

## Alexander Neaman Curriculum Vitae



### Personal information

Birth: October 9<sup>th</sup>, 1971  
Nationality: Russia  
E-mail: alexander.neaman@gmail.com  
Mobile phone: +56998248903  
ORCID: 0000-0002-1819-0872  
Researcher ID: ABF-3260-2020  
Scopus: 6602923704  
<https://publons.com/researcher/4058652/alexander-neaman/>

### Education

1989-1994 B.Sc., M.Sc., Moscow State University, Russia. Faculty of Soil Science; Department of Soil Chemistry

1995-2000 Ph.D., Hebrew University of Jerusalem, Israel. Faculty of Agriculture, Food and Environment; Department of Soil and Water Sciences

### Academic appointments

1995-2000 Instructor and Research Assistant  
Hebrew University of Jerusalem, Israel. Faculty of Agriculture, Food and Environment; Department of Soil and Water Sciences

2000-2001 Post-Doctoral Researcher  
Institut National Polytechnique de Lorraine, École Nationale Supérieure de Géologie, Laboratoire Environnement et Minéralurgie, Nancy, France

2001-2002	<u>Post-Doctoral Researcher</u> Institut National de la Recherche Agronomique, Unité de Recherche de Géochimie des Sols et des Eaux, Aix-en-Provence, France
2002-2004	<u>Research Associate</u> Pennsylvania State University, Department of Geosciences, Department of Crop and Soil Sciences, University Park, PA, USA
2004-2016	<u>Associate Professor</u> Pontifical Catholic University of Valparaiso, School of Agriculture, Quillota, Chile
2016-2020	<u>Full Professor</u> Pontifical Catholic University of Valparaiso, School of Agriculture, Quillota, Chile
2020-2022	<u>Full Professor</u> Southern University of Chile, Institute of Agricultural Engineering and Soils, Valdivia, Chile
2022-present	<u>Full Professor</u> University of Tarapacá, Faculty of Agricultural Sciences, Arica, Chile

### **International collaboration**

2018-present	<u>Visiting Professor</u> Peoples' Friendship University of Russia (RUDN University), Department of Landscape Design and Sustainable Ecosystems, Moscow, Russia
--------------	--

### **Academic management experience**

2005-2020	<u>Head of ISO Certified Laboratory of Soil and Plant Tissue Analysis</u> Pontifical Catholic University of Valparaiso The laboratory provides services to external clients (farmers, corporates, governmental institutions, etc.)
2016-2017	<u>Program Chair</u> Pontifical Catholic University of Valparaiso School of Agriculture offers undergraduate (B.Sc.) degrees in Agriculture with 500+ students
2017-2019	<u>Deputy Director of Research</u> Pontifical Catholic University of Valparaiso

Administrative duties in managing research programs of the School of Agriculture with 20+ professors. Member of the committee of the M.Sc. Program in Agricultural and Environmental Sciences with 50+ students

### **Teaching experience**

Fundamentals of Soil Science, Soil Mineralogy, Soil Mapping, Methods of Soil Analysis (Hebrew University of Jerusalem, Israel)

Fundamentals of Soil Science, Soil Fertility, Plant Nutrition, Environmental Soil Chemistry, Environmental Impact of Modern Society, Environmental Issues in Chile (Pontifical Catholic University of Valparaiso, Chile)

Soil Chemistry, Natural Resource Management, Fundamentals of Soil Science, Environment and Society, Applied Chemistry (Southern University of Chile, Chile)

Fundamentals of Soil Science, Soil Fertility, Plant Nutrition (University of Tarapacá, Chile)

### **Research areas**

Soil environmental chemistry

Soil ecotoxicology

Soil remediation

Soil quality assessment

Environmental education

Sustainable development

### **Summary of scientific productivity**

h-index (Web of Science):	26
Book chapters:	3
Books:	4
Supervisor of M.Sc. thesis (completed):	24
Supervisor of Ph.D. thesis (completed):	1
Supervisor of Ph.D. thesis (ongoing):	1

### **Languages**

Russian, English, Hebrew, French, and Spanish

### **Awards**

Selected by the International Union of Soil Sciences to participate in the International Council for Science (ICSU) Young Scientists Conference, April 4-6, 2007, Lindau, Germany

Award for excellence in research, 2016 and 2018, Pontifical Catholic University of Valparaíso, Chile

### **Books**

Sadzawka, A., Carrasco, M.A., Demanet, R., Flores, R., Grez, R., Mora, M., Neaman, A., Romeny, G., Zagal, E. 2015. Guía para la validación de los métodos de análisis de lodos y de suelos receptores de lodos. Sociedad Chilena de la Ciencia del Suelo, Universidad de Concepción, Chillán, 24 p.

Sadzawka A., Carrasco M.A., Demanet R., Flores H., Mora M.L., Neaman A., Hernández, P., Sandoval M., 2015. Métodos de análisis de lodos y de suelos. Sociedad Chilena de la Ciencia del Suelo, Universidad de Concepción, Chillán, 114 p.

Sadzawka A., Carrasco M.A., Demanet R., Flores H., Grez R., Mora M.L., Neaman A., 2007. Métodos de análisis de tejidos vegetales. Segunda Edición. Serie actas INIA N° 40. Instituto de Investigaciones Agropecuarias, Santiago, Chile, 140 p.

Sadzawka A., Carrasco M.A., Grez R., Mora G., Flores H., Neaman A., 2006. Métodos de análisis recomendados para los suelos de Chile. Revisión 2006. Serie actas INIA N° 34. Instituto de Investigaciones Agropecuarias, Santiago, Chile, 164 p.

### **Book chapters**

Neaman, A., Ginocchio, R., Yáñez C., 2017. Soil ecotoxicology: Chilean studies with soils polluted by copper mining. In: C. Araújo & C. Shinn (editors). Ecotoxicology in Latin America. Nova Publishers, Hauppauge, NY, USA, pp. 325-338.

Neaman, A., Ginocchio, R., Yáñez C., 2017. Restoration and conservation actions: Chilean studies on phytoremediation of metal-polluted, acidic soils. In: C. Araújo & C. Shinn (editors). Ecotoxicology in Latin America. Nova Publishers, Hauppauge, NY, USA, pp. 551-562.

Neaman A., Singer A., 2011. The effects of palygorskite on chemical and physico-chemical properties of soils. In: A. Singer & E. Galán (editors). Developments in Palygorskite-Sepiolite Research. A New Look at these Nanomaterials. Elsevier, Amsterdam, The Netherlands, pp. 325-349.

### **Research projects funded by the Chilean Government (last 15 years)**

Protective potential of zinc against copper toxicity to earthworms in vineyard and orchard soils contaminated with copper-based pesticides (Funding: FONDECYT, Chilean Government, project 3220026, years 2022-2025, co-investigator).

Potential alleviation of copper toxicity in contaminated agricultural soils in central Chile by

calcium, magnesium, and zinc amendments (Funding: FONDECYT, Chilean Government, project 1200048, years 2020-2022, principal investigator).

Conductas proambientales y prosociales en estudiantes chilenos: Comprendiendo su dimensión moral y ciudadana (Funding: FONDECYT, Chilean Government, project 1200259, years 2020-2022, co-investigator).

Use of amendments for decreasing metal concentrations in vegetables grown in Valparaiso Region (Funding: FONDEF, Chilean Government, project ID17AL0056, years 2018-2020, principal investigator).

Soil, house dust, locally grown vegetables, and drinking water as environmental media of human exposure to trace elements in Puchuncaví (Funding: FONDECYT, Chilean Government, project 1160018, years 2016-2018, principal investigator).

Microbial properties as indicator of quality of metal-contaminated agricultural soil (Funding: FONDECYT, Chilean Government, project 1150503, years 2015-2017, co-investigator).

Ecotoxicological assessment of soil quality: use for legislative regulations concerning metal-contaminated soils (Funding: FONDECYT, Chilean Government, project 1130041, years 2013-2015, principal investigator).

*In situ* metal immobilization and phytostabilization of contaminated soils in the Puchuncaví valley (Funding: FONDECYT, Chilean Government, project 1085005, years 2008-2011, principal investigator).

Determination of speciation and bioavailability of copper in agricultural soils in Aconcagua River basin: Generating a map of copper toxicity for crops and soil organisms (Funding: FONDECYT, Chilean Government, project 1050403, years 2005-2008, principal investigator).

### **International research projects (last 15 years)**

Performance comparison of innovative metal(loid) nanosorbents in smelter-polluted soils: Geochemical and ecotoxicological benchmarks (Funding: Russian Foundation for Basic Research and Czech Science Foundation - Grant Agency of the Czech Republic, years 2021-2024, principal investigator).

Determination of seasonal dynamics of copper speciation and mobility in agricultural soils in Aconcagua River basin, central Chile (Funding: ECOS-CONICYT scientific cooperation program between France (project C05 B05) and Chile (project ECOS210001), years 2006-2008, principal investigator).

### **Research projects funded by industry (last 15 years)**

Efecto de polvo foliar enriquecido con metales sobre el desarrollo de especies agrícolas y forestales (Funding: Anglo American Chile mining corporation, years 2021-2023, principal investigator).

Source apportionment for contaminated soils in the Catemu valley (Funding: CEMIN Mining Holding, years 2019-2020, principal investigator).

Comparison of exposure to trace elements through vegetable consumption between a mining area and an agricultural area (Funding: Anglo American Chile mining corporation, years 2015-2016, principal investigator).

Solubility, partitioning, and activity of copper-contaminated soils in a semiarid region (Funding: Anglo American Chile mining corporation, years 2013-2014, principal investigator).

Potential for the revegetation of metal-polluted, acidic soils (Funding: CODELCO mining corporation, years 2008-2010, principal investigator).

### **Journal articles indexed in Web of Science (last 5 years)**

Neaman, A., Sauve, S., Paez, R., Lizardi, N., Mazuela, P., Figueroa, L., Yáñez, C. (2024). Human Health Risks from Consuming Vegetables Grown in Anomalously High-Arsenic Soils. *Journal of Soil Science and Plant Nutrition*. <https://doi.org/10.1007/s42729-023-01606-8>

Schoffer, J.T., Solari, F., Petit-dit-Grézériat, L., Pelosi, C., Ginocchio, R., Yáñez, C., Mazuela, P., Neaman, A. (2024). The downside of copper pesticides: An earthworm's perspective. *Environmental Science and Pollution Research*. <https://doi.org/10.1007/s11356-024-32078-7>

Tapia, Y., García, A., Acuña, E., Salazar, O., Casanova, M., Najera, F., Kremer, C., Castillo, B., Joven, A., Diaz, O., Pastene, R., Antilen, M., Cornejo, P., Neaman, A. (2024). Monitoring of Chemical Species in Soils, Waters and Plants Near the Active Copper Mine Tailing Dam Ovejera (Central Chile). *Water Air and Soil Pollution* 235(3). <https://doi.org/10.1007/s11270-024-06955-3>

Burnham, E., Zabel, S., Navarro-Villarroel, C., Ermakov, D.S., Castro, M., Neaman, A., Otto, S. (2023). Enhancing farmers' soil conservation behavior: Beyond soil science knowledge. *Geoderma* 437. <https://doi.org/10.1016/j.geoderma.2023.116583>

Dovletyarova, E.A., Dubrovina, T.A., Vorobeichik, E.L., Krutyakov, Y.A., Santa-Cruz, J., Yáñez, C., Neaman, A. (2023). Zinc's Role in Mitigating Copper Toxicity for Plants and Microorganisms in Industrially Contaminated Soils: A Review. *Russian Journal of Ecology* 54(6): 488-499. <https://doi.org/10.1134/s1067413623060048>

Dovletyarova, E.A., Zhikharev, A.P., Polyakov, D.G., Karpukhin, M.M., Buzin, I.S., Yáñez, C., Neaman, A. (2023). Extremely High Soil Copper Content, yet Low Phytotoxicity: A Unique Case of Monometallic Soil Pollution at Kargaly, Russia.

- Environmental Toxicology and Chemistry 42(3): 707-713.  
<https://doi.org/10.1002/etc.5562>
- Gabechaya, V., Andreeva, I., Morev, D., Yaroslavtsev, A., Neaman, A., Vasenev, I. (2023). Exploring the Influence of Diverse Viticultural Systems on Soil Health Metrics in the Northern Black Sea Region. *Soil Systems* 7(3).  
<https://doi.org/10.3390/soilsystems7030073>
- Mitzia, A., Vítková, M., Ratić, G., Choteborsky, R., Vantelon, D., Neaman, A., Komárek, M. (2023). Revealing the long-term behaviour of nZVI and biochar in metal(loid)-contaminated soil: focus on Fe transformations. *Environmental Science-Nano*.  
<https://doi.org/10.1039/d3en00429e>
- Mitzia, A., Vítková, M., Ratić, G., Choteborsky, R., Vantelon, D., Neaman, A., Komárek, M. (2023). Revealing the long-term behaviour of nZVI and biochar in metal(loid)-contaminated soil: focus on Fe transformations. *Environmental Science-Nano* 10(10): 2861-2879. <https://doi.org/10.1039/d3en00429e>
- Neaman, A., Montero, E., Pensini, P., Burnham, E., Castro, M., Ermakov, D.S., Navarro-Villarroel, C. (2023). Unleashing the Power of Connection: How Adolescents' Prosocial Propensity Drives Ecological and Altruistic Behaviours. *Sustainability* 15(10). <https://doi.org/10.3390/su15108070>
- Neaman, A., Yáñez, C. (2023). Assessment of the Ecological Status of Soils Contaminated by the Copper Mining Industry in Chile: Earthworms to the Rescue. *Eurasian Soil Science* 56(1): 69-74. <https://doi.org/10.1134/s1064229322601688>
- Neaman, A., Zakharikhina, L., Navarro-Villarroel, C., Peñaloza, P., Dovletyarova, E.A. (2023). Choose Your Procedure Wisely: Removal of Outliers is Inappropriate for Estimating Background Concentrations of Trace Elements in Soil. *Environmental Toxicology and Chemistry* 42(3): 555-557. <https://doi.org/10.1002/etc.5550>
- Santa-Cruz, J., Robinson, B., Krutyakov, Y.A., Shapoval, O.A., Peñaloza, P., Yáñez, C., Neaman, A. (2023). An Assessment of the Feasibility of Phytoextraction for the Stripping of Bioavailable Metals from Contaminated Soils. *Environmental Toxicology and Chemistry* 42(3): 558-565. <https://doi.org/10.1002/etc.5554>
- Smorkalov, I.A., Vorobeichik, E.L., Dzeranov, A.A., Pankratov, D.A., Dovletyarova, E.A., Yáñez, C., Neaman, A. (2023). Field experiment pitting magnetite nanoparticles against microparticles: Effect of size in the rehabilitation of metal-contaminated soil. *Revista Brasileira De Ciencia Do Solo* 47.  
<https://doi.org/10.36783/18069657rbc20230017>
- Brykov, V., Polischuk, O.V., Bilous, O.P., Zhezherya, V.A., Brykova, R., Neaman, A. (2022). Photosynthetic apparatus features of *Nuphar lutea* and *Nymphaea alba* floating leaves can affect their redistribution. *Flora* 292.  
<https://doi.org/10.1016/j.flora.2022.152080>
- Dovletyarova, E.A., Fareeva, O.S., Zhikharev, A.P., Brykova, R.A., Vorobeichik, E.L., Slukovskaya, M.V., Vitkova, M., Ettler, V., Yanez, C., Neaman, A. (2022). Choose your amendment wisely: Zero-valent iron nanoparticles offered no advantage over microparticles in a laboratory study on metal immobilization in a contaminated soil. *Applied Geochemistry* 143. <https://doi.org/10.1016/j.apgeochem.2022.105369>
- Neaman, A., Pensini, P., Zabel, S., Otto, S., Ermakov, D.S., Dovletyarova, E.A., Burnham, E., Castro, M., Navarro-Villarroel, C. (2022). The Prosocial Driver of Ecological

- Behavior: The Need for an Integrated Approach to Prosocial and Environmental Education. *Sustainability* 14(7). <https://doi.org/10.3390/su14074202>
- Neaman, A., Yáñez, C. (2022). Predictors of Copper Phytotoxicity in Mining-Contaminated Soils: Findings of Several Years of Research. *Eurasian Soil Science* 55(11): 1665-1672. <https://doi.org/10.1134/s1064229322110084>
- Novoselov, A.A., Hodson, M.E., Tapia-Gatica, J., Dovletyarova, E.A., Yáñez, C., Neaman, A. (2022). The effect of rock lithology on the background concentrations of trace elements in alluvial soils: Implications for environmental regulation. *Applied Geochemistry* 146. <https://doi.org/10.1016/j.apgeochem.2022.105440>
- Schoffer, J.T., Aponte, H., Neaman, A., De la Fuente, L.M., Arellano, E.C., Gil, P.M., Ginocchio, R. (2022). Copper content in soils and litter from fruit orchards in Central Chile and its relationship with soil microbial activity. *Plant Soil and Environment* 68(3): 115-128. <https://doi.org/10.17221/281/2021-pse>
- Tapia-Gatica, J., Selles, I., Bravo, M.A., Tessini, C., Barros-Parada, W., Novoselov, A., Neaman, A. (2022). Global issues in setting legal limits on soil metal contamination: A case study of Chile. *Chemosphere* 290. <https://doi.org/10.1016/j.chemosphere.2021.133404>
- Yáñez, C., Verdejo, J., Moya, H., Donoso, P., Rojas, C., Dovletyarova, E.A., Shapoval, O.A., Krutyakov, Y.A., Neaman, A. (2022). Microbial responses are unreliable indicators of copper ecotoxicity in soils contaminated by mining activities. *Chemosphere* 300. <https://doi.org/10.1016/j.chemosphere.2022.134517>
- Dubrovina, T.A., Losev, A.A., Karpukhin, M.M., Vorobeichik, E.L., Dovletyarova, E.A., Brykov, V.A., Brykova, R.A., Ginocchio, R., Yáñez, C., Neaman, A. (2021). Gypsum soil amendment in metal-polluted soils-an added environmental hazard. *Chemosphere* 281. <https://doi.org/10.1016/j.chemosphere.2021.130889>
- García, C.B., Svensson, G.L., Bravo, C., Undurraga, M.I., Díaz-Forestier, J., Godoy, K., Neaman, A., Barbosa, O., Abades, S., Celis-Diez, J.L. (2021). Remnants of native forests support carnivore diversity in the vineyard landscapes of central Chile. *Oryx* 55(2): 227-234. <https://doi.org/10.1017/s0030605319000152>
- Karpun, N.N., Yanushevskaya, E.B., Mikhailova, Y.V., Díaz-Torrijo, J., Krutyakov, Y.A., Gusev, A.A., Neaman, A. (2021). Side effects of traditional pesticides on soil microbial respiration in orchards on the Russian Black Sea coast. *Chemosphere* 275. <https://doi.org/10.1016/j.chemosphere.2021.130040>
- Neaman, A., Diaz-Siefer, P., Burnham, E., Castro, M., Zabel, S., Dovletyarova, E.A., Navarro-Villaruel, C., Otto, S. (2021). Catholic religious identity, prosocial and pro-environmental behaviors, and connectedness to nature in Chile. *Gaia-Ecological Perspectives for Science and Society* 30(1): 44-50. <https://doi.org/10.14512/gaia.30.1.9>
- Neaman, A., Yáñez, C. (2021). Phytoremediation of Soils Contaminated by Copper Smelting in Chile: Results of a Decade of Research. *Eurasian Soil Science* 54(12): 1967-1974. <https://doi.org/10.1134/s1064229321120085>
- Neaman, A., Stange, C., Zabel, S., Minkina, T.M., Yáñez, C., Burnham, E., Otto, S. (2021). Teaching soil science: The impact of laboratory and field components on the knowledge and attitude toward soil. *Revista Brasileira De Ciencia Do Solo* 45. <https://doi.org/10.36783/18069657rbc20210040>



- Otto, S., Pensini, P., Zabel, S., Diaz-Siefer, P., Burnham, E., Navarro-Villarroel, C., Neaman, A. (2021). The prosocial origin of sustainable behavior: A case study in the ecological domain. *Global Environmental Change-Human and Policy Dimensions* 69. <https://doi.org/10.1016/j.gloenvcha.2021.102312>
- Romzaykina, O.N., Vasenev, V.I., Paltseva, A., Kuzyakov, Y.V., Neaman, A., Dovletyarova, E.A. (2021). Assessing and mapping urban soils as geochemical barriers for contamination by heavy metal(loid)s in Moscow megapolis. *Journal of Environmental Quality* 50(1): 22-37. <https://doi.org/10.1002/jeq2.20142>
- Santa-Cruz, J., Vasenev, II, Gaete, H., Peñaloza, P., Krutyakov, Y.A., Neaman, A. (2021). Metal Ecotoxicity Studies with Artificially Contaminated versus Anthropogenically Contaminated Soils: Literature Review, Methodological Pitfalls and Research Priorities. *Russian Journal of Ecology* 52(6): 479-485. <https://doi.org/10.1134/s1067413621060126>
- Schoffer, J.T., Antilén, M., Neaman, A., Díaz, M.F., de la Fuente, L.M., Urdiales, C., Ginocchio, R. (2021). The role of leaf litter as a protective barrier for copper-containing pesticides in orchard soils. *Environmental Science and Pollution Research* 28(43): 60913-60922. <https://doi.org/10.1007/s11356-021-15035-6>
- Selles, I., Neaman, A., Krutyakov, Y.A., Ginocchio, R. (2021). Rising Copper Exposure Effects on Nutrient Uptake in Two Species with Distinct Copper Tolerance. *Russian Journal of Plant Physiology* 68(2): 300-306. <https://doi.org/10.1134/s1021443721020175>
- Stuckey, J.W., Neaman, A., Verdejo, J., Navarro-Villarroel, C., Peñaloza, P., Dovletyarova, E.A. (2021). Zinc Alleviates Copper Toxicity to Lettuce and Oat in Copper-Contaminated Soils. *Journal of Soil Science and Plant Nutrition* 21(2): 1229-1235. <https://doi.org/10.1007/s42729-021-00435-x>
- Grigorita, G., Neaman, A., Brykova, R., Brykov, V.A., Morev, D.V., Ginocchio, R., Paltseva, A.A., Vidal, K., Navarro-Villarroel, C., Dovletyarova, E.A. (2020). Use of Zinc Carbonate Spiking to Obtain Phytotoxicity Thresholds Comparable to Those in Field-Collected Soils. *Environmental Toxicology and Chemistry* 39(9): 1790-1796. <https://doi.org/10.1002/etc.4809>
- Lillo-Robles, F., Tapia-Gatica, J., Díaz-Siefer, P., Moya, H., Youlton, C., Celis-Diez, J.L., Santa-Cruz, J., Ginocchio, R., Sauv e, S., Brykov, V.A., Neaman, A. (2020). Which soil Cu pool governs phytotoxicity in field-collected soils contaminated by copper smelting activities in central Chile? *Chemosphere* 242. <https://doi.org/10.1016/j.chemosphere.2019.125176>
- Lizardi, N., Aguilar, M., Bravo, M., Fedorova, T.A., Neaman, A. (2020). Human Health Risk Assessment from the Consumption of Vegetables Grown near a Copper Smelter in Central Chile. *Journal of Soil Science and Plant Nutrition* 20(3): 1472-1479. <https://doi.org/10.1007/s42729-020-00226-w>
- Neaman, A., Valenzuela, P., Tapia-Gatica, J., Selles, I., Novoselov, A.A., Dovletyarova, E.A., Y a ez, C., Krutyakov, Y.A., Stuckey, J.W. (2020). Chilean regulations on metal-polluted soils: The need to advance from adapting foreign laws towards developing sovereign legislation. *Environmental Research* 185. <https://doi.org/10.1016/j.envres.2020.109429>

- Neaman, A., Selles, I., Martínez, C.E., Dovletyarova, E.A. (2020). Analyzing Soil Metal Toxicity: Spiked or Field-Contaminated Soils? *Environmental Toxicology and Chemistry* 39(3): 513-514. <https://doi.org/10.1002/etc.4654>
- Neaman, A., Robinson, B., Minkina, T.M., Vidal, K., Mench, M., Krutyakov, Y.A., Shapoval, O.V. (2020). Feasibility of Metal(loid) Phytoextraction from Polluted Soils: The Need for Greater Scrutiny. *Environmental Toxicology and Chemistry* 39(8): 1469-1471. <https://doi.org/10.1002/etc.4787>
- Paltseva, A.A., Neaman, A. (2020). An Emerging Frontier: Metal(loid) Soil Pollution Threat Under Global Climate Change. *Environmental Toxicology and Chemistry* 39(9): 1653-1654. <https://doi.org/10.1002/etc.4790>
- Pezo, C., Valdebenito, S., Flores, M.F., Oyanedel, E., Vidal, K., Neaman, A., Pealoza, P. (2020). Impact of Mother Plant Saline Stress on the Agronomical Quality of Pepper Seeds. *Journal of Soil Science and Plant Nutrition* 20(4): 2600-2605. <https://doi.org/10.1007/s42729-020-00325-8>
- Prudnikova, E.V., Neaman, A., Terekhova, V.A., Karpukhin, M.M., Vorobeichik, E.L., Smorkalov, I.A., Dovletyarova, E.A., Navarro-Villarroel, C., Ginocchio, R., Pealoza, P. (2020). Root Elongation Method for the Quality Assessment of Metal-Polluted Soils: Whole Soil or Soil-Water Extract? *Journal of Soil Science and Plant Nutrition* 20(4): 2294-2303. <https://doi.org/10.1007/s42729-020-00295-x>
- Schoffer, J.T., Sauvé, S., Neaman, A., Ginocchio, R. (2020). Role of Leaf Litter on the Incorporation of Copper-Containing Pesticides into Soils Under Fruit Production: a Review. *Journal of Soil Science and Plant Nutrition* 20(3): 990-1000. <https://doi.org/10.1007/s42729-020-00186-1>
- Tapia-Gatica, J., González-Miranda, I., Salgado, E., Bravo, M.A., Tessini, C., Dovletyarova, E.A., Paltseva, A.A., Neaman, A. (2020). Advanced determination of the spatial gradient of human health risk and ecological risk from exposure to As, Cu, Pb, and Zn in soils near the Ventanas Industrial Complex (Puchuncavi, Chile). *Environmental Pollution* 258. <https://doi.org/10.1016/j.envpol.2019.113488>
- Tarasova, E., Drogobuzhskaya, S., Tapia-Pizarro, F., Morev, D.V., Brykov, V.A., Dovletyarova, E.A., Slukovskaya, M., Navarro-Villarroel, C., Paltseva, A.A., Neaman, A. (2020). Vermiculite-Lizardite Industrial Wastes Promote Plant Growth in a Peat Soil Affected by a Cu/Ni Smelter: a Case Study at the Kola Peninsula, Russia. *Journal of Soil Science and Plant Nutrition* 20(3): 1013-1018. <https://doi.org/10.1007/s42729-020-00188-z>
- Berasaluce, M., Mondaca, P., Schuhmacher, M., Bravo, M., Sauvé, S., Navarro-Villarroel, C., Dovletyarova, E.A., Neaman, A. (2019). Soil and indoor dust as environmental media of human exposure to As, Cd, Cu, and Pb near a copper smelter in central Chile. *Journal of Trace Elements in Medicine and Biology* 54: 156-162. <https://doi.org/10.1016/j.jtemb.2019.04.006>
- Bravo, M.A., Parra, S., Quiroz, W., Neaman, A. (2019). Human exposure assessment to mercury through hair analysis in coastal villages of the Valparaíso region (Chile). *Journal of the Chilean Chemical Society* 64(2): 4480-4483. <https://doi.org/10.4067/s0717-97072019000204480>
- Lillo, F., Ginocchio, R., Ulriksen, C., Dovletyarova, E.A., Neaman, A. (2019). Evaluation of connected clonal growth of *Solidago chilensis* as an avoidance mechanism in

copper-polluted soils. Chemosphere 230: 303-307.

<https://doi.org/10.1016/j.chemosphere.2019.04.199>

Vargas, G., Verdejo, J., Rivera, A., Suárez, D., Youlton, C., Celis-Diez, J.L., Le Bissonnais, Y., Dovletyarova, E.A., Neaman, A. (2019). The effect of four calcium-based amendments on soil aggregate stability of two sandy topsoils. Journal of Plant Nutrition and Soil Science 182(2): 159-166. <https://doi.org/10.1002/jpln.201700562>