

J O S E R . P E R A L T A - V I D E

DEPARTMENT OF CHEMISTRY
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GENERAL INFORMATION

Date of Birth: October 28, 1949

Place of Birth: Esteli, Nicaragua

Gender: Male

Nationality: **US Citizen**

Marital Status: Married

EDUCATION

1998 - 2002 The University of Texas at El Paso El Paso, Texas

Doctor of Philosophy Environmental Science & Engineering Ph.D. Program

- Outstanding Doctoral Student Award
- Doctoral Dissertation “Feasibility of using living alfalfa plants in the phytoextraction of cadmium(II), copper(II), chromium(VI), nickel(II), and zinc(II): Agar and soil studies”
- Advisor: Dr. Jorge L. Gardea-Torresdey

1983 – 1986 Postgraduate College Chapingo, Mexico

Doctor in Sciences (D.Sc.), Genetics Center

- Outstanding Doctoral Student Award
- Doctoral Thesis “Identification of bacterial strains producers of siderophore-like molecules”
- Advisor: Dr. Guillermo Carrillo-Castañeda.

1976 – 1978 Tropical Agricultural Research & Higher Education Center
(CATIE) Turrialba, Costa Rica

Master of Science (M.S.)

- Major in horticulture (Cocoa management)
- Plant Production
- Advisor: Dr. Gustavo A. Enriquez

1969 – 1973 Escuela Nacional de Agricultura y Ganadería (National School of Agriculture and Animal

Husbandry), Managua, Nicaragua

Agronomist

- Plant production specialist
- Advisor: Ing. Aurelio Llano

PROFESSIONAL EXPERIENCE

- 2005-present, University of Texas at El Paso
Adjunct Professor, Environmental Science and Engineering PhD program.
Adjunct Professor, Department of Chemistry

- 2002- present, University of Texas at El Paso

Senior Research Associate

- 1999- 2001 University of Texas at El Paso

Research Assistant

- 1997 - 1999 Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) Cd, Juárez, Chihuahua, Mexico

Associate Professor

- 1995- 1997 ITESM Campus Ciudad Juárez, México

High School Teacher & Science Department Coordinator

- 1992 – 1995 ITESM Campus Ciudad Juárez, México

High School Principal

- 1990 – 1992 Autonomous University of Ciudad Juarez (U.A.C.J.) Ciudad Juárez, Chihuahua, Mexico

Instituto de Ciencias Biomédicas (Biomedical Sciences Institute)

Researcher of the Rancho Escuela Project

- 1986 – 1989 “Hermanos Escobar” School of Agriculture, Ciudad Juarez, Chihuahua, Mexico

Full Time Professor-Researcher

Professor and Researcher of the Graduate College, Plant Breeding Department

- 1979 – 1982 Agricultural Development Ministry, Managua Nicaragua.

Sub-Leader of Agricultural Research

- 1978 – 1979 Central Bank of Nicaragua

Leader of the Cocoa Program

- 1974-1976 Ministry of Agriculture, Managua, Nicaragua
Researcher of the Coffee Program

RESEARCH INTERESTS

My research interests encompass the uptake and translocation of inorganic elements within the transport system of vascular plants. Of major interest is the use of growth factors and chelating agents to enhance the metal translocation from the roots to the leaves and the effects produced on the whole-plant element accumulation. Another two research areas of interest include (1) the use of plant growth promoting bacteria for plant nutrition and phytoremediation purposes and (2) the bioproduction of nanoparticles using living plants and inactivated plant biomass. The long-term goals are (a) to characterize plants useful for phytoremediation and to determine the biochemical/molecular molecules associated with elements uptake. (b) To produce and recover nanoparticles from both living and inactivated plant tissues. Instrumentation utilized in these types of studies includes inductively coupled plasma/optical emission spectroscopy (ICP/OES), X-ray absorption spectroscopy (XAS), and infrared imaging microspectroscopy.

HONORS AND AWARDS

2011. Co-Organizer and session chair of the symposium “Chemistry and the Environment - Interactions of Nanoparticles with the Environment” within the 43 IUPAC World Chemistry Congress **July 30-August 5, 2011, San Juan, Puerto Rico.**

2009. Marquis Who is Who in Science and Engineering

2008. Marquis Who is Who in Science and Engineering

2009. Co-Organizer and session chair of the advanced analytical techniques in metals and metalloids research at the 10th International Conference on the Biogeochemistry of Trace Elements (ICOBTE), Chihuahua, Chih. Mexico, **July 13-16, 2009.**

Judge at the 2008 UTEP SACNAS Chapter Research Expo. Tomas Rivera Conference Center, April 17th, 2008.

2007. Marquis Who is Who in Science and Engineering.

Session Chairman of the symposium “Remediation Technologies for Chromium” at 233rd ACS National Meeting. Chicago, IL, March 25-29, 2007.

2007. Co-Organizer of the chromium symposium at the 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.

2006. Who is Who in Science and Engineering.

2002. Outstanding Doctoral Student Award. University of Texas at El Paso

1999. Monterey Institute of Technology, Mexico (ITESM) Recognition award due to the support to the educational re-design program (Granted on May 1, 2000).

1997. Monterey Institute of Technology, Ciudad Juarez Campus (ITESM). Best high school full professor award (Granted on May 15, 1998).

1993. Monterey Institute of Technology, Ciudad Juarez Campus (ITESM). Best professor-administrator award (Granted on May 15, 1994).

1/1983 – 8/1986. Federal Republic of Germany, GTZ Fellowship Program to perform doctoral studies at Chapingo, Mexico.

1/1978 – 7/1978. Netherlands fellowship

6/1976 – 12/1977. Inter-American Institute for Cooperation in Agriculture (IICA) Fellowship to perform master studies at CATIE, Costa Rica.

EDITORIAL ACTIVITIES

2005. Member of the evaluation committee for the 2005 convocation for research projects, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Chih., Mexico, July 2005.

2004. Member of the evaluation committee for the 2004 convocation for research projects, Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Chih., Mexico, July 2004.

2004. Guest Editor, Ciencia en la Frontera, Revista de Ciencia y Tecnología de la UACJ, Volume III, Special Issue, March 2004.

REVIEWER ACTIVITIES

I serve as reviewer for the international journals:

ISRN Analytical Chemistry

Environmental Engineering and Management Journal

Materials Science and Engineering B

The Science of the Total Environment

Journal of Toxicology and Environmental Health Science

International Research Journal of Plant Science (IRJPS)

African Journal of Food Science

Environmental Science and Technology

Biological Trace Elements Research

Bioresource Technology

Industrial & Engineering Chemistry Research

Chemical Engineering Journal

International Journal of Phytoremediation

International Journal of Environmental Analytical Chemistry

Journal of Environmental Geology

ASCE Journal of Energy Engineering

National Research Foundation of South Africa (invited proposal reviewer)

Water International Journal

Journal of Hazardous Materials

Archives of Environmental Contamination and Toxicology

Inderscience Journal

Ciencia en la Frontera

CURRENT SUPPORT

1. SSRL Synchrotron-based X-ray spectroscopy study of the distribution and speciation of oxide nanoparticles in desert and edible plants. Requested fund **\$100,000** for the funding period October 1, 2011 to 9/30/12. (PI).
2. *LAURENCE BERKELEY NATIONAL LABORATORIES* (The determination of the spatial localization and the mechanism of the partial reduction of arsenic in *Chilopsis linearis*). **Funded at \$100,000** for the funding period 9/1/2008 to 8/31/2011. (Co-Pi).

COMPLETED RESEARCH

1. *LAURENCE BERKELEY NATIONAL LABORATORIES* (Use of Synchrotron Infrared Microspectroscopy to study structural changes in mesquite plants exposed to ZnO and CeO₂ nanoparticles) 7-2010 to 12-2010.
 2. STANFORD SYNCHROTRON RADIATION LABORATORY (SSRL) Study of the mode of action of growth enhancers and chelating compounds on the uptake of cadmium and lead in live plants using XAS. With J. Gardea-Torresdey. Funded at \$100,000. From 6/1/2005 to 5/31/2008.
 3. STANFORD SYNCHROTRON RADIATION LABORATORY (SSRL) Investigations into the uptake, formation, and extraction of gold nanoparticles from live and inactivated biological tissues. With Jason Parsons. Funded at \$100,000. From 6/1/2005 to 5/31/2008.
1. *PHELPS DODGE MIAMI TAILINGS RECLAMATION PROJECT* (Screening the metal uptake capacity of plant species growing at the Miami tailings reclamation project: Evaluating soil to plant elemental ratios). **Funded at \$36,000** for the funding period 1/1/2006 to 8/31/2008
 2. *SOUTHWEST CONSORTIUM FOR ENVIRONMENTAL RESEARCH AND POLICY (SCERP/EPA)* Using chelating agents and tumbleweed as an inexpensive biomonitoring device for toxic heavy metals in the ambient air around international bridges of El Paso/Ciudad Juarez. **Funded at \$69,634** for funding period 6/1/2005 to 12/31/2006. PI
 3. *ENVIRONMENTAL PROTECTION AGENCY* (Use of Live Alfalfa Plants in Phytoremediation of Heavy Metals: Agar-Media and Soil Studies). **Funded at \$40,083 plus \$18,438 indirect cost (\$58,521 total funding)**. December 1, 2000-December 31, 2002. Principal Investigator.

PENDING SUPPORT

NSF (IGERT on Water Conservation Sanitation and Supply). Pre-proposal (pending)

RESEARCH PUBLICATIONS

Books and book chapters

1. Barbaferri, M., **Peralta-Videa, J.R.**, Pedron, F., Gardea-Torresdey, J.L. **2011**. Plant growth regulators offer a new prospect to improve the phytoremediation process efficiency: Studies on metal contaminated soils. In *Phytotechnologies: Remediation of environmental contaminants, Taylor and Francis/CRC press* (submitted and in review).
2. Shah, F.U. R., Ahmad N., **Peralta-Videa, J.R.**, Masood, K.R., Ahmad, F.D. **2010**. Heavy Metal Toxicity in Plants. *In: Ashraf, M., Ozturk, M., Ahmad, M.S.A. (eds.), Plant Adaptation and Phytoremediation, Springer New York*, 71-98.
3. Parsons, J.G., **Peralta-Videa, J.R.**, Dokken, K.M., Gardea-Torresdey, J.L. **2009**. Biological and biomaterials-assisted synthesis of precious metal nanoparticles. In: Kumar, C. S.S.R. (ed.), *Metallic and Metal oxide nanomaterials* (nanomaterials for life science Vol. 1), Wiley-VCH, Verlag, GmbH, KGaA, Weinheim, pp. 461-491.
4. Haque, N., Mokgalaka, N.S., **Peralta-Videa, Jose R.** Gardea-Torresdey, J.L. **(2008)**. Phytoremediation of arsenic by sorghum (*Sorghum bicolor*) under hydroponic In: Bundschuh, J. Bhattacharya, P. (Eds.). Natural arsenic in groundwater in Latin America-Occurrence, Health Impact and Remediation. Proceedings of the International of Arsenic, Mexico City, Mexico, June 2006, Taylor and Francis London, Cap. 69, pp 643-648.
5. Gardea-Torresdey, J.L., **Peralta-Videa, J.R.**, Parsons, J.G., Mokgalaka, N.S., de la Rosa, G. **2007**. Production of metal nanoparticles by plants and plant-derived materials. In: Corain, B., Schmid, G., Toshima, N. (eds.), *Metal nanoclusters in catalysis and materials sciences: the issue of size-control*. Elsevier 401-412.
6. Parsons, J.G., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **(2007)**. Use of plants in biotechnology: synthesis of metal nanoparticles by inactivated plant tissues, plant extracts, and living plants. In: Sarkar, D., Datta, R., Hannigan, R., (eds.), *Concepts and Applications in Environmental Geochemistry*, 5 Elsevier, Amsterdam, The Netherlands pp. 463-486.
7. Gardea-Torresdey, J.L., Lopez, M.L., **Peralta-Videa, J.R.** Benitez, T., Parsons J.G. **(2007)**. Determination of the enhancement of lead phytoremediation by *Medicago sativa* assisted by phytohormones and EDTA. In: Zhu, Y., Lepp, N., Naidu, R. *Biogeochemistry of trace elements: Environmental protection, remediation and human health*. Tsinghua University Press pp. 698-699.
8. Barraza Pacheco, L., **Peralta-Videa, J.R.** **1995**. Principios de biométrica e investigación biomédica. Cuadernos de Trabajo 2. Unidad de Ciencias Biomédicas, Universidad Autónoma de Ciudad Juárez. Unidad de Estudios Regionales, UACJ. Ciudad Juárez, Chih., México. 79 p.
9. Malespín, M., **Peralta, J. R.** et al. **1985**. El Cacao. Ministerio de Desarrollo Agropecuario- Instituto Interamericano de Cooperación para la Agricultura. Manual producido por el Proyecto Fondo Simón Bolívar- Instituto Interamericano de Cooperación para la Agricultura.

10. **Peralta, J.R. 1981.** Zonificación del cacao en Nicaragua. Departamento de Investigaciones Tecnológicas, Banco Central de Nicaragua., Managua, Nicaragua.
11. **Peralta V., J.R., Enriquez C., G. 1980.** Guía para el cultivo del cacao en Nicaragua. Instituto Nicaragüense de Tecnología Agropecuaria, Ministerio de Desarrollo Agropecuario. Managua, Nic. 37 p.

Journal articles and proceedings

1. **Zhao, L., Peralta-Videa, J.R., Varela-Ramirez, A., Li, C., Zhang, J., Aguilera, R.J., Gardea-Torresdey, J.L. 2011.** Uptake mechanism and translocation of CeO₂ nanoparticles by corn plants grown in soil media. *Environmental Science and Technology* (submitted and in review).
2. **Zhao, L., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2011.** Transport and retention behavior of uncoated and coated ZnO nanoparticles in two types of soil and sea sand. *Chemosphere* (submitted and in review).
3. **Castillo-Michel, H. Hernandez-Viezcas, J.A., Servin, A., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2011.** A spectroscopic synchrotron-based approach to corroborate the local coordination and speciation of arsenic in the root-soil interface of the desert plant *Prosopis juliflora-velutina*. *Applied Spectroscopy* (submitted and in review).
4. **Gonzalez, C.M., Hernandez, J., Parsons, J.G., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2011.** Sorption kinetic study of selenite and selenate onto a high and low pressure aged iron oxide nanomaterial. *Journal of Hazardous Materials* (in press).
5. **Castillo-Michel, H., Hernandez-Viezcas, J.A., Dokken, K.M., Marcus, M.A., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2011.** Accumulation, Distribution, Coordination, and Speciation of Arsenic in the Desert Plant *Parkinsonia florida*: A Synchrotron Based Study. *Environmental Science and Technology* Environ. Sci. Technol. 2011, 45, 7848–7854.
6. **Zhao, Y., Peralta-Videa, J.R., Lopez-Moreno, M.L., Saupe, G.B., Gardea-Torresdey, J.L. 2011.** Use of plasma-based spectroscopy and infrared microspectroscopy techniques to determine the uptake and effects of chromium(III) and chromium(VI) on *Parkinsonia aculeata*. *International Journal of Phytoremediation* 13(S1):17–33, 2011.
7. **Hernandez-Viezcas, J.A., Castillo-Michel, H. Servin, A.D., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2011.** Spectroscopic verification of zinc absorption and distribution in the desert plant *Prosopis juliflora-velutina* (velvet mesquite) grown with ZnO nanoparticles. *Chemical Engineering Journal* 170, 346–352.
8. **Montes, M. Mayoral, A., Deepak, F.L., Parsons, J.G., Peralta-Videa, J.R., Jose-Yacaman, M., Gardea-Torresdey, J.L. 2011.** Anisotropic gold nanoparticles and gold plates biosynthesis using alfalfa extract. *Journal of Nanoparticle Research* (in press) DOI 10.1007/s11051-011-0230-5.
9. **de la Rosa, G., López-Moreno, M.L., Hernández-Viezcas, J., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2011.** Toxicity and biotransformation of ZnO nanoparticles in the desert

plants *Prosopis juliflora-velutina*, *Salsola tragus* and *Parkinsonia florida*. *International Journal of Nanotechnology* 8(6/7) 492-506.

10. Zhao, Y., **Peralta-Videa, J.R.**, Lopez-Moreno, M.L., Ren, M., Gardea-Torresdey, J.L. **2011**. Kinetin increases chromium absorption, modulates its distribution, and changes the activity of catalase and ascorbate peroxidase in Mexican Palo Verde. *Environmental Science and Technology* 45 (3), pp 1082–1087.
11. Rico C. M., Majumdar, S., Duarte-Gardea, M., **Peralta-Videa, J.R.** Gardea-Torresdey, J.L. **2011**. Interaction of nanoparticles with edible plants and their possible implications in the food chain. *Journal of Agricultural and food Chemistry* 59 (8), pp 3485–3498.
12. **Peralta-Videa, J.R.**, Zhao, L., Lopez-Moreno, M.L., de la Rosa, G., Hong, J., Gardea-Torresdey, J.L. **2011**. Nanomaterials and the environment: A review for the biennium 2008-2010. *Journal of Hazardous Materials* 186 (2011) 1–15.
13. Thomas, C.R., George, S., Horst, A.M., Ji, Z., Miller, R.J., **Peralta-Videa, J.R.**, Xia, T., Mädler, L., Gardea-Torresdey, J.L., Holden, P.A., Keller, A., Lenihan, H.S., Nel, A.E., Zink, J.I. **2011**. Nanomaterials in the environment: From materials to high throughput screening to organisms. *ACS Nano* 5(1), 13–20.
14. Gardea-Torresdey, J.L., **Peralta-Videa, J.R.**, Ramirez, A. **2010**. From Organometallics to water oxidation processes and beyond: The legacy of the environmentalist and philosopher William H. Glaze. *Environmental Science and Technology* 44 (19) 7169–7170.
15. Arias, J., **Peralta-Videa, J.R.**, Ellzey, J.T., Viveros, M.N., Ren, M., Mokgalaka-Matlala, N.S., Castillo-Michel, H., **Gardea-Torresdey, J.L.** **2010**. Plant growth and metal distribution in tissues of *Prosopis juliflora-velutina* grown on chromium contaminated soil in the presence of *Glomus deserticola*. *Environmental Science and Technology* 44 (19), 7272–7279.
16. López-Moreno, M.L., de la Rosa, G., Hernández-Viezcas, J.A., Castillo-Michel, Botez, C., H. **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2010**. Evidence of the differential biotransformation and genotoxicity of ZnO and CeO₂ nanoparticles on soybean (*Glycine max*) plants. *Environmental Science and Technology* 44 (19), 7315–7320.
17. Parsons J.G., Lopez, M.L, Gonzalez, C., **Peralta-Videa, J.R.**, Gardea-Torresdey J.L. **2010**. Toxicity and biotransformation of uncoated and coated nickel hydroxide nanoparticles on mesquite plants. *Environmental Toxicology and Chemistry* 29(5), 1146–1154.
18. Lopez-Gonzalez, H., **Peralta-Videa, J.R.**, Romero-Guzman, E.T., Rojas-Hernandez, A., Gardea-Torresdey, J.L. **2010**. Determination of the hydrolysis constants and solubility products of chromium by ICP-OES and UV-Vis. *Journal of solution Chemistry* 39(4), 522-532. DOI 10.1007/s10953-010-9522-0.
19. Shah, F.R., Ahmad, N., Masood, K.R., **Peralta-Videa, J.R.**, Zahid D.M., Zubair, M. **2010**. Response of *Eucalyptus camaldulensis* Dehnh at early growth stage to irrigation with the Hudiarra drain effluent. *International Journal of Phytoremediation* 12:343–357.

20. López-Moreno, M.L., de la Rosa, G., Hernández-Viezcas, J.A, **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2010**. XAS corroboration of the uptake and storage of CeO₂ nanoparticles and assessment of their differential toxicity in four edible plant species. *Journal of Agricultural and Food Chemistry* 58, 3689-3693.
21. Arias, A., J., **Peralta-Videa, J.R.**, Ellzey, J.T., Viveros, M.N., Gardea-Torresdey, J.L. **2010**. Effects of *Glomus deserticola* inoculation on *Prosopis*: Enhancing chromium and lead uptake and translocation as confirmed by x-ray mapping, ICP-OES and TEM techniques. *Environmental and Experimental Botany* 68, 139–148.
22. de la Rosa, G., Torres, J., Parsons, J.G., **Peralta-Videa, J.R.**, Castillo-Michel, H., Lopez, M.L., Cruz-Jiménez, G., Gardea-Torresdey, J.L. **2009**. X-ray Absorption Spectroscopy Unveils the Formation of Gold Nanoparticles in Corn (*Zea mays*) *Acta Universitaria* 19, Special Volume 2, 76-81.
23. Haque, N., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Differential effect of metals/metalloids on the growth and element uptake of mesquite plants obtained from plants grown at a copper mine tailing and commercial seeds *Bioresource Technology* 100, 6177–6182.
24. Parsons, J.G., Lopez, M.L., Castillo-Michel, H., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Arsenic Speciation in Biological Samples Using XAS and Mixed Oxidation State Calibration Standards of Inorganic Arsenic. *Applied Spectroscopy* (63(8), 961-970
25. Mokgalaka-Matlala, N.S., Flores-Tavizón, E., Castillo-Michel, H., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Arsenic tolerance in mesquite (*Prosopis* sp.): Low molecular weight thiols synthesis and glutathione activity in response to arsenic. *Plant Physiology and Biochemistry* 47, 822–826.
26. Castillo-Michel, H., Valente, N., Martinez-Martinez, A., Parsons, J.G., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Coordination and speciation of cadmium in corn seedlings and its effects on macro and micro nutrients uptake. *Plant Physiology and Biochemistry* 47, 608–614.
27. Zhao, Y., Parsons, J.G., Lopez-Moreno, M.L., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Use of synchrotron- and plasma-based spectroscopic techniques to determine the uptake and biotransformation of chromium(III) and chromium(VI) by *Parkinsonia aculeata*. *Metallomics* 1, 330-338.
28. **Peralta-Videa, J.R.**, Lopez, M.L., Narayan, M., Gardea-Torresdey, J.L. **2009**. The biochemistry of environmental heavy metal uptake by plants: implications for the food chain. *International Journal of Biochemistry & Cell Biology* 41, 1665-1677.
29. Castillo-Michel, H. Zuverza-Mena, N., Parsons, J.G., Dokken, K.M., Duarte-Gardea, M. **Peralta-Videa J.R.**, Gardea-Torresdey, J.L. **2009**. Speciation and coordination of arsenic in two phenotypes of the desert plant species *Chilopsis linearis*. *Phytochemistry* 70(4), 540-545.

30. Armendariz, V., Parsons, J.G., Lopez, M.L., **Peralta-Videa, J.R.**, Jose-Yacaman, M., Gardea-Torresdey, J.L. **2009**. Extraction of gold nanoparticles from oat and wheat biomass using sodium citrate and cetyltrimethylammonium bromide studied using XAS, HRTEM and UV-Vis. *Nanotechnology* **20** (2009) 105607 (8pp).
31. Romero-Gonzalez, J., **Peralta-Videa, J.R.**, Walton, J., Rodríguez, E. **Gardea-Torresdey, J.L** (2009). Modeling the adsorption of Cr(III) from aqueous solution onto Agave lechuguilla biomass: study of the advective and dispersive transport. *Journal of Hazardous Materials* 161(1) 360-365.
32. Lopez, M.L., **Peralta-Videa, J.R.**, Parsons, J.G., Gardea-Torresdey, J.L. 2009. Plant growth, uptake and translocation of lead, micro, and macronutrients in alfalfa treated with indole-3-acetic acid, kinetin, and ethylenediaminetetraacetic acid. *International Journal of Phytoremediation* 11(2), 131-149.
33. Sawalha, M.F., **Peralta-Videa, J.R.**, Sanchez-Salcido, B., Gardea-Torresdey, J.L., **2009**. Sorption of hazardous metals from single and multi-element solutions by saltbush biomass in batch and continuous mode: interference of calcium and magnesium in batch mode. *Journal of Environmental Management* 90, 1213–1218.
34. Rodríguez, E., **Peralta-Videa, J.R.**, Israr, M., Sahi, S., Pelayo, H., Sánchez-Salcido, B., Gardea-Torresdey, J.L. **2009**. Effect of Mercury and Gold on Growth, Nutrient Uptake, and Anatomical Changes in *Chilopsis linearis*. *Environmental and Experimental Botany* 65, 253-262.
35. Parsons, J.G., Lopez, M.L., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Determination of arsenic(III) and arsenic(V) binding to microwave assisted hydrothermal synthetically prepared Fe₃O₄, Mn₃O₄, and MnFe₂O₄ nanoadsorbents. *Microchemical Journal* 91, 100-106.
36. Lopez, M.L., **Peralta-Videa, J.R.**, Parsons, J.G., Gardea-Torresdey, J.L. **2008**. Concentration and biotransformation of arsenic by *Prosopis* sp. grown in soil treated with chelating agents and phytohormones. *Environmental Chemistry* 5, 320–331.
37. Sawalha, M.F., **Peralta-Videa, J.R.**, Parsons, J.G., Gardea-Torresdey, J.L., Gonzalez, J.H. **(2008)**. Removal of cadmium from contaminated waters using saltbush (*Atriplex canescens*) biomass: identification of Cd binding sites. To be published in *International Journal of Environment and Pollution* 34(1-4), 28-42.
38. Haque, N., **Peralta-Videa, J.R.**, Jones, G., Gill, T.E., Gardea-Torresdey, J.L. **2008**. Screening the phytoremediation potential of desert broom (*Baccharis sarothroides* Gray) growing on mine tailings in Arizona, USA. *Environmental Pollution* 153 (2), 362-368.
39. Mokgalaka-Matlala, N.S., Flores-Tavizon, E., Castillo-Michel, H., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2008**. Toxicity of arsenic(III) and (V) on plant growth, element uptake, and total amylolytic activity of mesquite (*Prosopis* spp.) *International Journal of Phytoremediation* 10(1), 47-60.

40. Sawalha, M.F., **Peralta-Videa, J.R.**, Duarte-Gardea, M.O., Gardea-Torresdey, J.L. **2008**. Removal of copper, lead, and zinc from contaminated water by saltbush biomass: Analysis of the optimum binding, stripping, and binding mechanism. *Bioresource Technology* 99, 4438–4444.
41. Lopez, M.L., **Peralta-Videa, J.R.**, Parsons, J.G., Benitez, T., Gardea-Torresdey, J.L. **2007**. Gibberellic acid, kinetin, and the mixture indole-3-acetic acid-kinetin assisted with EDTA induced lead hyperaccumulation in alfalfa plants. *Environmental Science and Technology* 41(23); 8165-8170.
42. Lopez M.L., **Peralta-Videa, J.R.**, Castillo-Michel, H., Martinez-Martinez, A., Gardea-Torresdey, J.L. **2007**. Lead toxicity in alfalfa plants exposed to phytohormones and ethylenediaminetetracetic acid monitored by peroxidase, catalase and amylase activities. *Environmental Toxicology and Chemistry* 26, 2717-2723.
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126. **Peralta, J. R.** y G. Carrillo-Castañeda. **1988**. El fenómeno de interferencia en *Rhizobium phaseoli*. *Agrociencia* 74: 193-202.

PROFESSIONAL PRESENTATIONS

1. Gardea-Torresdey, J.L., Hernandez-Viezcas, J.A., Castillo-Michel, H., Servin, A.D., **Peralta-Videa, J.R.** **2011**. Spectroscopic verification of the absorption and distribution of zinc and cerium in the desert plant *Prosopis juliflora-velutina* (velvet mesquite) treated with metal oxide nanoparticles. **43 IUPAC World Chemistry Congress July 30-August 5, 2011, San Juan, Puerto Rico.**
2. Lopez, M.L., de la Rosa, G. Castillo-Michel, H., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2011**. ZnO and CeO₂ nanoparticle dissolution and their influence on *Glycine max* plants. **43 IUPAC World Chemistry Congress July 30-August 5, 2011, San Juan, Puerto Rico.**
3. **Peralta-Videa, J.R.**, Zhao, L., Hong, J., Gardea-Torresdey, J.L. **2011**. Biomass production and zinc uptake by corn (*Zea mays*) cultivated in coated and uncoated ZnO nanoparticles treated soil. **43 IUPAC World Chemistry Congress July 30-August 5, 2011, San Juan, Puerto Rico.**
4. De la Rosa, G., Lopez-Moreno, L., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2011**. Biotransformation of metal nanoparticles in terrestrial plants: evidence through X-ray absorption

spectroscopy. **43 IUPAC World Chemistry Congress July 30-August 5, 2001, San Juan, Puerto Rico.**

5. Servin, A.D., Hernandez-Viezcas, J.A., Castillo-Michel, H., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2011.** Effects of TiO₂ nanoparticles on cucumber (*Cucumis sativus*). **43 IUPAC World Chemistry Congress July 30-August 5, 2001, San Juan, Puerto Rico.**
6. Armenta, R.B., Lopez, M.L., de la Rosa, G., Hernandez, J.A., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2010.** Response of the desert plant Palo Verde (*Parkinsonia* sp.) to ZnO nanoparticles at different growth stages. **The 2011 Annual Meeting of the AAAS, Washington, D.C, February 17-21, 2010.**
7. Gardea-Torresdey, J.L., López-Moreno, M.L., de la Rosa, G., Hernández-Viezcas, J.A. Castillo-Michel, H., Botez, C.E., **R. Peralta-Videa.** **2010.** Evidence of the differential biotransformation and genotoxicity of ZnO and CeO₂ nanoparticles on soybean (*Glycine max*) plants. **The 2010 International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, December 15-20, 2010** (Invited Speaker)
8. Gardea-Torresdey, J.L., López-Moreno, M.L., de la Rosa, G., Hernández-Viezcas, J.A. Castillo-Michel, H., Botez, C.E., **J.R. Peralta-Videa.** **2010.** Evidence of the differential biotransformation and genotoxicity of ZnO and CeO₂ nanoparticles on soybean (*Glycine max*) plants. SW/SE regional ACS meeting in **New Orleans, La November 30-December 4 2010 (Invited speaker).**
9. De La Rosa A, **Peralta-Videa JR**, Gardea-Torresdey JL, and Terry J. **2010.** "Determination of the toxicity of CeO₂ nanoparticles on soybean plants grown in hydroponics," Society of Environmental Toxicology and Chemistry 31st Annual Meeting, **Portland OR, 10 Nov 2010.**
10. Castillo-Michel, H., Hernandez-Viezcas, J.A., Dokken, K., **Peralta-Videa, J.R.** Gardea-Torresdey, J.L. Coordination and speciation of arsenic in the root-soil interface of the desert plant *Prosopis juliflora* Advanced Light Source User's meeting 2010, **Berkeley, CA. October 13, 2010.**
11. Castillo-Michel, H, Hernandez-Viezcas, J.A., Dokken, K., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. Chemical and elemental mapping and speciation of As and ZnO nanoparticles in plants using synchrotron radiation, European Synchrotron Radiation Laboratory, Grenoble, France, **October 5, 2010.**
12. Gardea-Torresdey, J.L., López-Moreno, M.L. de la Rosa, G. Hernández-Viezcas, J.A., Castillo-Michel, H., Botez, C.E., **Peralta-Videa, J.R.** **2010.** Evidence of the differential biotransformation and genotoxicity of ZnO and CeO₂ nanoparticles on soybean (*Glycine max*) plants. 7TH International Phytotechnology Conference, University of Parma, **Parma, Italy, 26-29 September 2010.**
13. Gardea-Torresdey, J.L., **Peralta-Videa, J.R.**, Parsons, J.G., **2009.** Toxicity and biotransformation of uncoated and coated nickel hydroxide nanoparticles on mesquite plants. 6th International Phytotechnologies Conference, **St. Louis, MO, December 1-4, 2009.**

14. Armenta, R.B., Lopez, M.L., de la Rosa, G., Hernandez, J.A., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. ZnO Nanoparticle Toxicity on Seed Germination/Root Elongation in Alfalfa (*Medicago sativa*). Southwest Regional Meeting, **El Paso, TX November 4-7, 2009**.
15. Castillo-Michel, H., Dokken, K.M, **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. Use of Synchrotron Techniques to Determine Coordination and Speciation of Arsenic in the Desert Plant *Parkinsonia florida*. Southwest Regional Meeting, **El Paso, TX November 4-7, 2009**
16. Montes, I, Castillo-Michel, H., Alvarez, M., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2009**. DNA assessment of soybean roots exposed to ZnO and CeO₂ nanoparticles by RAPD. Annual Biomedical Research Conference for Minority Students (ABRCMS). **Phoenix, AZ, November 4-7, 2009**
17. Gardea-Torresdey, J.L., de la Rosa, G., Lopez, M.L., Hernandez, J.A., Castillo-Michel H. **Peralta-Videa, J.R.**, **2009**. CeO₂ and ZnO nanoparticles undergo differential biological transformations in soybean plants. ACS Southeaster regional meeting, **San Juan Puerto Rico, October 21-24, 2009** (Invited speaker).
18. Montes, M., Gardea-Torresdey, J.L., **Peralta-Videa, J.R.**, Jose-Yacaman, M. **2009**. Biosynthesis of Gold Nanoparticles using Alfalfa Extracts. First Joint Advanced Electron Microscopy School for Nanomaterials and the Workshop on Nanomaterials **AEM-NANOMAT'09, Saltillo, Coahuila, MX, Sept. 28-Oct 2, 2009**.
19. Hernandez-Viezcas, J.A., Lopez-Moreno, M.L., de la Rosa, G., Armenta, R., **Peralta-Videa, J.R.** Gardea-Torresdey, J.L. **2009**. ZnO Nanoparticle Toxicity on Mesquite (*Prosopis juliflora*) Sprouts. International Meeting of the NSF Centers Center for Environmental Implications of Nanotechnology. **Washington, DC, September 9-11, 2009**.
20. de la Rosa, G., López-Moreno, M.L., Hernández-Viezcas, J.A., Castillo-Michel, H., **Peralta-Videa J.R.**, Gardea-Torresdey, J.L. **2009**. Nanophytotoxicity assessment and potential biotransformation of ZnO in selected desert plants. International Meeting of the NSF Centers Center for Environmental Implications of Nanotechnology. **Washington, DC, September 9-11, 2009**.
21. Armenta R.B., Lopez-Moreno, M.L., de La Rosa, G., **Peralta-Videa, J.**, Hernandez, J.A., Castillo-Michel, H., Gardea-Torresdey, J.L. **2009**. ZnO Nanoparticle toxicity on alfalfa (*Medicago Sativa*) sprouts. UTEP SACNAS Research Expo 2009. **April 16, 2009**.
22. Lopez-Gonzalez, H., **Peralta-Videa, J.R.**, Romero-Guzman, E.T., Rojas-Hernandez, A., Gardea-Torresdey, J.L. **2009**. Hydrolysis of chromium. UTEP SACNAS Research Expo 2009. **April 16, 2009**.
23. Hernandez, J.A., Lopez, M.L., de la Rosa, G., Armenta, R., de Haro, D., **Peralta-Videa, J.**, Gardea-Torresdey, J.L. **2009**. Biological Impact of ZnO nanoparticles in the desert plant Mesquite. UTEP SACNAS Research Expo 2009. **April 16, 2009**.
24. Lopez, M.L. Becvar, J. **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. 2008. La Construcción del conocimiento en el área de la química basándose en la investigación. Presentation at

Reunión de la Asociación Nacional de Facultades y Escuelas de Química. Ciudad Juárez, Chih. Mexico, **November 22, 2008.**

25. Montes-Holguin, M., **Peralta-Videa, J.R.**, Parsons, J., G., Gardea-Torresdey, J.L. **2008.** Green synthesis and extraction of gold nanoparticles using alfalfa biomass. 2008 SACNAS National Conference (Society for Advancement of Chicanos and Native Americans in Science), **Salt Lake City, Utah, October 9-12, 2008**
26. Castillo-Michel, H., Dokken, K.M., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2008.** Study of localization and chemical forms of arsenic in three species of *Parkinsonia* plant genus using X-ray spectroscopy. 2008 SACNAS National Conference (Society for Advancement of Chicanos and Native Americans in Science), **Salt Lake City, Utah, October 9-12, 2008.**
27. Cabrera, L., Dokken, K.M., Castillo, H., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2008.** Identification of structural, morphological, and genetic differences in the seeds of three species of *Parkinsonia*. 2008 SACNAS National Conference (Society for Advancement of Chicanos and Native Americans in Science), **Salt Lake City, Utah, October 9-12, 2008.**
28. Haque, N., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2008.** Differential influence of metal ion growth, uptake, and physiology of mesquite grown from seeds obtained from contaminated sites and commercial vendors. 2008 SACNAS National Conference (Society for Advancement of Chicanos and Native Americans in Science), **Salt Lake City, Utah, October 9-12, 2008.**
29. Shah F.R., Ahmad, N., Masood, K.R., **Peralta-Videa, J.R.**, Zahid, D.M. and M. Zubair. **2009.** Response of *Eucalyptus camaldulensis* Dehnh. at early growth stage irrigated with Hudhara drain effluent. 19th The Association for Environmental Health and Sciences (AEHS) Meeting, **West Coast Conference on Soils, Sediments, and Water, at the Mission Valley Marriott, San Diego, CA. 2009, March 9-12, 2009.**
30. Haque, N., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2008.** Differential effect of metals on the growth and element uptake of mesquite plants obtained from plants grown at a copper mine tailing and commercial seeds. American Society of Mining and Reclamation 2008 National Meeting, Richmond, VA, June 14-19, 2008 (**ASMR Memorial Scholarship, Ph.D Graduate Student Award**).
31. Lopez-Moreno, M.L., **Peralta-Videa, J.**, Gardea-Torresdey, J. **2008.** Evaluation of the effect of EDTA and plant growth promoters on lead uptake, translocation and oxidative stress response in *Medicago sativa*. **Plant Biology 2008, Merida, Yucatan, Mexico, June 26-July 1, 2008.**
32. Montes-Holguin, M.O., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2008.** Spectroscopic studies of Cr(VI) absorption and reduction by *Convolvulus arvensis* and *Medicago truncatula*. **Plant Biology 2008, Merida, Yucatan, Mexico, June 26-July 1, 2008.**
33. Gardea-Torresdey, J.L., Haque, N., **Peralta-Videa, J.R.** Jones, G.L. **2008.** Determination of the phytoremediation potential of Desert broom (*Baccharis saratroides* Gray) growing on mine

tailings in Arizona, USA, **1st International Conference on Hazardous Waste Management, Chania-Crete, Greece, October 1-3, 2008.**

34. Gardea-Torresdey, J.L., Lopez, M.L., **Peralta-Videa, J.R.**, Benitez, T., Parsons, J.G. **2008.** Spectroscopic determination of the enhancement of lead uptake by *Medicago sativa* assisted by phytohormones and EDTA. **The 4th Nordic Conference on Plasma Spectrochemistry, Loen, Norway, June 15-18, 2008.**
35. Haque, N., **Peralta-Videa, J.R.**, Jones, G.L., Gardea-Torresdey, J.L. **2007.** Screening the phytoremediation potential of native plants growing on mine tailings in Arizona, USA. Society of Environmental Toxicology and Chemistry North America 28th Annual Meeting, Milwaukee, WI, November 11-15, 2007.
36. **Peralta-Videa, J.R. 2007.** The role of plants in environmental science research. International Centre for Environmental and Nuclear Sciences, The University of the West Indies, Kingston Jamaica, October 17, 2007.
37. **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Evaluating the Uptake and Reduction of Chromium by Mesquite and the Soil to Plant Elemental Ratios in Desert Broom. Invited seminar speaker at the International Centre for Environmental and Nuclear Sciences, The University of the West Indies, Kingston Jamaica, October 16, 2007.
38. Cabrera, L.T., Dokken, K.M., Lopez, M.L., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Using infrared imaging to determine changes in plant structure caused by the addition of plant hormones to hydroponic solution. Stretching the Imagination to Support Leadership and Sustainability, Society for the Advancement of Chicanos and Native Americans in Sciences, Kansas City, MO, October 11-14.
39. Castillo-Michel, H., Dokken, K.M., Martinez-Martinez, A., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Effect of arsenite on the activity of oxidative stress enzymes and DNA integrity in the root zone of pea plants. Stretching the Imagination to Support Leadership and Sustainability, Society for the Advancement of Chicanos and Native Americans in Sciences, Kansas City, MO, October 11-14 (**First place oral presentation award winner**).
40. Haque, N., **Peralta-Videa, J.R.**, Jones, G.L., Gardea-Torresdey, J.L. **2007.** Screening the phytoremediation potential of desert broom (*Baccharis sarothroides* Gray) growing on mine tailings in Arizona, USA. Stretching the Imagination to Support Leadership and Sustainability, Society for the Advancement of Chicanos and Native Americans in Sciences, Kansas City, MO, October 11-14.
41. Cabrera, L.T., Dokken, K.M., Lopez, M.L., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Using Infrared Imaging to Determine Changes in Plant Structure Caused by the Addition of Plant Hormones to Hydroponic Solution. Fourth International Phytotechnologies Conference, Denver, Colorado, September 24-26, 2007.
42. Castillo-Michel, H., Zuverza-Mena, N., Parsons, J.G., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Uptake of arsenic, macro, and micronutrients by two cultivars of the

desert plant species *Chilopsis linearis* (Desert Willow). Fourth International Phytotechnologies Conference, Denver, Colorado, September 24-26, 2007.

43. Haque, N., **Peralta-Videa, J.R.**, Jones, G.L., Gardea-Torresdey, J.L. **2007**. Screening the phytoremediation potential of desert broom (*Baccharis sarothroides* Gray) growing on mine tailings in Arizona, USA. Fourth International Phytotechnologies Conference, Denver, Colorado, September 24-26, 2007.
44. Mokgalaka-Matlala NS, Flores-Tavizón E, Castillo-Michel H, **Peralta-Videa JR**, Gardea-Torresdey JL and McCrindle RI. 2007. Phytoremediation of arsenic contaminated soil: evaluation of Mesquite (*Prosopis* Spp.), Colloquium Spectroscopicum Internationale XXXV, **23-27 September 2007, Xiamen, China, 455**.
45. Mokgalaka-Matlala NS, Flores-Tavizón E, Castillo-Michel H, Peralta-Videa JR, Gardea-Torresdey JL and Mc Crindle RI. “Phytoremediation of arsenic contaminated soil: evaluation of Mesquite (*Prosopis* Spp.)”, Enviromin 2007, **Pilansberg, 22-25 July 2007**.
46. Gardea-Torresdey, J.L., Lopez, M.L., **Peralta-Videa, J.R.** Benitez, T., Parsons J.G. (2007). Determination of the enhancement of lead phytoremediation by *Medicago sativa* assisted by phytohormones and EDTA. 9th International Conference on the Biogeochemistry of Trace Elements (ICOBTE), **Beijing, China, July 15-19, 2007**.
47. Haque, N., **Peralta-Videa, J.R.**, Jones, G.L., Gardea-Torresdey, J.L. **2007**. Screening the phytoremediation potential of desert broom (*Baccharis sarothroides* Gray) growing on mine tailings in Arizona, USA. American Society of Mining and Reclamation 2007 National Meeting, Gillette, WY, USA, June 2-7, 2007. **Best oral presentation award winner**).
48. Montes, M.O., Grusak, M.A., Parsons, J.G., **Peralta-Videa, J.R.**, Gardea- Torresdey, J.L. **2007**. Study of the effects of chromium exposure on sulfur metabolic pathways in the model plant *Medicago truncatula*. Society for the Advancement of Chicanos and Native Americans in Science, **UTEP Research Expo, April 15, 2007**.
49. Lopez, M.L., Gardea-Torresdey, J.L., **Peralta-Videa, J.R.**, M. J. Yacaman, H. Troiani. **2007**. Biosynthesis of gold nanoparticles using native and modified hops biomasses. Society for the Advancement of Chicanos and Native Americans in Science, **UTEP Research Expo, April 15, 2007**.
50. Torres, J. **Peralta-Videa J.R.**, Parsons, J.G., Gardea-Torresdey, J.L. **2007**. Effect of chlorine salts and gold uptake by chelating agents in *Zea mays*. Society for the Advancement of Chicanos and Native Americans in Science, **UTEP Research Expo, April 15, 2007**.
51. Haque, N., **Peralta-Videa, J.R.**, Jones, G.L., Gardea-Torresdey, J.L. **2007**. Determination of phytoremediation potential of desert plants grown in a mine tailings reclamation project. Society for the Advancement of Chicanos and Native Americans in Science, **UTEP Research Expo, April 15, 2007**.
52. Arias, J., **Peralta-Videa, J.R.**, Mokgalaka, S., Gardea-Torresdey, J.L. **2007**. *Glomus* sp. effects on Cr(VI), Cr(III), AND Pb(II) uptake by *Prosopis* sp. at the rhizosphere level. Society for

the Advancement of Chicanos and Native Americans in Science, **UTEP Research Expo, April 15, 2007.**

53. de la Rosa, G., Lopez-Camargo, R., Cruz-Jimenez, G., Cano-Rodriguez, I., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Effect of the growth stage and sulfate concentration on Cr(VI) uptake and tolerance by *Helianthus annuus*. Preprint of Extended abstracts of the 233rd ACS National Meeting, **Chicago, IL, March 25-29, 2007.**
54. Dokken, K.M., Montes-Holguin, M.O., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Using Infrared Imaging to Determine Changes in Plant Structure Due to Chromium(VI) Exposure. Preprint of Extended abstracts of the 233rd ACS National Meeting, **Chicago, IL, March 25-29, 2007.**
55. Sawalha, M.F., **Peralta-Videa, J.R.**, Parsons, J.G., Gardea-Torresdey, J.L. **2007.** Chemical and spectroscopic approaches to determine the adsorption of chromium species to saltbush (*Atriplex canescens*) biomass. Preprint of Extended abstracts of the 233rd ACS National Meeting, **Chicago, IL, March 25-29, 2007.**
56. Montes-Holguin, M.O., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2007.** Spectroscopic studies of Cr(VI) absorption and reduction by *Convolvulus arvensis* and *Medicago truncatula*. Preprint of Extended abstracts of the 233rd ACS National Meeting, **Chicago, IL, March 25-29, 2007.**
57. Haque, N., **Peralta-Videa, J.R.**, Jones, G.L., Gardea-Torresdey, J.L. **2007.** Bioaccumulation of chromium from mine tailings to a desert plant, desert broom (*Baccharis sarothroides*). Preprint of Extended abstracts of the 233rd ACS National Meeting, **Chicago, IL, March 25-29, 2007.**
58. Arias, J.A., Mokgalaka, N.S., **Peralta-Videa, J.R.**, Castillo-Michel, H., Flores-Tavizon, E., Gardea-Torresdey, J.L. **2007.** Chromium uptake by mesquite plants (*Prosopis* spp.) exposed to Cr(III) and Cr(VI) in hydroponics. Preprint of Extended abstracts of the 233rd ACS National Meeting, **Chicago, IL, March 25-29, 2007.**
59. Carrillo-Castaneda, G., **Peralta-Videa, J.R.** **2006.** Interferencia microbiana: caracterización y utilización potencial en el control biológico de cultivos. Sociedad Mexicana de Control Biológico, XXIX Congreso Nacional de Control Biológico, **Manzanillo, Colima, Noviembre 5-10.**
60. Carrillo-Castaneda, G., Juarez Munoz, J., **Peralta-Videa, J.R.** **2006.** Expresiones inherentes o inducidas en las plantas: caracterización y utilización potencial en el control biológico de cultivos. Sociedad Mexicana de Control Biológico, XXIX Congreso Nacional de Control Biológico, **Manzanillo, Colima, Noviembre 5-10.**
61. Montes, MO, Grusak, MA, Parsons, JG, **Peralta-Videa JR**, Gardea-Torresdey, JL **2006.** Study of the effects of chromium exposure on sulphur metabolic pathways in the model plant *Medicago truncatula*. 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, Tampa, FL, October 26-29, **First Place Poster Presentation Award Winner.**

62. Arias, JA, **Peralta-Videa, JR**, Mokgalaka, NS, Castillo-Michel, H, Gardea-Torresdey, JL. **2006**. Chromium and lead uptake by mesquite plants (*Prosopis* spp.) exposed to Cr(III), Cr(VI), and Pb(II) in hydroponics. 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, Tampa, FL, October 26-29, **First Place Oral Presentation Award Winner**.
63. Torres, J, **Peralta-Videa, JR**, Parsons, JG, Gardea-Torresdey, JL. 2006. Effect of chelating agents on gold uptake by *Zea mays*. **2006 SACNAS** (Society for Advancement of Chicanos and Native Americans in Science) National Conference, **Tampa, FL, October 26-29, 2006**.
64. López, ML, **Peralta-Videa, JR**, Castillo-Michel, H, Gardea-Torresdey, JL. **2006**. Effect of lead uptake on oxidative stress and amylase activity in *Medicago sativa* (alfalfa). 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, **Tampa, FL, October 26-29, 2006**.
65. Zuverza-Mena, N, Castillo-Michel, H, Parsons, JG, **Peralta-Videa, JR**, Gardea-Torresdey, JL. **2006**. Uptake of arsenic, macro, and micronutrients by *Chilopsis linearis* (Desert willow) exposed to arsenic(V) in hydroponics. 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, **Tampa, FL, October 26-29, 2006**.
66. Castillo-Michel, H, Zuverza-Mena, N, Parsons, JG, **Peralta-Videa, JR**, Gardea-Torresdey, JL. **2006**. Effect of arsenic uptake on macro and micronutrient absorption and total amylolytic activity in peas. 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, **Tampa, FL, October 26-29, 2006**.
67. Gonzalez, E., G de la Rosa, **Peralta-Videa, J.R.**, Cruz-Jimenez, G., Cano-Aguilera, I., Gardea-Torresdey, J.L., Sahi, S.V. **2006**. Efecto, del EDTA en la absorcion y translocacion de Pb en *Salsola kali*: estudios en agar e hidroponia. XX Congreso nacional de Quimica Analitica, **Ixtapan de la Sal, Estado de Mexico Junio 21-23, 2006**.
68. Torres, J., **Peralta-Videa, J.R.**, Parsons, J.G., Gardea-Torresdey, J.L. 2006. Effect of chlorine salts, gold, and osmium on elemental uptake and plant growth in *Zea mays*. 2006 South Central Regional SETAC Meeting, **Denton, TX May 18-20, 2006**.
69. Zuverza-Mena, N., Castillo-Michel, H., Parsons, J., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2006**. Comparison of arsenic(V) tolerance, uptake and translocation in two varieties of *Chilopsis linearis* (Desert willow). 2006 South Central Regional SETAC Meeting, **Denton, TX May 18-20, 2006**.
70. Castillo-Michel, H., Zuverza-Mena, N., Parsons, J., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L. **2006**. Macro nutrient and micronutrient absorption and total amylolytic activity in response to As(V) uptake in *Pisum sativum* L. cv. Alaska. 2006 South Central Regional SETAC Meeting, **Denton, TX May 18-20, 2006**.
71. Castillo-Michel, H.A., Parsons, J.G., **Peralta-Videa, J.R.**, Martinez, A., Gardea-Torresdey, J.L. **2006**. Chromium(VI) and arsenic(V) reduction in *Pisum sativum* (Peas): X-ray

absorption spectroscopy analysis. UTEP Students Research Expo, El Paso, **Texas April 13, 2006.**

72. Sawalha, M.F., **Peralta-Videa, J.R.**, Saupe, G.B., Dokken, K.M., Gardea-Torresdey, J.L. **2006.** Using FTIR to corroborate the identity of functional groups involved in the binding of Cd and Cr to saltbush (*Atriplex canescens*) biomass. UTEP Students Research Expo, **El Paso, Texas April 13, 2006**
73. Torres, J., **Peralta-Videa, J.R.**, Parsons, J.G, Gardea-Torresdey, J.L. **2006.** Gold Nanoparticle Production by *Zea mays*. UTEP Students Research Expo, **El Paso, TX, April 13, 2006**
74. López, M.L., **Peralta-Videa, J.R.**, Benitez, T., Parsons, J.G., Gardea-Torresdey, J.L. **2006.** Enhancing lead phytoremediation by *Medicago sativa* using EDTA and IAA: ICP/OES and XAS studies. UTEP Students Research Expo 2006. **El Paso TX, April 13 First Place Poster Presentation Award Winner.**
75. Castillo-Michel, H.A., Parsons, J.G., **Peralta-Videa, J.R.**, Martinez, A., Gardea-Torresdey, J.L. **2006.** Chromium(VI) and arsenic(V) reduction in *Pisum sativum* (Peas): X-ray absorption spectroscopy analysis. American Chemical Society National Meeting, Division of Environmental Chemistry, **Atlanta, GA, March 26-30, 2006**
76. López, M.L., **Peralta-Videa, J.R.**, Benitez, T., Parsons, J.G., Gardea-Torresdey, J.L. **2006.** Enhancing lead phytoremediation by *Medicago sativa* using EDTA and IAA: ICP/OES and XAS studies. American Chemical Society National Meeting, Division of Environmental Chemistry, **Atlanta, GA, March 26-30, 2006.**
77. Rodriguez, E., Sanchez-Salcido, B.E., **Peralta-Videa, J.R.**, Romero, J., Cruz-Jimenez, G., Gardea-Torresdey, J.L. **2006.** Phytomining gold: soil trials. American Chemical Society National Meeting, Division of Environmental Chemistry, **Atlanta, GA, March 26-30, 2006.**
78. López, M.L., **Peralta-Videa, J.R.**, Gardea-Torresdey, J.L., Benitez, T. **2005.** Role of phytohormones and EDTA on lead uptake by *Medicago sativa* (alfalfa). 2005 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, Science for America's Future in Denver, CO, **September 29-October 2. First Place Oral Presentation Award Winner.**
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STUDENTS

Undergraduate

1. Jose Manuel Bravo, Escuela Nacional de Agricultura y Ganaderia, Managua, Nic. (BS), 1976
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1. Cyren Rico (**PhD**), Chemistry PhD program, 2010
2. Sanghamitra Majumdar (**PhD**), Environmental Science and Engineering PhD program, 2010
3. Alia D. Servin (**PhD**), Chemistry PhD program, Toxicity of TiO₂ on cucumber (*Cucumis sativus*) 2009-present.
4. Jose A. Hernandez (**PhD**), Chemistry PhD program, Toxicity of CeO₂ and ZnO in mesquite (*Prosopis*) 2009-present.
5. Yong Zhao (**PhD**), Chemistry PhD program, Physical and biochemical assessment of the response of Mexican Palo Verde (*Parkinsonia* sp) to Cr(III) and Cr(VI) toxicity, July 2010.
6. Martha Laura Lopez (**PhD**), Environmental Science and Engineering PhD Program, Evaluation of the effect of EDTA and plant growth promoters on lead uptake, translocation, and oxidative stress response in *Medicago sativa*, July 2007.

7. Milka Montes (**PhD**), Chemistry PhD program, A new green chemistry method base on plant extract to synthesize gold nanoparticles, with J. Gardea-Torresdey, April 27, 2010.
8. Maryam Zarei (**PhD**), Environmental Science and Engineering PhD Program, Titanium-niobium nanoporous material: new photocatalyst for water decontamination, April 9, 2010.
9. Jack Arias (**PhD**), Environmental Science and Engineering PhD Program, symbiotic effect of *Glomus* spp. On Cr(III), Cr(VI) and Pb(II) uptake by mesquite (*Prosopis* sp.), with J. Gardea-Torresdey, November 10, 2009.
10. Nazmul Haque (**PhD**), Environmental Science and Engineering PhD program, Screening the phytoremediation potential of Native plants growing on mine tailings in Arizona, USA (with J. Gardea-Torresdey) November 11, 2008.
11. Marian Viveros (**PhD**) Environmental Science and Engineering PhD program, Biological Effects of Copper on HoneyMesquite (*Prosopis glandulosa* Torr), with Joan Ellzey, 2008-present.
12. Jeff Hernandez (**MS**) Chemistry, Chromium(III)/(VI) binding to magnetite Fe₃O₄ Hausmannite (MnO₄) and Jacobsite (MnFe₂O₄) nanomaterials, July 2010.
13. Christina Gonzalez (**MS**) Chemistry, Iron and Manganese based nanomaterials for the removal of selenite and selenate from aqueous solution, July 2010.
14. Tenoch Benitez (**MS**), Chemistry Department, Biomonitoring of ambient air around the international bridges of El Paso-Ciudad Juarez, University of Texas at El Paso, with J. Gardea-Torresdey, 2009.
15. Nageswar Rao Yesu (**M.Sc**), Chemistry, New porous oxides from layered semiconductors, December 2006.
16. Estela Rascon (**M.Sc**) Chemistry, "Characterization of the heavy metal binding mechanisms in *Solanum elaeagnifolium* biomass using FTIR, AAS, and XAS" December 2005.
17. Dagoberto Juarez, Escuela Superior de Agricultura Hermanos Escobar , Ciudad Juarez, Chih., Mexico (**MS**), 1988
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