Geophysical Surveys." *FastTIMES (EEGS) Agriculture: A Budding Field in Geophysics* 15 (4): 85–93.

Pozdnyakov, A. I., Pozdnyakova, L. A. and Karpachevskii, L. O. 2006. "Relationship between Water Tension and Electrical Resistivity in Soils," *Eurasian Soil Science*, 39, S78–S83

Pozdnyakova, Larisa, Daniel Giménez, and Peter V. Oudemans. 2005. "Spatial Analysis of Cranberry Yield at Three Scales." *Agronomy Journal* 97 (1): 49–57.

Pozdnyakova, L., P.V. Oudemans, M.G. Hughes, and D. Gimenez. 2002. "Estimation of Spatial and Spectral Properties of Phytophthora Root Rot and Its Effects on Cranberry Yield." *Computers and Electronics in Agriculture* 37: 57–70.

Oudemans, P.V., L. Pozdnyakova, M.G. Hughes, and F. Rahman. 2002. "GIS and remote sensing for detecting yield loss in cranberry culture". Symposium paper presented at the Joint Annual meeting of the Society of Nematologists and American Phytopathological Society, Salt Lake City, UT. *Journal of Nematology* 34(3):207-212.

Pozdnyakova, L.A., A.I. Pozdnyakov, and R. Zhang. 2001. "Application of Geophysical Methods to Evaluate Hydrology and Soil Properties in Urban Areas." *Urban Water* 3: 205–16. https://doi.org/10.1016/S1462-0758(01)00042-5.

Pozdnyakova, Larisa, and Renduo Zhang. 1999. "Geostatistical Analyses of Soil Salinity in a Large Field." *Precision Agriculture* 1: 153–65. http://dx.doi.org/10.1023/A:1009947506264.

Pitruk, A.P., O.G. Omelianuk, A.I. Pozdnyakov, and L.A. Pozdnyakova. 1997. "Application of electrical profiling for identification of burial places as subject of criminal origin" (in Russian). Scientific Research of Crime Expertise Center of Ministry of Internal Affairs *Problems of Crime Expertise and Expert Solutions*, Moscow, 6:103-110.

Pozdnyakov, A.I, A.D. Pozdnyakova, and L.A. Pozdnyakova. 1996. "Electrogeophysics for reclamation and agricultural usage of peat lands" (bilingual Russian/English). *J. of Reclamation and Water Economy*. 2:11-14.

Books and Book Chapters

Kovalev N.G., A.I. Pozdnyakov, D.A. Musekaev, and L.A. Pozdnyakova. 1998. *Торф, торфяные почвы, удобрения // Peat, peat soils, fertilizers.* In Russian. Тверь: ВНИИМЗ Россельхозакадемии. https://istina.msu.ru/publications/book/4604581/.

Pozdnyakov, A.I, L.A. Pozdnyakova, and A.D. Pozdnyakova. 1996. "Stationary Electrical Fields in Soils" -In Russian, with English Conclusions-. Moscow, Russia.: *KMK Scientific Press, p.356* https://tinyurl.com/ym2h4z5s.

Pozdnyakova, L.A., and A.I. Pozdnyakov. 1995. *Database of peat soil properties changed with reclamation and during long-term farming on Yachroma valley* (in Russian). User manual. Rus. Academy Agric. Sci., Tver', Russia.1-24.

Pozdnyakov, A.I., A.D. Pozdnyakova, V.O. Lopes d'Gereny, and L.A. Pozdnyakova. 1994. *Ecologically safe usage of peat soils and wetlands in humid zone* (in Russian). Rus. Academy of Agric. Sci., Moscow, Russia. 1-24.

Proceedings

Manstein, Yuri, and Larisa Golovko. 2021. "Novel Flying EM Sensor for Agricultural Research." In *2021 SUMMIT ON DRONE GEOPHYSICS*, 8–9. Virtual: SEG. https://doi.org/10.1190/tle40100778.1.

Golovko, L.A., A.D. Pozdnyakova, and L.A. Pozdnyakov. 2019. "Electrical resistivity: universal and fundamental soil property." In Proceedings of the Conference on *Fundamental concepts of soil physics and perspectives for future research*, dedicated to 90th anniversary of Prof A.D. Voronin, Lomonosov MSU, Russia 63–67.

Golovko L. 2017. "Applications of LandMapper Handheld Meter for Near-Surface Ecological Surveys and Beyond." In *III International Conference Environment and Sustainable Development of Territories: Ecological Challenges of the 21st Century*. Kazan. 27-29 September 2017.

Pozdnyakov, A.I., P.I. Eliseev, L.A. Golovko, L.A. Pozdnyakov, M.S. Dubrova, and E.P. Makarova. 2013. "Evaluating Cultivation Level of Sandy Soils in European Russia with Electro-Geophysical Methods." In *26th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2013*, 574–83. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/sageep2013-246.1.

Golovko, Larisa, and Anatoly I. Pozdnyakov. 2012. "Using Landmapper to Monitor Soil Salinity and Mitigate Its Effects on Rice Production at US Gulf Coast." In *25th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2012*, 22–30. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/1.4721686.

Golovko, Larisa, Anatoly Pozdnyakov, and Terry Waller. 2012. "A Vertical Electrical Sounding and Self-Potential Methods to Survey for Placement of Potable Water Wells." In *25th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2012*, 503–18. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/1.4721861.

Golovko, Larisa, Antonina Pozdnyakova, and Anatoly Pozdnyakov. 2011. "A Vertical Electrical Sounding Method for Agricultural Soil Survey." In *24th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2011*, 201–11. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/1.3614296.

Golovko, Larisa, and A.I. Pozdnyakov. 2010. "Applications of Self-Potential Method in Agriculture." // in *23rd EEGS Annual meeting SAGEEP (Symposium on the Application of Geophysics to Engineering and Environmental Problems)*, April 11-15, Keystone, Colorado, Proceedings: Denver, Colorado, Environmental and Engineering Geophysical Society, 8 p., on CD-ROM. Oral Presentation in *Geophysics in Agriculture and Geochemistry* Sec.

Pozdnyakov, A, and L. Golovko. 2009. "Electro-Geophysical Methods for Soil Survey of Agricultural Lands" //in *22rd EEGS Annual meeting SAGEEP (Symposium on the Application of Geophysics to*

Engineering and Environmental Problems), March 29 - April 2, 2009, Fort Worth, Texas, Proceedings: Denver, Colorado, Environmental and Engineering Geophysical Society, 10 p., on CD-ROM. Oral Presentation in Agricultural Geophysics – 2 Sec.

Golovko, L. and Anatoly I. Pozdnyakov. 2007. "Electrical Geophysical Methods in Agriculture." In *Progress of Information Technology in Agriculture*, edited by Chunjiang Zhao, 457–71. Beijing, China: China National Engineering Research Center for Information Technology in Agriculture NERCITA. http://cpfd.cnki.com.cn/Article/CPFDTOTAL-NXXH200710001084.htm.

Pozdnyakova, L., P.V. Oudemans, A.I. Pozdnyakov, and M.S. Kelly. 2004. *LANDMAPPER™ ERM-01. Electrical resistivity mapping device for precision horticulture.* Proceeding of 7th International Conference on Precision Agriculture. July 25-28. Minneapolis, Minnesota.

Pozdnyakov, A.I., and L.A. Pozdnyakova. 2002. *Electrical fields and soil properties.* Proceedings of 17th World Congress of Soil Science. Symposium 53, Paper #1558. 14-21 August, Thailand. http://www.sfst.org/Proceedings/17WCSS_CD/papers/1558.pdf

Pozdnyakova, L., and R. Zhang. 1998. *Estimating spatial variability of soil salinity using geo-statistical methods.* Proceeding of 4th International Conference on Precision Agriculture. July 19-22. St.Paul, Minnesota. Part A, 79-89. http://larisa_pozd.tripod.com/home.html

Pozdnyakov, A.I., L.A. Pozdnyakova, and A.D. Pozdnyakova. 1998. *Degradation and evolution of peat lands in Russia (basic theory and criteria for rational usage)* (bilingual Russian and English). Rus. Soil Sc. Soc. & Rus. Academy of Agric. Sc. Proceeding of International Conference "Anthropogenic degradation of soils and methods for its prevention". V.1, 129-131. Moscow.

Pozdnyakova, L., A. Pozdnyakov, and R. Zhang. 1997. *Detection of the groundwater table and subsurface salinity using vertical electrical sounding.* Proceeding of the Tenth Annual Meeting of Am. Water Resources Association, Wyoming State Section, November 13-14.

Pozdnyakova, L.A., A.I. Pozdnyakov., and L.O. Karpachevsky. 1996. *Study hydrology of valley agricultural landscapes with electrical resistance methods.* Proceeding of XXI Assembly European Geophysical Society, HS16 "The Hydrology of Small Agricultural Catchments", The Hague, Netherlands. 341-352.

Pozdnyakov, A.I., and Pozdnyakova, L.A. 1994. *Electrical resistance methods for field investigation of peat soils* (in Russian). Proceeding of the Seminar on Landscape Way in Reclamation and Problems of Precise Use of Land. Moscow, Russia. 178-193.

Abstracts

Golovko L., Trubin A., Orunbaev S., Manstein, Y.A., Pozdnyakova, L., Rusakov A., and Simonova Y. 2023. "In-Field Assessment of Soil and Water Salinity with Geophysics and Geostatistics." In *Managing Salt-Affected Soils For Sustainable Future*, 25–26. Tashkent-Nikus, Uzbekistan: FAO.

Abakumov E, and Golovko L. 2023. "Vertical Electrical Sounding for Identification of Permafrost Table and Active Layer Depth in Arctic Cryogenic Environments." In . Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. New Orleans Louisiana USA: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society.

Golovko, Larisa, Yuri A. Manstein, and Trubin A. 2023. "Aerial and On-the-Ground Geophysical Methods for Detecting Subsurface Anomalies of Anthropogenic Origin." In . Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. New Orleans Louisiana USA: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society. https://tinyurl.com/2a4kkfnk.

Manstein, Yuri A., and Larisa Golovko. 2023. "Heap Leaching Challenges: Geophysical Solutions." In . Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. New Orleans Louisiana USA: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society.

Golovko, Larisa, Yuri A. Manstein, and S. Orunbaev. 2023. "Geophysical Methods for Mapping and Monitoring Changes in Soils and Groundwater of Coastal Areas." In Book of Abstracts: 4th Atlas Georesources International Congress. AGIC-2023: Geoscience Innovations for Resource Management: Socio-Economic Challenges In An Environmentally Constrained World. Hammamet, Tunisia. P. 205. https://tinyurl.com/mva8rz3c.

Manstein, Yuri A., Olenchenko, Vladimir, and L. A. Golovko, L. 2023. "Increasing the Environmental Safety of Heap Leaching: Geophysical Solutions." In *Book of Abstracts: 4th Atlas Georesources International Congress,* 182. Hammamet, Tunisia.

Golovko, Larisa, and Yuri A. Manstein. 2022. "Calibrating Frequency Domain Electromagnetic Induction Instrument with DC Resistivity for Fast Soil Mapping." In *Symposium on the Application of Geophysics to Engineering and Environmental Problems 2022*, 267. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Denver, CO. Society of Exploration Geophysicists and Environment and Engineering Geophysical Society.

Golovko, L., Y.A. Manstein, A.D. Pozdnyakova, L.A. Pozdnyakov, and D.B. Romanov. 2021. "Portative Sensors for Measuring Soil Electrical Parameters in Situ." In *Symposium on the Application of Geophysics to Engineering and Environmental Problems 2021*, 267–267. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Virtual. Society of Exploration Geophysicists and Environment and Engineering Geophysical Society. https://doi.org/10.4133/sageep.33-148

Antonina Pozdnyakova, Lev A. Pozdnyakov, and Larisa Golovko. 2018. "Electrophysics and Geoinformation Systems in Soil-Agrochemical Research." In , 187. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Nashville, TN: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society. https://doi.org/10.1190/SAGEEP.31.

Larisa Golovko and Vadim Chernov. 2018. "Investigation of Mobile Electrical Charges in Soils Formed above Sulfur-Hydrocarbon Deposits." In , 188. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Nashville, TN: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society. https://doi.org/10.1190/SAGEEP.31.

Golovko, L., A. D. Pozdnyakova, Y. A. Manstein, L. A. Pozdnyakov, and O. N. Anciferova. 2016. "Mapping and Monitoring of Alluvial Soils in Humid Areas with Electrical Geophysical Methods" 2016 (December): *AGU Fall Meeting Abstracts* DS Bibcode: 2016AGUFMNS24A..08GNS24A-08. https://ui.adsabs.harvard.edu/abs/2016AGUFMNS24A..08G.

Golovko L. 2015. "Optimizing In-Situ Soil Salinity Mapping with Landmapper." In *Symposium on the Application of Geophysics to Engineering and Environmental Problems 201*, 574–83. In *28th EEGS* Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. Section "Agricultural Geophysics and Material Properties":6. EEG. https://doi.org/10.4133/SAGEEP.28-001.

Golovko, L, and A. Pozdnyakov. 2010. "Back to Basics: Soil EC as a proxy to map other soil properties".// in *2nd Africa Agriculture Geospatial Week*, Nairobi, Kenya, 8 – 12 June. Oral presentation at *Cluster 3: Understanding soils as a way of understanding other processes*.

Golovko, L. 2009. "Rely on Soil Type to Optimize Nitrogen Rates for Hybrid Rice". *12th Annual National Conservation Systems Cotton & Rice Conference*.

Golovko, L, and A. Pozdnyakov. 2009. "Applications of natural electrical potential method in agriculture".// in *Bouyoucos Conference on Agricultural Geophysics*, September 8-10, Albuquerque, New Mexico. p. 24.

Guber, A. K., Z. L. Hadzick, A. Garzio, Y. A. Pachepsky, R. L. Hill, R. A. Rowland, and L. A. Golovko. 2008. "Electrical Resistivity Imaging to Quantify Spatial Soil Heterogeneity." *AGU Fall Meeting Abstracts* 51 (December): 0940. http://adsabs.harvard.edu/abs/2008AGUFM.H51G0940G.

Pozdnyakov A., and L. Golovko. 2008. "Soil Electrophysics as a New Methodology for Soil Survey" // in *The ASA-CSSA-SSSA Joint Annual Meeting (October 5-9, 2008*) George R. Brown Convention Center, Houston, TX. CD-ROM, Abstract #677-3. http://a-c-s.confex.com/crops/2008am/webprogram/Paper41928.html

Anatoly I. Pozdnyakov and Larisa Golovko. 2007. "Field Electro-geophysics Methods Applied to Soil Science." Oral presentation presented at the *ASA-CSSA-SSSA International Annual Meetings*, New Orleans, LA, November 4. *CD-ROM, Abstract #181-6*. Oral Presentation http://crops.confex.com/crops/2007am/techprogram/P37761.HTM.

Pozdnyakov, A.I., L.A. Pozdnyakova and G. Fedotov. 2006. "Electro-tropism in "Soil-Plant" System". Poster presentation at *18th World Congress of Soil Science*. Paper #116-29. 9-15 July, Philadelphia, PA. http://a-c-s.confex.com/crops/wc2006/techprogram/P17296.HTM

Pozdnyakov, Anatoly, Alexandra Mikus, Gennady Fedotov, and Larisa Pozdnyakova. 2005. "Natural Electrical Potentials in System 'Soil-Plant.'" In *ASA-CSSA-SSSA International Annual Meetings*. Salt Lake City, UT, USA.

Pozdnyakova, L.A., Oudemans, P.V., and Golovko T. 2005. "Monitoring Soil Physical Properties and Water Management on Commercial Cranberry Beds in New Jersey." In *ASA-CSSA-SSSA International Annual Meetings. S06 Soil & Water Management & Conservation*. Salt Lake City, UT. https://a-c-s.confex.com/crops/2005am/techprogram/P7739.HTM.

Pozdnyakova, L., D. Gimenez, and P.V. Oudemans. 2004. "Multifractal analysis of cranberry yield at three scales". *2004.* Abstract and Oral Presentation at *Annual Meeting of ASA/CSSA/SSSA*. 31 October-4 November. Seattle, WA. #4025.

Larisa Pozdnyakova and Peter V. Oudemans. 2004. *GIS and non-destructive sensors for mapping soils under blueberries and cranberries in New Jersey.* Poster Presentation at 2004 Annual Meeting of the NEBASA/NESSSA - July 11 – 14, 2004, Rutgers EcoComplex - Bordentown, New Jersey

Pozdnyakova, L., and P.V. Oudemans. 2003. *Influence of neighbor samples on cross-validation statistics for non-obvious variogram models*. Abstract and Oral Presentation at Annual Meeting of ASA/CSSA/SSSA. 3-6 November. Denver, CO.

Pozdnyakov, A., and L. Pozdnyakova. 2000. *Vertical electrical sounding method for soil survey*. Oral presentation and abstract at Annual Meeting of ASA/CSSA/SSSA. 5-9 November. Minneapolis. MN. 212.

Pozdnyakova, L, P.V. Oudemans, M.G. Hughes and D. Gimenez. 2000. "Spatial detection and quantification of Phytophthora root rot effects on cranberry yield". *Second International Conference on Geospatial Information in Agriculture and Forestry*. Vol. I, 295-302. Lake Buena Vista, Florida

Oudemans P.V., Hughes M.G., and L. Pozdnyakova. 2000. "Evaluating commercial cranberry beds for variability and yield using remote sensing techniques". *Second International Conference on Geospatial Information in Agriculture and Forestry*. Vol. II, 444-448. Lake Buena Vista, Florida

Pozdnyakova, L., P.V. Oudemans, M.G. Hughes, and D. Gimenez. 1999. "Detection and quantification of Phytophthora Root Rot effects on cranberry yield". Poster presentation and abstract at *North American Cranberry Research and Extension Worker Conference*. 30 Sep.-2 Oct., Long Beach, WA. 21.

Oudemans, P.V., L. Pozdnyakova, M.G. Hughes, and D. Gimenez. 1999. "Mapping cranberry diseases using remote sensing and GPS-guided ground sampling". Abstract at *North American Cranberry Research and Extension Worker Conference*. 30 Sep.-2 Oct., Long Beach, WA. 28

Pozdnyakov, A.I., and L.A. Pozdnyakova. 1999. *Evaluation of physical properties and hydrology of urban soils with geophysical methods.* Oral presentation and abstract at Annual Meeting of ASA/CSSA/SSSA. 31 October. Salt Lake City.UT. 278.

Pozdnyakova, L.A., and R.Zhang. 1999. *Mechanisms of electrical resistivity and water retention in soils.* Oral presentation and abstract at Annual Meeting of ASA/CSSA/SSSA. 31 October. Salt Lake City.UT. 173.

Pozdnyakov, A.I., and L. Pozdnyakova. 1998. "Degradation and Evolution of Peat Soils under Agricultural Cultivation." In *ASA-CSSA-SSSA Annual Meeting*, 280. Baltimore, MD.

Pozdnyakova, L., Renduo Zhang, and A.I. Pozdnyakov. 1998. "Applications of Electro-geophysical Methods in Soil Science." In *ASA-CSSA-SSSA Annual Meeting*, 174. Baltimore, MD

Pozdnyakova, L., A.I. Pozdnyakov, and R. Zhang. 1998. "Evaluating the Hazard Hydrological Conditions in Urban Areas Using Electrogeophysical Methods." In *Int. Conf. "Ecology of Cities. Problems of Superlow Concentration,"* 280. Rodos, Greece.

Pozdnyakov, A., L. Pozdnyakova, and R. Zhang. 1998. "Methods of stationary and non-stationary electrical fields for maintenance of architecture memorials". Poster presentation for International Conference "Ecology of cities. Problem of superlow concentration". June 8-12. Rodos, Greece.

Pozdnyakova, L., R. Zhang, and A. Pozdnyakov. 1998. "Changes of Peat Soil Properties under Agricultural Cultivation." In *79th Annual Meeting of the AAAS. Pacific Division*, 17, Part 1:39. Logan, UT: AAAS.

Pozdnyakov, A., L. Pozdnyakova, and A. Pozdnyakova. 1997. "Methods of electromagnetic and stationary electrical fields for precise farming, mapping and monitoring of soils". *Proceeding of ASAE Annual International Meeting. N 973075.* August 10-14. Minneapolis, Minnesota. http://www.asae.org/meetings/am97/abstracts/973075.html

Pozdnyakov, A.I., A.D. Pozdnyakova, and L.A. Pozdnyakova. 1996. "Electrogeophysics in Soil Science." In *XXI Assembly of European Geophysical Society*. May 6-10. The Hague. EGS Office, European Geophysical Society, Postdate 49, Max-Planck-Str. 1, 37189 Katlenburg-Lindau, Germany.

Pozdnyakov, A.I., and L.A. Pozdnyakova. 1996. "Valuation of Pollution Soil at Production of Petroleum and Gas with Electrical Methods." in *XXI Assembly of European Geophysical Society*. May 6-10. The Hague. EGS Office, European Geophysical Society, Postdate 49, Max-Planck-Str. 1, 37189 Katlenburg-Lindau, Germany.

Pozdnyakova, L.A. 1995. "Express estimation of soils with electrical conductivity methods". Oral presentation and abstract for the *Conference of Young Scientists on Ways of Rational Use Lands in Ukraine.* March 4-7. Kiev, Ukraine. 72.

Pozdnyakova, L.A. 1994. "Electrical conductivity as parameter for evaluation physico-chemical properties of peat soil". Abstract at the *International Conference on Physical and Chemical Properties of Peat and Slime: Problems of Their Treatment and Complexity of Utilization*. Tver, Russia. 34.

Producer-oriented publications

Golovko L. 2023. "Evaluating pistachios vigor in response to artificial pollination" – GIS Analysis of satellite imagery and other environmental data on CMV Farms Robinvale, Australia. p. 22

Golovko L. 2022. "Soil clay content information per field GIS analysis" – methodology description for Whittaker farm, AR for RiceTec SmartRice grain program certification. p. 17

Golovko L. and Y. Manstein. 2022. "Subsurface geophysical imaging and GIS analysis of LiDAR imagery of agricultural lands near Montrose, IA" – methodology description and field survey report for Ancient American Magazine, Inc. p. 37

Golovko L. 2021. "Soil analytics to increase yields". Infomercial flyer on GIS and geophysical surveys.

Golovko L. 2021. "Subsurface imaging for construction". Infomercial flyer on geophysical services.

Golovko L. 2021. "Crop adaptations to soils: onions and sweet potatoes" – literature review, GIS analysis and methodology description for ClimateAI, Inc. p. 21

Golovko L. and Y. Manstein. 2021. "Subsurface geophysical imaging near Montrose, IA" – methodology description and field survey report for Heartland Research, Inc. p. 31

Golovko Larisa. 2002-2017. "Measuring electrical properties of natural systems with LandMapper ERM01-04. User Manual. Theory. Case Studies". p. 84

Golovko L. 2016. "SmartRice Program. Accounting for rice sustainability: FieldX software manual and how to report data back to RiceTec, Inc. for participating crop consultants". p.13

Golovko L. 2015. "You Plant Rice, We Harvest Information..." *RiceTec Newsletter Quaternary*, 2015.

Pozdnyakova, Larisa. 2006. "Identifying Best Rice Hybrids for Gulf Coast Using GIS." Abstract presented at the Texas Plant Protection Conference, College Station, TX.

Pozdnyakova, Larisa and Cuevas, Federico. 2006. "Enhancing Hybrid Rice Yields by Targeting Specific Soils and Farmlands." Abstract presented at the 9th Annual National Conservation Systems Cotton & Rice Conference, Tunica, MS.

THESISES

Pozdnyakova, L.A. 1999. *Electrical properties of soils.* Ph.D. Dissertation. Univ. of Wyoming, Col. of Agriculture, Laramie, WY. p. 175. 10.13140/RG.2.2.35662.54087

Pozdnyakova, L.A. 1995. *Anthropogenic impact on agricultural wetland soils studied with electrogeophysical methods.* (in Russian). Ph.D. Dissertation. Moscow State Univ., Col. of *Soil Science*, Moscow, Russia. p. 265.

Pozdnyakova, L.A. 1992. *Electrical resistivity of peat soils.* (in Russian). *MS Thesis*. Moscow State Univ., Col. of *Soil Science*, Moscow, Russia. p. 68.

LIST of PRESENTATIONS

Invited - *International*

"Geophysical Methods for Mapping and Monitoring Changes in Soils and Groundwater of Coastal Areas." 4th Atlas Georesources International Congress. AGIC-2023: Geoscience Innovations for Resource Management: Socio-Economic Challenges In An Environmentally Constrained World. Hammamet, **Tunisia**. **18-20 March 2023**

Keynote Speaker "GIS and Geophysics to Improve Irrigation Water Management". // NIAxRASA Technology Forum "Improved Irrigation Management through Surveying Technology", Manila **Philippines**. **14 February, 2023**. (virtual video presentation).

Instructor for "Electromagnetic Induction Instrument for Fast Mapping of Soil Corrosivity" - on-boarding documentation and 3-day remote training workshop in AEMP-14, GPS, and data interpolation in GIS (QGIS, Surfer, and ArcGIS) for *Allied Engineers Inc:* ***India – Saudi Arabia pipeline monitoring projects*** (crew of 12 people, 500+ km surveyed under my remote guidance), **Feb – May, 2022**

Computomics podcast-E8 "*Using GIS and Sensor Data in Agricultural Research*", **Germany**, remote **2020**

Invited Consultant for Japan-Latin America Cooperation Research Group's Workshop "*Development and Adoption of Latin American Low Input Rice Production System through Genetic Improvement and Advanced Field Management Technologies* (SATREPS)". **Columbia**, **2018**

Speaker "*Back to Basics: Soil EC as a proxy to map other soil properties*". 2nd Africa Agriculture Geospatial Week, Cluster 3: Understanding soils as a way of understanding other processes. Nairobi, **Kenya, 2010**

Keynote Speaker "*Electrical Geophysical Methods in Agriculture*." In Progress of Information Technology in Agriculture, China National Engineering Research Center for Information Technology in Agriculture NERCITA, Beijing, **China, 2007**

Invited - National

Golovko, L. *"Geophysical Sensors and Mechanistic Models Aid Sustainable Farming"* for **USDA ARS** Adaptive Cropping Systems Laboratory, Beltsville, MD, **2 Aug 2023**

Golovko, L. *"Geophysical Methods of Electrical Resistivity and Self-Potential in Agriculture"* at Agricultural Geophysics Webinar Series: "Application of Geophysical Methods to Agriculture: Methods Employed" organized by **USDA NRCS**, **2014**

Golovko, L. 2013. "Resistivity and Self-Potential Methods for Agricultural Mapping and Monitoring." Presented at the *Agricultural Geophysics: Methods Employed and Recent Applications* (SAGEEP **Agricultural Geophysics Short Course - Workshop**).

Golovko L. "Applications of natural electrical potential method in agriculture". // in *Bouyoucos Conference on Agricultural Geophysics*, September 8-10, Albuquerque, **New Mexico, 2009**

Invited - State

"*Increasing hybrid rice seed value by matching seeds to specific environments*" GIS Showcase at the AGU-ASA-CSSA-SSSA Joint Annual Meeting October 5-9. Presentation to the conference delegation on a tour to the research facilities of RiceTec, Inc in Alvin, **TX, 2008**

"Applications of electrical geophysical methods in soil science" Invited speaker at the meeting of NJ Association of Professional Soil Scientists, NRCS office in 220 Davidson Ave., Somerset, **NJ, 2003**

"Electro-geophysical methods for environmental studies". Invited speaker at Environmental Sciences Dep., Rutgers, The State University of New Jersey. New Brunswick, **NJ, 2002**

"Electrical geophysical methods for soil and environmental studies". Invited to teach a seminar at Minnesota State University, St. Paul, **MN, 2001**

Invited – Producers and Community

Plenary presentation "In-Field Assessment of Soil and Water Salinity with Geophysics and Geostatistics." In *Managing Salt-Affected Soils For Sustainable Future*, FAO. Tashkent-Nikus, **Uzbekistan**: **25–26 May 2023**

Lecture on "*Geophysical Instruments for Archaeology and Agriculture*" at Putnam Museum, Davenport, **IA**, **2021**

Instructor for "*Deep Electrical Tomography for Oil and Gas Exploration*" on-site field and classroom 5-day hands-on workshop on SibER-48 instrument and RES3DINV software for faculty and students (30 people) at Academy of Oil & Gas, Cepu, **Indonesia**, **2015**

Instructor for "*Deep Electrical Tomography for Hydrological Applications*" on-site field and classroom 5-day hands-on workshop and field survey with SibER-48 instrument and RES3DINV software for researchers and students (20 people) of Bandung Institute of Technology, **Indonesia, 2014**

Volunteered – International

"Express estimation of soils with electrical conductivity methods". Oral presentation and abstract for the *Conference of Young Scientists on Ways of Rational Use Lands in Ukraine.* March 4-7. Kiev, Ukraine. 72. 1995

Volunteered – National

Abakumov E, and **Golovko L.** 2023. "Vertical Electrical Sounding for Identification of Permafrost Table and Active Layer Depth in Arctic Cryogenic Environments." In . Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. New Orleans Louisiana USA: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society.

Golovko, Larisa, Yuri A. Manstein, and Trubin A. 2023. "Aerial and On-the-Ground Geophysical Methods for Detecting Subsurface Anomalies of Anthropogenic Origin." In . Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. New Orleans Louisiana USA: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society. https://tinyurl.com/2a4kkfnk.

Manstein, Yuri A., and **Larisa Golovko.** 2023. "Heap Leaching Challenges: Geophysical Solutions." In . Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. New Orleans Louisiana USA: Society of Exploration Geophysicists and Environment and Engineering Geophysical Society.

Manstein, Yuri, and **Larisa Golovko**. 2021. "Novel Flying EM Sensor for Agricultural Research." In *2021 SUMMIT ON DRONE GEOPHYSICS*, 8–9. virtual: SEG. https://doi.org/10.1190/tle40100778.1.

Golovko, L., Y.A. Manstein, A.D. Pozdnyakova, L.A. Pozdnyakov, and D.B. Romanov. 2021. "Portative Sensors for Measuring Soil Electrical Parameters in Situ." In *Symposium on the Application of Geophysics to Engineering and Environmental Problems 2021*, 267–267. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Society of Exploration Geophysicists and Environment and Engineering Geophysical Society. https://doi.org/10.4133/sageep.33-148

Golovko L. 2015. "Optimizing In-Situ Soil Salinity Mapping with Landmapper." In *Symposium on the Application of Geophysics to Engineering and Environmental Problems 201*, 574–83. In *28th EEGS* Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. Section "Agricultural Geophysics and Material Properties":6. EEG. https://doi.org/10.4133/SAGEEP.28-001.

Pozdnyakov, A.I., P.I. Eliseev, **L.A. Golovko**, L.A. Pozdnyakov, M.S. Dubrova, and E.P. Makarova. 2013. "Evaluating Cultivation Level of Sandy Soils in European Russia with Electro-Geophysical Methods." In *26th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2013*, 574–83. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/sageep2013-246.1.

Golovko, Larisa, and Anatoly I. Pozdnyakov. 2012. "Using Landmapper to Monitor Soil Salinity and Mitigate Its Effects on Rice Production at US Gulf Coast." In *25th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2012*, 22–30. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/1.4721686.

Golovko, Larisa, Anatoly Pozdnyakov, and Terry Waller. 2012. "A Vertical Electrical Sounding and Self-Potential Methods to Survey for Placement of Potable Water Wells." In *25th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2012*, 503–18. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/1.4721861.

Golovko, Larisa, Antonina Pozdnyakova, and Anatoly Pozdnyakov. 2011. "A Vertical Electrical Sounding Method for Agricultural Soil Survey." In *24th EEGS Symposium on the Application of Geophysics to Engineering and Environmental Problems 2011*, 201–11. Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings. Environment and Engineering Geophysical Society. https://doi.org/10.4133/1.3614296.

Golovko, Larisa, and A.I. Pozdnyakov. 2010. "Applications of Self-Potential Method in Agriculture." // in *23rd EEGS Annual meeting SAGEEP (Symposium on the Application of Geophysics to Engineering and Environmental Problems)*, April 11-15, Keystone, Colorado, Proceedings: Denver, Colorado, Environmental and Engineering Geophysical Society, 8 p., on CD-ROM. Oral Presentation in *Geophysics in Agriculture and Geochemistry* Sec

Pozdnyakov, A, and **L. Golovko.** 2009. "Electro-Geophysical Methods for Soil Survey of Agricultural Lands" //in *22rd EEGS Annual meeting SAGEEP (Symposium on the Application of Geophysics to Engineering and Environmental Problems)*, March 29 - April 2, 2009, Fort Worth, Texas, Proceedings: Denver, Colorado, Environmental and Engineering Geophysical Society, 10 p., on CD-ROM. Oral Presentation in Agricultural Geophysics – 2 Sec.

Golovko, L. 2008. "Soil Electrophysics as a New Methodology for Soil Survey" // in *The ASA-CSSA-SSSA Joint Annual Meeting (October 5-9, 2008*) George R. Brown Convention Center, Houston, TX.

Golovko, L. 2007. "Field Electro-geophysics Methods Applied to Soil Science." Oral presentation presented at the *ASA-CSSA-SSSA International Annual Meetings*, New Orleans, LA, November 4.

Pozdnyakov, A.I., **L.A. Pozdnyakova** and G. Fedotov. 2006. "Electro-tropism in "Soil-Plant" System". Poster presentation at *18th World Congress of Soil Science*. Paper #116-29. 9-15 July, Philadelphia, PA.

Pozdnyakov, A.I., **L.A. Pozdnyakova** and G. Fedotov. 2005. "Natural Electrical Potentials in System 'Soil-Plant.'" In *ASA-CSSA-SSSA International Annual Meetings*. Salt Lake City, UT, USA

Pozdnyakova, L.A., Oudemans, P.V., and Golovko T. 2005. "Monitoring Soil Physical Properties and Water Management on Commercial Cranberry Beds in New Jersey." In *ASA-CSSA-SSSA International Annual Meetings. S06 Soil & Water Management & Conservation*. Salt Lake City, UT. https://a-c-s.confex.com/crops/2005am/techprogram/P7739.HTM.

Pozdnyakova, L., D. Gimenez, and P.V. Oudemans. 2004. "Multifractal analysis of cranberry yield at three scales". *2004.* Abstract and Oral Presentation at *Annual Meeting of ASA/CSSA/SSSA*. 31 October-4 November. Seattle, WA. #4025.

Pozdnyakova, L., P.V. Oudemans, A. Pozdnyakov, and M.S. Kelly. 2004. "LANDMAPPER™ ERM. Electrical resistivity mapping device for precision agriculture on small and medium sized fields". Abstract and Poster Presentation at Annual Meeting of ASA/CSSA/SSSA. 31 October-4 November.

Pozdnyakova, L.A, and R. Zhang. 1999. "Evaluation of Physical Properties and Hydrology of Urban Soils with Geophysical Methods." In *ASA-CSSA-SSSA Annual Meeting*, 278. Salt Lake City, UT: ASA-CSSA-SSSA.

Pozdnyakova, L., and Renduo Zhang. 1999. "Mechanisms of Electrical Resistivity and Water Retention in Soils." In *ASA-CSSA-SSSA Annual Meeting*, 173. Salt Lake City, UT: ASA-CSSA-SSSA.

Pozdnyakova, L.A., and R. Zhang. 1998. "Estimating Spatial Variability of Soil Salinity Using Geostatistical Methods." In *Fourth International Conference on Precision Agriculture*, Part A:79–89. St.Paul, MN: ASA/CSSA/SSSA.

Pozdnyakov, A.I., and **L. Pozdnyakova**. 1998. "Degradation and Evolution of Peat Soils under Agricultural Cultivation." In *ASA-CSSA-SSSA Annual Meeting*, 280. Baltimore, MD: ASA-CSSA-SSSA.

Pozdnyakova, L., Renduo Zhang, and A.I. Pozdnyakov. 1998. "Applications of Electro-geophysical Methods in Soil Science." In *ASA-CSSA-SSSA Annual Meeting*, 174. Baltimore, MD: ASA-CSSA-SSSA.

Volunteered – Producer and Community

Demo of UAV usage in Agriculture at Community Career Fair, Manvel, TX, 2020

Mentor at Alvin High School Engineering Class, Alvin, TX, 2019-2020

Golovko, Larisa. 2014. "Effect of environment on rice yield and milling quality". Oral presentation at 17th *Annual National Conservation Systems Cotton & Rice Conference*.

Golovko, Larisa. 2009. "Rely on Soil Type to Optimize Nitrogen Rates for Hybrid Rice". Oral presentation at *12th Annual National Conservation Systems Cotton & Rice Conference*. Tunica, TX

Pozdnyakova, Larisa. 2006. "Identifying Best Rice Hybrids for Gulf Coast Using GIS." Abstract presented at the *Texas Plant Protection Conference*, 5-6 Dec. 2006. College Station, TX.

Pozdnyakova, Larisa and Cuevas, Federico. 2006. "Enhancing Hybrid Rice Yields by Targeting Specific Soils and Farmlands." Oral presentation at the *9th Annual National Conservation Systems Cotton & Rice Conference*, Tunica, MS.

"Spatial detection and quantification of Phytophthora root rot effects on cranberry yield". *Second International Conference on Geospatial Information in Agriculture and Forestry*. Vol. I, 295-302. Lake Buena Vista, Florida

Oudemans P.V., Hughes M.G., and **L. Pozdnyakova**. 2000. "Evaluating commercial cranberry beds for variability and yield using remote sensing techniques". *Second International Conference on Geospatial Information in Agriculture and Forestry*. Vol. II, 444-448. Lake Buena Vista, Florida

Pozdnyakova, L., P.V. Oudemans, M.G. Hughes, and D. Gimenez. 1999. "Detection and quantification of Phytophthora Root Rot effects on cranberry yield". Poster presentation and abstract at *North American Cranberry Research and Extension Worker Conference*. 30 Sep.-2 Oct., Long Beach, WA. 21.

Oudemans, P.V**., L. Pozdnyakova**, M.G. Hughes, and D. Gimenez. 1999. "Mapping cranberry diseases using remote sensing and GPS-guided ground sampling". at *North American Cranberry Research and Extension Worker Conference*. 30 Sep.-2 Oct., Long Beach, WA. 28