

CURRICULUM VITAE

JORGE L. GARDEA-TORRESDEY, Ph.D.

Dudley Professor of Environmental Science & Engineering and Professor of Chemistry

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Environmental Science & Engineering Ph.D. Program
and Department of Chemistry
The University of Texas at El Paso (UTEP)
El Paso, Texas 79968-0513

Phone/Voice: (915) 747-5359
Fax: (915) 747-5748
E-mail: jgardea@utep.edu

SUMMARY

Dr. Jorge Gardea-Torresdey is the Dudley Professor of Environmental Science & Engineering and Professor of Chemistry at The University of Texas at El Paso (UTEP).

He is currently the Chair of the Department Chemistry at UTEP. He received his Ph.D. from New Mexico State University in 1988. The research interests of Dr. Gardea include: applications of spectroscopy techniques in environmental chemistry; phytoremediation, novel methods for the bioproduction of nanoparticles, development of analytical methods to detect nanomaterials, study of the fate of nanoparticles in the environment, and applications of nanotechnology to clean water among others. His current research is funded by the US NIH, DOE, EPA, USDA, and the NSF. He is the UTEP principal investigator in the NSF/EPA funded "Center for Environmental Implications of Nanotechnology" (UCCEIN). He is also the UTEP principal investigator in the recently funded NSF Engineering Research Center "Nanotechnology Enabled Water Treatment Systems" (NEWT).

Dr. Gardea-Torresdey has authored over 430 publications and issued 5 US patents for environmental remediation. Dr. Gardea has graduated 34 Ph.D. Students (26 in Environmental Science and Engineering, 6 in Chemistry and 1 in Material Sciences), and 34 students have received their M.Sc. degrees under his mentorship. Also he has mentored more than 35 undergraduate students in research.

The scientific contributions of Dr. Gardea have allowed him to receive many honors throughout his professional life. Recently, he received the first ever Graduate Mentor Award in UTEP history (2016.) His research achievements are highlighted in the Lawrence Hall of Science of the University of California Berkeley. He received the 2009 SACNAS Distinguished Scientist of the Year Award and he was awarded the 2012 Piper Professor Award, which is the most prestigious honor conferred to a Professor in the State of Texas.

Dr. Gardea's career has been highlighted by the most important Journals in Science and Engineering, including the October 28, 2009 issue of Environmental Science & Technology (ES&T) and the December 3, 2009 Issue of Nature. He was Editor of the Journal of Hazardous Materials from 2007 to 2010 and in January 1, 2011, he was appointed Associate Editor of ES&T, which is ranked # 1 in the world in the fields of Environmental Sciences and Environmental Engineering

1. EDUCATION

Postdoctoral: Department of Energy (Waste Education & Research Consortium) Las Cruces, New Mexico, 1988-1990

Research Advisor: Dr. Dennis W. Darnall

Specialization: Environmental Engineering

Ph.D.: New Mexico State University, Las Cruces, New Mexico, 1988

Major Professors: Dr. Dennis W. Darnall; Dr. Joseph Wang

Major Field of studies: Environmental Chemistry

Minor Field of studies: Environmental Engineering

M.S.: New Mexico State University, Las Cruces, New Mexico, 1985

Major Professor: Dr. Gary A. Eiceman

Major Field of studies: Environmental/Soil Chemistry

Minor Field of studies: Environmental/Chemical Engineering

B.S. Chemical Engineering (Summa Cum Laude), Autonomous University of Chihuahua, Chih., Mexico, 1980.

B.S Thesis Major Advisor: Dr. John Owen, New York University

2. ACADEMIC APPOINTMENTS AT THE UNIVERSITY OF TEXAS AT EL PASO

Chairman: Department of Chemistry and Biochemistry, 2001-present

Director: Environmental Science & Engineering Ph.D. Program, 1996-2003

Endowed Dudley Professor of Environmental Science & Engineering and Professor of Chemistry, 1996- present

Professor of Environmental Science & Engineering and Professor of Chemistry 1996-present

Associate Professor of Environmental Science & Engineering and Professor of Chemistry, January 1994-1996

Special appointments at UTEP:

Faculty Core Member: Environmental Sciences & Engineering Ph.D. Program, 1995-Present

Graduate Advisor: Environmental Sciences & Engineering Ph.D. Program September 1997-2002

3. PROFESSIONAL EMPLOYMENT PRIOR TO UTEP:

- Department of Energy: Waste Education and Research Consortium/New Mexico State University, 1991-1993
- Autonomous University of Chihuahua: Adjunct Professor of Chemistry 1984-1994
- University of New Mexico, Albuquerque, New Mexico, Research Assistant, 1980-1981
- Auton. Univ. of Chihuahua: Assistant Professor of Chemical Engineering, 1982-1983

4. CONSULTANTSHIPS

- Bio-Recovery Systems Inc., consultant, 1988-1995
- Assaigi Analytical laboratories, consultant on the application of environmental analytical methods (unpaid), 1998-2002
- Crime laboratory of El Paso Police Department, consultant on the implementation and development of analytical methods for controlled drugs (unpaid), 1995-present
- Hewlett-Packard Company, advisor on future applications of chemical analytical instrumentation in the U.S./Mexico border area, Mexico, and Latin America (unpaid), 1994-2002
- Westech Laboratories of Texas (Trace Analysis), consultant (unpaid), 1994-2001
- Mexican Government (PROFEPA) and the cities of Juarez and Chihuahua, consultant on the implementation of the US EPA environmental analytical methods and instrumentation and water treatment (unpaid), 1993-present

5. RESEARCH INTERESTS

- Environmental Chemistry/Engineering
- Phytoremediation
- Nanoparticle production using plants, Nanobiotechnology
- Fate, toxicity, transport and biotransformation of nanomaterials in the environment
- Metal binding to biomaterials for remediation of polluted water
- Utilization of emission and X-ray absorption spectroscopy in environmental chemistry/engineering
- Water and Air pollution control and characterization in outdoor and indoor environments, especially in the US Mexico Border.
- Development of electrochemical, chromatographic, and spectrophotometric analytical methods for metals and hazardous organic compounds in the environment

6. HONORS AND AWARDS

- 2017 Outstanding Career Award, Government of Mexico (CONACYT) for his outstanding career as a researcher and his valuable scientific contributions to nanotechnology, October 26, 2017, Saltillo, Coahuila, Mexico.
- 2017 Great Minds in STEM Education Award, October 20, 2017, Pasadena, California.
- 2016-2019 Editorial Board Member, *Science of the Total Environment*
- 2016 Appointed Honorary Professor at Nanjing University, Nanjing, China, September 2016.
- 2016 Recipient of the First Ever UTEP Graduate Mentor Award.
- 2015 Outstanding Performance Award for outstanding efforts in securing extramural funding, Office of Research and Sponsored Projects.
- 2015 Mentor Award for Outstanding Doctoral Dissertation, UTEP Honors Convocation

- 2015 New Mexico State University Distinguished Alumni Award
- 2014 UTEP Award for Outstanding Efforts in Securing Extramural Funding
- 2014 Mentor Award for Outstanding Doctoral Dissertation, UTEP Honors Convocation
- 2013 Excellence in Research Mentorship Award, UTEP, College of Science
- Awarded the title of Honorary Professor, Institute of Urban Environment, Chinese Academy of Sciences, June 19, 2013.
- 2012 Piper Professor Award, this is the most distinguished Award for a Professor in the State of Texas.
- 2012 UTEP College of Science Distinguished Teaching Award
- 2011 UTEP Green Chemistry Award
- 2011 UTEP College of Science Distinguished Teaching Award
- Reappointed to the Richard M and Francis M Dudley Endowed Chair for a full five year appointment from September 1, 2011 through August 31, 2016
- 2011-present Associate Editor for North America, *Environmental Science and Technology* (**this journal is ranked number one in the world in the fields of environmental sciences & engineering**)
- 2007-2010 Editor of the Journal of Hazardous Materials
- **2009 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Distinguished Scientist Award**
- 2008 Environmental Science and Technology **Excellence in Review Award.**
- Reappointed to the Richard M and Francis M Dudley Endowed Chair for a full five year appointment from September 1, 2006 through August 31, 2011
- 2007 University of Texas at El Paso Distinguished Achievement Award for Teaching,
- The “Chromium Symposium” organized by Dr. Gardea-Torresdey at the 233rd ACS National Meeting **makes the cover page of the journal Chemical & Engineering News.**
- Editorial Advisory Board of *Environmental Science and Technology*, January 2007-August 2011. This board also advises the US government in issues related to Environmental Science and Technology
- Editorial Board, *Environmental Toxicology and Chemistry*, January 2003-2006, Reappointed 2007-2010
- Guest Editor-in Chief, *Microchemical Journal*, Special Issue on “Applications of X-ray Absorption Spectroscopy,” published April 2002
- Editorial Board, *Advances in Environmental Research*, January 2002-2005
- Editorial Board, *Journal of Hazardous Materials*, June 2001-2011
- Editorial Board, *Applied Spectroscopy Reviews*, May 2001-present
- Editorial Board, *Scientiae Naturae*, November 2001-present
- Editorial Board, *Microchemical Journal*, May 2000-present
- **Highlighted in the Lawrence Hall of Science, University of California –Berkeley**, June 2004-present (for my research in Nanobiotechnology). Research Hall on nanotechnology (Nano Zone).
- **Recipient of the prestigious 2004 Benedetti-Pichler Award given by the American Microchemical Society for contributions to microchemistry.**

- Research highlighted by the NIH's National Institute of General Medical Sciences, Fall 2003
- **Research highlighted by the NIH's National Institute of General Medical Sciences in the 2005 Budget request to US Congress of 2 billion dollars.**
- Exceptional Leadership Award presented by the students of UTEP-Environmental Science and Engineering PhD Program 2003
- Outstanding Award, Border Environment in the Paso del Norte Region, 2002
- Dudley Endowed Chair Awarded at University of Texas at El Paso, January 2001
- **2001 University of Texas at El Paso Distinguished Achievement Award for Research,** (Most Prestigious Award Given to a Faculty Member)
- Chairman, Rio Grande Valley Section of the American Chemical Society, 1998
- Outstanding Achievement in Teaching, Presented by the UTEP ACS Student Affiliates, 1998
- Nominated to be in the United States Environmental Protection Agency's National Advisory Council for Environmental Policy and Technology, October, 1997
- Sigma Xi Research Society Award, 1987
- Award for Outstanding Performance from the President of Mexico, Mexico City, 1980 (Selected as one of the most outstanding graduating seniors in Chemical Engineering from all Mexican Universities)

7. PROFESSIONAL SOCIETIES MEMBERSHIPS:

- American Chemical Society
 - Analytical Chemistry Division
 - Environmental Chemistry Division
- American Institute of Chemists
- Sigma Xi The Scientific Research Society

8. PUBLICATIONS (TOTAL OF 442)

8A. RESEARCH PUBLICATIONS: SUBMITTED, ACCEPTED FOR PUBLICATION AND IN-PRESS

1. Medina-Velo, I. A., Zuverza-Mena, N., Tamez, C., Ye, Y., Hernandez-Viezcas, J. A., White, J.C., Peralta-Videa, J. R., **Gardea-Torresdey, J.L. 2018.** Minimal transgenerational effect of ZnO nanomaterials on the physiology and nutrient profile of *Phaseolus vulgaris*. *ACS Sustainable Chemistry & Engineering* (submitted and in review).

2. Adisa, I.O., Pullagurala, V.L.R., Rawat, S., Hernandez-Viezcas, J.A., Dimkpa, C.O., Elmer, W.H., White, J.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2018. Role of cerium compounds in Fusarium wilt suppression and growth enhancement in tomato (*Solanum lycopersicum*). *Journal of Agricultural and Food Chemistry* (submitted and in review).
3. Ochoa, L. Zuverza-Mena, N., Medina-Velo, I.A., Flores-Margez, J.P., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2018. Copper oxide nanoparticles, combined with indole-3-acetic acid, increase iron but reduce boron in green pea (*Pisum sativum*) seeds. *Science of the Total Environment* (submitted and in review).
4. Morales-López, G., de la Rosa-Álvarez, G., García-Jiménez, M.G., Martínez-Rosales, J.M., Delgado-Ríos, M., Rocha-Amador, D.O., Castillo-Michel, H., **Gardea-Torresdey, J.L.**, Cruz-Jiménez, G. 2017. Iron speciation and characterization in PM10 from a Mexican city: X-Ray absorption spectroscopy as a tool for the identification of the potential source of pollution. *Chemosphere* (submitted and in review).
5. Ge, Y., Shen, C., Wang, Y., Sun, Y.-Q., Schimel, J., **Gardea-Torresdey, J.**, Holden, P. 2017. Carbonaceous nanomaterials have higher effects on soybean rhizosphere prokaryotic communities during the reproductive growth phase than during vegetative growth. *Environmental Science & Technology* (submitted and in review).
6. Pullagurala, V.L.R., Rawat, S. Adisa, I. O., Hernandez-Viezcas, J.A., Peralta-Videa, J.R. **Gardea-Torresdey, J.L.** 2017. Plant uptake and translocation of emerging chemicals of concern in soil. *Journal of Hazardous Materials* (submitted and in review).
7. Tan, W., Du, W., Darrouzet-Nardi, A.J., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2017. Physiological response of basil (*Ocimum basilicum*) exposed for two consecutive generations to TiO₂ nanoparticles of different surface chemistry. *Science of the Total Environment* (submitted and in review).
8. Tan, W., Gao, Q., Deng, C., Wang, Y., Lee w.-Y., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2018. Foliar exposure of Cu(OH)₂ nanopesticide to basil (*Ocimum basilicum*): Variety dependent copper translocation and biochemical responses. *Journal of Agricultural and Food Chemistry* (accepted for publication).
9. Turley, R., Benavides. R., Hernandez-Viezcas, L.A., **Gerdea-Torresdey, J.L.** 2018. Insights on ligand interactions with titanium dioxide nanoparticles via dynamic light scattering and electrophoretic light scattering. *Microchemical Journal* (accepted for publication).
10. Servin, A., Castillo-Michel, H., Hernandez-Viezcas, J., De Nolf, W., De La Torre Roche, R., Pagano, L., Pignatello, J., Uchimiya, M., **Gardea-Torresdey, J.**, White, J.C. 2018. Bioaccumulation of CeO₂ nanoparticles by earthworms in biochar amended soil: A

synchrotron microspectroscopy study. *Journal of Agricultural and Food Chemistry*, doi: 10.1021/acs.jafc.7b04612.

11. Elmer, W., De La Torre-Roche, R., Pagano, L., Majumdar, S., Zuverza-Mena, N., Dimkpa, C., **Gardea-Torresdey, J.**, White, J.C. **2018**. Effect of metalloid and metallic oxide nanoparticles on Fusarium wilt of watermelon. *Plant Disease* (in press) <https://doi.org/10.1094/PDIS-10-17-1621-RE>.

8B. RESEARCH PUBLICATIONS: PUBLISHED

12. Tan, W., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2018**. Interaction of titanium dioxide nanoparticles with soil components and plants: Current knowledge and future research needs-A critical review. *Environmental Science: Nano* 5, 257 –278.
13. López-Moreno, M.L., Cedeño-Mattei, Y., Bailón-Ruiz, S.J., Vazquez-Nuñez, E., Hernandez-Viezcas, J.A., Perales-Pérez, O.J., de la Rosa, G., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2018**. Environmental behavior of coated NMs: Physicochemical aspects and plant interactions. *Journal of Hazardous Materials* 347, 196–217.
14. Rawat, S., Pullagurala, V.L.R., Hernandez-Molina, M., Sun, Y., Niu, G., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2018**. Impacts of copper oxide nanoparticles in bell pepper (*Capsicum annum* L.) plants: A full life cycle study. *Environmental Science: Nano* 5, 83 – 95.
15. Du, W., Tan, W., Yin, Y., Ji, R., Peralta-Videa J.R., Guo, H., **Gardea-Torresdey, J.L.** **2018**. Differential effects of copper nanoparticles/microparticles on plant growth and nutritional quality of oregano (*Origanum vulgare*). *Science of the Total Environment* 618 306–312.
16. Zhan, X., Zhu, M., Shen, Y., Yue, L., Li, J., **Gardea-Torresdey, J.**, Xu, G. **2018**. Apoplastic and symplastic uptake of phenanthrene in wheat roots. *Environmental Pollution* 233, 331-33.
17. Medina-Velo, I.A., Dominguez, O.E., Ochoa, L., Barrios, A.C., Hernández-Viezcas, J.A., White, J.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2017**. Nutritional quality of bean seeds harvested from plants grown in different soils amended with coated and uncoated zinc oxide nanomaterials. *Environmental Science: Nano* 4, 2336 – 2347.
18. Dimkpa, C., White, J.C., Elmer, W. Gardea-Torresdey, J. 2017. Nanoparticle and ionic Zn promote nutrient loading of sorghum grain under low NPK fertilization. *Journal of Agricultural and Food Chemistry* 65, 8552–8559.
19. Rawat, S., Apodaca, S., Tan, W., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2017**. Terrestrial nanotoxicology: Evaluating the nano-biointeractions in vascular plants. In: Yan,

- B., Zhou, H., Gardea-Torresdey, J.L. (Eds.) chapter 3, ***Bioactivity of Engineered Nanoparticles. Nanomedicine and Nanotoxicology***. Springer, Singapore, pages 21-42.
20. Medina-Velo, I.A., Adisa, I., Tamez, C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2017**. Effects of surface coating on the bioactivity of engineered nanoparticles: Lesson learned from higher plants. In: Yan, B., Zhou, H., Gardea-Torresdey, J.L. (Eds.) ***Bioactivity of Engineered Nanoparticles, chapter 4, Bioactivity of Engineered Nanoparticles. Nanomedicine and Nanotoxicology***. Springer, Singapore, pages 43-61.
 21. Deng, R., Lin, D., Zhu, L., Majumdar, S., White, J.C., **Gardea-Torresdey, J.L.**, Xing, B. **2017**. Nanoparticle interactions with co-existing contaminants: Joint toxicity, bioaccumulation and risk. ***Nanotoxicology*** 11 (5), 591-612.
<http://dx.doi.org/10.1080/17435390.2017.1343404>.
 22. Wang, Y., Chang, C.H., Ji, Z., Bouchard, D.C., Nisbet, R.M., Schimel, J.P., **Gardea-Torresdey, J.L.**, Holden P.A. **2017**. Agglomeration determines effects of carbonaceous nanomaterials on soybean nodulation, dinitrogen fixation potential, and growth in soil. ***ACS Nano*** 11 (6), pp 5753–5765.
 23. Servin, A.D., Pagano, L. Castillo-Michel, H., De la Torre-Roche, R. Hawthorne, J., Hernandez-Viezcas, J.A., Loredó-Portales, R., Majumdar, S., **Gardea-Torresdey, J.** Parkash Dhankher, O., White, J.C. **2017**. Bioaccumulation of nanoparticle CuO within a terrestrial food chain increases by weathering in soil. ***ESRF Spotlight on Science***.
<http://www.esrf.eu/home/news/spotlight/content-news/spotlight/spotlight291.html>
 24. Keller, A.A., Adeleye, A.S., Conway, J.R., Garner, K.L., Zhao, L., Cherr, G., Hong, J., **Gardea-Torresdey, J.L.**, Godwin, H., Hanna, S., Ji, Z., Kaweeteerawat, C., Lin, S., Lenihan, H., Miller, R., Nel, A.E., Peralta-Videa, J.R., Walker, S.L., Taylor, A.A., Torres-Duarte, C., Zink, J., Zuverza-Mena, N., **2017**. Comparative environmental fate and toxicity of copper nanomaterials. ***NanoImpact*** 7, 28-40.
 25. Apodaca, S.A. Tan, W., Dominguez, O.E., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2017**. Physiological and biochemical effects of nanoparticulate copper, bulk copper, copper chloride, and kinetin in bush bean (*Phaseolus vulgaris*) plants. ***Science of the Total Environment*** 599–600, 2085–2094.
 26. López-Moreno, M.L., de la Rosa, G., Cruz-Jiménez, G., Castellano, L., Peralta-Videa, J.R. **Gardea-Torresdey, J.L.** **2017**. Effect of ZnO nanoparticles on corn seedlings at different temperatures; X-ray absorption spectroscopy and ICP/OES studies. ***Microchemical Journal*** 134 (2017) 54–61.
 27. Medina-Velo, I.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2017**. Assessing plant uptake and transport mechanisms of engineered nanomaterials from soil. ***Materials Research Society Bulletin*** 42(5), 379-383.

28. Ochoa, L., Medina-Velo, I.A., Barrios, A.C., Bonilla-Bird, N.J., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2017. Modulation of CuO nanoparticles toxicity to green pea (*Pisum sativum* Fabaceae) by the phytohormone indole-3-acetic acid. *Science of the Total Environment* 598, 513-524.
29. Medina-Velo, I.A., Barrios, A.C., Zuverza-Mena, N., Hernandez-Viezcas, J.A., Chang, C.-H., Ji, Z., Zink, J.I., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2017. Comparison of the effects of commercial coated and uncoated ZnO nanomaterials and compounds in kidney bean (*Phaseolus vulgaris*) plants. *Journal of Hazardous Materials* 332, 214–222.
30. Tan, W., Du, W., Barrios, A. C., Armendariz Jr. R, Zuverza-Mena, N., Ji, Z., Chang, C. H., Zink, J.I., Hernandez-Viezcas, J.A. Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2017. Surface coating changes the physiological and biochemical impacts of nano-TiO₂ in basil (*Ocimum basilicum*) plants. *Environmental Pollution* 222, 64–72.
31. Yin, Y., Hu, Z., Du, W., Ai, F., Ji, R., **Gardea-Torresdey, J.L.**, Guo, H. 2017. Elevated CO₂ levels increase the toxicity of ZnO nanoparticles to goldfish (*Carassius auratus*) in a water-sediment ecosystem. *Journal of Hazardous Materials* 327, 64–70.
32. Servin, A., Pagano, L., Castillo-Michel, H., De La Torre-Roche, R., Hawthorne, J., Hernandez-Viezcas, J.A., Loredó, R., Majumdar, S., **Gardea-Torresdey, J.**, Parkash, D.O., White, J.C. 2017. Weathering in soil increases nanoparticle CuO bioaccumulation within a terrestrial food chain. *Nanotoxicology* 11(1), 98-111.
<http://dx.doi.org/10.1080/17435390.2016.1277274>.
33. Du, W., **Gardea-Torresdey, J.L.**, Xie, Y., Yin, Y., Zhu, J., Zhang, X., Ji, R., Gu, A.K., Peralta-Videa, J.R., Guo H. 2017. Elevated CO₂ levels modify TiO₂ nanoparticle effects on rice and soil microbial communities. *Science of the Total Environment* 578, 408-416.
34. Priester, J.H., Moritz, S. C., Espinosa, K., Ge, Y., Wang, Y., Nisbet, R.M., Schimel, J.P., Goggi, S., **Gardea-Torresdey, J.L.**, Holden, P. 2017. Damage assessment for soybean cultivated in soil with either CeO₂ or ZnO manufactured nanomaterials. *Science of the Total Environment* 579, 1756-1768.
35. Moya, E.M., Chavez-Baray, S.M., Torres-Sajquim, M., **Gardea-Torresdey, J.**, Martinez, O., Cruz Levine, E., Quintana, D.M. 2017. In Pursuit of safe drinking water in the Texas-Mexico border region: A matter of social justice. *SDRP Journal of Earth Sciences & Environmental Studies* 2(1): pages 1-9. doi: 10.15436/JESES.2.1.
36. Du, W., Tan, W., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Ji, R., Yin, Y., Guo H. 2017. Interaction of metal oxide nanoparticles with higher terrestrial plants: Physiological and biochemical aspects. *Plant Physiology and Biochemistry* 110, 210-225.

37. Zuverza-Mena, N., Martínez-Fernández, D., Du, W., Hernandez-Viezcas, J.A., Bonilla-Bird, N., López-Moreno, M.L., Komárek, M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2017. Exposure of engineered nanomaterials to plants: Insights into the physiological and biochemical responses-A Review. *Plant Physiology and Biochemistry* 110, 236-364.
38. Tassi, E., Giorgetti, L., Morelli, E., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Barbafieri, M. 2017. Physiological and biochemical responses of sunflower (*Helianthus annuus*) exposed to nano-CeO₂ and excess boron: Modulation of boron phytotoxicity. *Plant Physiology and Biochemistry* 110, 50-68.
39. Barrios, A.C., Medina-Velo, I.A., Zuverza-Mena, N., Dominguez, O.E., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2017. Nutritional quality assessment of tomato fruits after exposure to uncoated and citric acid coated cerium oxide nanoparticles, bulk cerium oxide, cerium acetate and citric acid. *Plant Physiology and Biochemistry* 110, 100-107.
40. Westerhoff, P., Alvarez, P., Li, Q., **Gardea-Torresdey, J.**, Zimmerman, J. 2016. Overcoming implementation barriers for nanotechnology in drinking water treatment. *Environmental Science: Nano* 3, 1241-1253. *This article made the cover page of the December issue.*
41. Medina-Velo, I.A., Zuverza-Mena, N., Tan, W., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2016. Biophysical methods of detection and quantification of uptake, translocation, and accumulation of nanoparticles. In: Kole, C., Sakthi Kumar, D., Khodakovskaya, M.V. (Eds.) *Plant Nanotechnology: Principles and Practices*, Springer-Verlag GmbH, Berlin, Germany, Chapter 3, pp. 29-63.
<http://www.springer.com/kr/book/9783319421520>.
42. Mukherjee, A., Peralta-Videa, J.R., **Gardea-Torresdey, J.**, White, J.C. 2016. Effects of nanoparticles in plants. In: Xing, B., Vecitis, C., Senesi, N. (Eds.). *Engineered nanoparticles and the environment: Biophysicochemical processes and biotoxicity*. IUPAC Series on Biophysico-chemical processes in environmental systems Volume 4; Chapter 20 pp. 386-408. <http://www.wiley.com/WileyCDA/WileyTitle/productCd-1119275822.html>
43. Peralta-Videa, J.R., Huang, Y., Parsons, J.G., Zhao, L., Lopez-Moreno, M.L., Hernandez-Viezcas, J.A., **Gardea-Torresdey, J.L.** 2016. Plant-based green synthesis of metallic nanoparticles, scientific curiosity or a realistic alternative to chemical synthesis? *Nanotechnology for Environmental Engineering* 1(1):4, doi:10.1007/s41204-016-0004-5.
44. Jabbari, V., Veleta, J.M., Zarei-Chaleshtori, M., **Gardea-Torresdey, J.**, Villagran, D. 2016. Green synthesis of magnetic MOF@GO and MOF@CNT hybrid nanocomposites with high adsorption capacity towards organic pollutants. *Chemical Engineering Journal* 304, 774-783.

45. Majumdar, S., Trujillo-Reyes, J., Hernandez-Viezcas, J.A., White, J.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2016. Cerium biomagnification in a terrestrial food chain: Influence of particle size and growth stage. *Environmental Science and Technology* 50(13), 6782–6792.
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OTHER PUBLICATIONS

1. Gardea-Torresdey, J.L. 2015. Producing drinking water using nanotechnology. Editorial, El Paso Times (Guest Columnist) August 16, 2015.

9. PRESENTATIONS (TOTAL OF 704)

Research Presentations at Regional, National, and International Meetings

1. **Gardea-Torresdey, J.L. 2018.** What you should know before and after submitting a manuscript to a scientific and engineering journal-An ACS editor's advice. **UTEP Bioscience Research Building, room 2.168, February 2, 2018.(Special seminar)**
2. **Gardea-Torresdey, J.L. 2018.** From Searching for Friendly Mining Technologies to Studies on the Chemical Fate of Nanoparticles in Terrestrial Plants: How Gold Mining Changed My Life. **Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, January 30, 2018.**
3. **Gardea-Torresdey, J.L. 2018.** What you should know before and after submitting a manuscript to a scientific and engineering journal-An ACS editor's advice. **Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, January 30, 2018.**
4. **Gardea-Torresdey, J.L. 2017.** Editors' discussion panel on: What it takes to publish in a high impact journal? **First Pan American Congress of Nanotechnology (PANNANO-2017) Guarujá, SP, Brazil - November. 27-30, 2017.**
5. **Gardea-Torresdey, J.L. 2017.** How to get published in scientific & engineering journals. **First Pan American Congress of Nanotechnology (PANNANO-2017) Guarujá, SP, Brazil - November 27-30, 2017.**
6. **Gardea-Torresdey, J.L. 2017.** Effects of nanoceria on common Bean: A spectroscopic and proteomic analysis. **First Pan American Congress of Nanotechnology (PANNANO-2017) Guarujá, SP, Brazil - November 27-30, 2017 (Plenary speaker).**
7. **Gardea-Torresdey, J.L. 2017.** From Gold Phytomining to the Fate of Nanoparticles in Terrestrial Plants: Synchrotron-based Studies. **First Pan American Congress of Nanotechnology (PANNANO-2017) Guarujá, SP, Brazil - November 27-30, 2017 (Plenary speaker).**
8. **Gardea-Torresdey, J.L. 2017.** Does nanotoxicology depend on NP fate and speciation? Current knowledge and future perspectives. **Sixth Sustainable Nanotechnology Organization Conference Hotel Marina del Rey, Los Angeles, CA, November 5-7, 2017 (Plenary speaker).**
9. **Gardea-Torresdey, J.L. 2017.** From Gold Phytomining to the Fate of Nanoparticles in Terrestrial Plants: Synchrotron-based Studies. **International Symposium 2017 on AgroBio Nanotechnology, Saltillo, Coahuila, México, Octubre 25-27, 2017 (keynote speaker).**
10. **Gardea-Torresdey, J.L. 2017.** Uptake of Nanoparticles by Crop Plant Species. Biotransformation and Toxicity: Current Knowledge and Future Perspectives. **2017**

International Symposium on Environmental Science and Technology, Beijing Xijiao Hotel, Beijing, China, September 19–22, 2017 (keynote speaker).

11. **Gardea-Torresdey, J.L. 2017.** From gold phytomining to the fate of nanoparticles in terrestrial plants: Synchrotron-based studies. ***George Lynn Cross Seminar Speaker Department of Microbiology and Plant Biology University of Oklahoma, September 1st, 2017*** (Invited talk).
12. Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Haque, N. **2017.** Phytoremediation: Alternative technology for the recovery of contaminated soil and water. ***Presentation at the Chemistry and Computer Science Building, El Paso, TX August 10, 2017.***
13. **Gardea-Torresdey, J.L. 2017.** From gold phytomining to the fate of nanoparticles in terrestrial plants: Synchrotron-based studies. ***Presentation at the College of Environment and Natural Resources Zhejiang University, August 8-11, 2017*** (Invited talk).
14. Tassi, E., Giorgetti, L., Morelli, E., Peralta-Videa, J.R, **Gardea-Torresdey, J.L.**, Barbafieri, M. **2017.** Effect of nano-CeO₂ on boron homeostasis and phytotoxicity of *Helianthus annuus* L. growing in farm soil. ***Fourteenth International Conference on the Biogeochemistry of Trace Elements, Zurich, Switzerland, July 16-20, 2017.***
15. **Gardea-Torresdey, J.L.**, Majumdar, S., White, J.C., Peralta-Videa- J.R. **2017.** Exposure of CeO₂ nanoparticles to common bean in different media: uptake mechanisms, proteomic studies, and Ce biomagnification in the food chain. ***Fourteenth International Conference on the Biogeochemistry of Trace Elements, Zurich, Switzerland, July 16-20, 2017.***
16. **Gardea-Torresdey, J.L. 2017.** Environmental implications and applications of nanoparticles: From agricultural effects to water treatment. ***Presentation at the Chinese Academy of Sciences, Plasma Physics Institute, Beijing, China, May 29th, 2017*** (Invited talk).
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symbiosis with dinitrogen-fixing bacteria: A mesocosm study. **253rd ACS National Meeting, San Francisco, California, April 2-6, 2017.**

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23. **Gardea-Torresdey, J.L. 2017.** How to get published in scientific & engineering journals. **Department of Environmental Science and Engineering, Nanjing Agricultural University, Nanjing, China, January 11, 2017.**
24. **Gardea-Torresdey, J.L. 2016.** Environmental implications of nanomaterials in the environment. Effects of nanocerium in common bean: A spectroscopic and proteomic analysis. **NANOMXCN-2016 "Mexico-China Workshop II on Renewable Energy and Environmental Remediation" City University of Hong Kong, Hong Kong, China, December 4-6, 2016 (session chair).**
25. Medina-Velo, I.A., Dominguez, O.E., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2016.** Comparison of the effects of ZnO nano/bulk materials on bean plants grown in different soil types. **Fifth Annual Sustainable Nanotechnology Organization Conference (SNO), Orlando, FL, November 10-12, 2016.**
26. Rawat, S., Peralta-Videa, J. R., **Gardea-Torresdey, J.L. 2016.** Phyto-toxicological effects of copper nanoparticles on bell pepper (*Capsicum annuum*) plants. **Fifth Sustainable Nanotechnology Organization Conference, Orlando, FL, November 10-12, 2016.**
27. Tan, W., Du, W., Dominguez, O.E., Hernandez-Molina, M., Darrouzet-Nardi, A.J., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey J.L. 2016.** Differential effects of sequential exposure to nano-TiO₂ of different surface coatings in basil (*Ocimum basilicum*) plants. Oral presentation at **6th University of Texas at El Paso Graduate Student Research Expo, El Paso, Texas, November 11th, 2016.**

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30. Apodaca, S.A., Flores-Margez, J.P., Lazarski, A., Peralta-Videa, J.R., **Gardea-Torresdey J.L.** 2016. Modulation of the physiological and biochemical effects of copper nanoparticles in kidney beans (*Phaseolus vulgaris*) treated with kinetin. **Oral presentation at the Sixth University of Texas at El Paso Graduate Research Expo, El Paso, TX, November 11, 2016.**
31. Apodaca, S., Flores-Margez, J.P., Lazarski, A., Peralta-Videa, J.R., **Gardea-Torresdey J.L.** 2016. Modulation of the physiological and biochemical effects of copper nanoparticles in kidney beans (*Phaseolus vulgaris*) treated with kinetin. **Poster presentation at Society of Environmental Toxicology and Chemistry North America 37th Annual Meeting/7th World Congress, Orlando, FL, November 6-10, 2016.**
32. Bonilla-Bird N.J., Peralta-Videa J.R., Chunquiang L., Ding Y., Hernandez-Viezcas J.A., **Gradea-Torresdey J.L.** 2016. Insights into the interaction of copper oxide nanoparticles with sweetpotato: the role of lignin and skinning in copper uptake and translocation. **Poster presentation at Graduate Student Research Expo. University of Texas at El Paso, El Paso, TX, November 11, 2016.**
33. **Gardea-Torresdey, J.L.** 2016. Environmental implications of nanomaterials in the environment. Effects of nanoceria in common bean: A spectroscopic and proteomic analysis. **13th International Phytotechnologies Conference (PHYTOTECH 2016), Hangzhou, China, September 26-29, 2016 (session chair).**
34. Tan W., Du W., Barrios A.C., Armendariz R. Jr., Zuverza-Mena N., Ji Z., Chang C.H., Zink J.I., Hernandez-Viezcas J.I., Peralta-Videa J.R., **Gardea-Torresdey J.L.** 2016. Effects of surface chemistry on the physiological and biochemical interactions between nano-TiO₂ and basil (*Ocimum basilicum*). **Poster presentation at 252nd American Chemical Society National Meeting & Exposition, Philadelphia, PA, August 21-25, 2016.**
35. Medina-Velo, I.A., Barrios, A.C., Dominguez, O.E., Hernandez-Viezcas, J.A., **Gardea-Torresdey, J.L.** 2016. Effect of soil organic content on the absorption of two commercial ZnO nanomaterials and its influence in nutrient composition of red kidney beans

(*Phaseolus vulgaris* var. Red Hawk). Oral presentation at the **252nd American Chemical Society National Meeting & Exposition, Philadelphia, PA, August, 21-25, 2016.**

36. Barrios, A., Rico, C.M., Trujillo-Reyes, J., Medina-Velo, I.A., Zuverza-Mena, N., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2016.** Impacts of nanoceria in the nutritional quality of tomato fruits (*Solanum lycopersicum* L.). **252nd American Chemical Society National Meeting & Exposition, Philadelphia, PA, August 21-25, 2016.**
37. **Gardea-Torresdey, J.L. 2016.** Implications of nanotechnology in the Environment: Nutritional and proteomic effects of nanoceria on beans. ***Instituto de Investigaciones Científicas y servicios de alta tecnología (INDICASAT), Panamá City, Panamá, July 14, 2016.***
38. **Gardea-Torresdey, J.L. 2016.** Environmental implications of nanomaterials in the environment. Effects of nanoceria in common bean: A spectroscopic and proteomic analysis. ***12th Annual LC/MS/MS Workshop on Environmental Applications and Food Safety, Barcelona Spain, July 5-6, 2016 (keynote speaker).***
39. Apodaca, S., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2016.** Modulation of the physiological and biochemical effects of copper nanoparticles in kidney beans (*Phaseolus vulgaris*) treated with kinetin. ***Eighth International Nanotoxicology Congress, Westin Boston Waterfront Hotel, Boston, MA, June 1-4, 2016.***
40. Tan, W., Du, W., Barrios, A.C., Armendariz, R., Zuverza-Mena, N., Ji, Z., Chang, C.H., Zink, J.I., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2016.** Biochemical effects of nano-TiO₂ with different surface properties on basil (*Ocimum basilicum*). ***Eight International Nanotoxicology Congress 2016, Westin Boston Waterfront Hotel. Boston, MA. June 1-4, 2016.***
41. Medina-Velo, I.A., Barrios, A.C., Zuverza-Mena, N., Dominguez, O.E., Hernandez-Viezcas, J.A., **Gardea-Torresdey, J.L. 2016.** Production and nutrient composition changes of Red kidney beans exposed to Z-COTE® and Z-COTE HP1®. ***Eighth International Nanotoxicology Congress 2016, Westin Boston Waterfront Hotel, Boston, MA. June 1-4, 2016.***
42. **Gardea-Torresdey, J.L. 2016.** How to get published in scientific & engineering journals. ***Nankai University, College of Environmental Science and Engineering, Tianjin, China, May 30, 2016.***
43. **Gardea-Torresdey, J.L. 2016.** Environmental implications of nanomaterials in the environment. Effects of nanoceria on common bean: A spectroscopic and proteomic analysis. ***Nankai University, College of Environmental Science and Engineering, Tianjin, China, May 30, 2016.***

44. Hernandez-Molina, M., Tamez, C., Hernandez, J.A., **Gardea-Torresdey, J.L.** 2016. Effects of copper nanoparticles in zucchini. *UTEP COURI Symposium, Spring 2016, Undergraduate Learning Center, April 29-30, 2016.*
45. Dominguez, O., Medina-Velo, I, Hernandez-Viezcas, J., Peralta-Videa, J., **Gardea-Torresdey, J.** 2016. Effects of two commercial zinc oxide nanomaterials on red kidney bean seeds. *UTEP COURI Symposium, Spring 2016, Undergraduate Learning Center, April 29-30, 2016.*
46. **Gardea-Torresdey, J.L.** 2016. Bean plants exposed to cerium oxide nanoparticles modified physiological characteristics and shows translocation to the next trophic level: Implications in plant nutrition and human health. *The 2nd International Symposium on Environmental Impact of Engineered Nanoparticles, Qingdao, China, April 29-30, 2016 (Invited Talk).*
47. **Gardea-Torresdey, J.L.** 2016. How to get published in scientific & engineering journals. *Workshop at the 2nd International Symposium on Environmental Impact of Engineered Nanoparticles, Qingdao, China, April 29-30, 2016.*
48. **Gardea-Torresdey, J.L.** 2016. How to get published in scientific & engineering journals. *Graduate School Professional Development Workshop at the University of Texas at El Paso, April 8, 2016.*
49. **Gardea-Torresdey, J.L.** 2016. How to get published in scientific & engineering journals. *Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China, January 11, 2016.*
50. **Gardea-Torresdey, J.L.** 2016. Environmental implications of cerium oxide nanoparticles on beans: From uptake to proteomics. *Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China, January 11, 2016.*
51. Dionysiou, D., **Gardea-Torresdey, J.**, Lee, W., Zhao, X.S., Pan, B., Litter, M.I. 2015. Nanointerfaces and their role in environmental systems and processes. The *International Chemical Congress of Pacific Basin Societies. Pacifichem 2015, Honolulu, Hawaii, USA December 15 - 20, 2015 (Invited talk).*
52. de la Rosa, G., Lopez, L., Cruz-Jiménez, G., Castellanos-Torres, L., Gonzalez-Chavez, J., Sanchez-Sanchez, K., **Gardea-Torresdey, J.** 2015. Differential Effects of ZnO and Zn ions on corn seedlings at different temperatures: enzyme activity, protein production, and Zn biotransformation. *2015 International chemical congress of Pacific Basin Societies, Honolulu, HI, December 15-20, 2015.*
53. Tamez, C. Morelius, E., Hernandez-Viezcas, J.A., **Gardea-Torresdey, J.L.** 2015. Physiological and biochemical effects of copper nanoparticles on sugarcane. *2015 UTEP*

Graduate Student Research Expo, Tomas Rivera Conference Center, UTEP UNION, El Paso, TX, November 13, 2015.

54. Zuverza- Mena, N., **Gardea-Torresdey, J.L. 2015.** Copper nanoparticles/compounds impact agronomic and physiological parameters in cilantro (*Coriandrum sativum*). **2015 UTEP Graduate Student Research Expo, Tomas Rivera Conference Center, UTEP UNION, El Paso, TX, November 13, 2015.**
55. Medina-Velo, I.A., Barrios, A.C., Dominguez, O.E., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2015.** Effects of two commercial zinc oxide nanoparticles on red kidney bean plants. ***Fourth Annual Sustainable Nanotechnology Organization Conference. Portland, OR. Nov 8-10, 2015 (Poster).***
56. Ana C. Barrios, Rico, C. M., Medina-Velo, I. A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2015.** Impact of uncoated and citric acid coated cerium oxide nanoparticles on tomato plants. ***Fourth Annual Sustainable Nanotechnology Organization Conference. Portland, OR, Nov 8-10, 2015.***
57. **Gardea-Torresdey, J. 2015.** Bean plants exposed to cerium oxide nanoparticles modified physiological characteristics and shows translocation to the next trophic level: Implications in plant nutrition and human health? ***2015 International symposium on Environmental Science and Technology, Chongqing, China, November 1-3, 2015*** (keynote speaker).
58. **Gardea-Torresdey, J. 2015.** Environmental Implications of Nanotechnology: Locating Metal Oxide Nanoparticle Transformation in Plants Using Synchrotron Techniques. ***7th International Conference on Nanomaterials - Research & Application. Hotel Voronezh I, Brno, Czech Republic, EU, October 14th - 16th 2015*** (Invited Lecturer).
59. **Gardea-Torresdey, J. 2015.** Environmental Implications and Applications of nanotechnology. ***Plenary Speaker of the Research Forums, Tomas Rivera Conference Center, University of Texas at El Paso, October 8, 2015.***
60. Majumdar S., Arigi, E.A., Choi, H., Almeida, I.C., White, J.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2015.** Nanoceria modulates the kidney bean proteome and compromises its nutritional quality. ***12th International Phytotechnologies Conference, 27-30 September 2015, Manhattan, Kansas.***
61. **Gardea-Torresdey, J.L. 2015.** Interviewed by El Paso Times, Borderland section, ***El Paso, TX, August 25, 2015***
62. Welch, Z.S., Wang, Y., Priester, J.H., **Gardea-Torresdey, J.L.**, Bouchard, D., Nisbet, R.M., Schimel, J.P, Holden, P.A. **2015.** Combined effects of engineered carbonaceous nanomaterial exposure and environmental stressors upon soil-grown soybeans. ***2015 UC***

Natural Reserve System (NRS) conference. University of California Santa Barbara, September 16, Santa Barbara, CA.

63. Zhao, L., Sun, Y., Hernandez-Viezcas, J.A., Hong, J., Niu, G., Duarte-Gardea, M, Keller, A.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2015. Monitoring the environmental effects of CeO₂ and ZnO nanoparticle through the life cycle of corn (*Zea mays*) and cucumber (*Cucumis sativus*) plants. **250th ACS Meeting, Innovation from Discovery to Application, August 16-20, 2015, Boston, MA.**
64. Tamez, C., Morelius, E. W., Hernandez-Viezcas, J. A., **Gardea-Torresdey, J.** 2015. Physiological and biochemical effects of copper nanoparticles on sugarcane. **4th CETARS Symposium, August 4th 2015, University of Puerto Rico – Mayaguez, Mayaguez, Puerto Rico.**
65. **Gardea-Torresdey, J.** 2015. Nanoparticulas de cerio y su impacto en el crecimiento de plantas de frijol. **Congreso del Colegio de Quimicos de Puerto Rico, Ritz Carlton Hotel, San Juan, Puerto Rico, Julio 30, 2015 (invited talk).**
66. **Gardea-Torresdey, J.L.** 2015. My phytoremediation journey: From gold mining to nanotechnology (Mi trayectoria in Fitoremediation: De la extraccion de oro a la nanotecnologia). **Presentation at Rotary Club: Camino Real, El Paso, TX, July 22, 2015.**
67. **Gardea-Torresdey, J.** 2015. Cerium oxide nanoparticle exposure to bean plants modifies physiological characteristics and shows translocation to the next trophic level: Are there implications in plant nutrition and human health? **The 10th Asia Pacific Conference on Sustainable Energy & Environmental Technologies, University of Seoul, Korea, 2nd - 5th July 2015(Invited talk)**
68. **Gardea-Torresdey, J. L.** 2015. How to get published in scientific journals. **Workshop at Kunming University of Science and Technology, June 28, 2015, Kunming, China.**
69. **Gardea-Torresdey, J. L.** 2015. Environmental Implications of nanotechnology: Tracing nanoparticle transformation in terrestrial plants using synchrotron techniques. **Kunming University of Science and Technology, June 27, 2015, Kunming, China** (invited seminar speaker).
70. Barrios, A.C., Rico, C. M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2015. Comparison of citric acid coated and uncoated nanocerium and their impact on tomato (*Solanum lycopersicum* L.) plants grown in organic soil. **Gordon Research Conference on Environmental Nanotechnology, June 24th 2015. West Dover, VT.**
71. Majumdar, S., Arigi, E.A., Choi, H., Almeida, I., White, J.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** Nanocerium affects kidney bean proteome compromising seed

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72. Barrios, A.C., Rico, C. M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2015.** Comparison of citric acid coated and uncoated nanoceria and their impact on tomato (*Solanum lycopersicum* L.) plants grown in organic soil. ***Graduate Students Research Seminar on Environmental Nanotechnology, Gordon Research Conference, West Dover, VT, June 20th 2015.***
73. Majumdar, S., Morelius, E.W., Medina-Velo, I., Almeida, I., Adhiambo, E., Trujillo, J., White, J., Choi, H., Florez, J., Peralta-Videa, J., **Gardea-Torresdey, J. 2015.** Nanoceria modulates bean nutrition and disturbs kidney bean proteome. ***2015 NSF/EPA site visit to UC CEIN, Los Angeles CA, June 2-3, 2015 (Poster).***
74. **Gardea-Torresdey, J.L. 2015.** How to get published in scientific & engineering journals. ***Workshop at Pohang University of Science and Technology, Pohang, Korea, May 18, 2015.***
75. **Gardea-Torresdey, J.L. 2015.** Environmental implications of nanotechnology: Locating metal oxide nanoparticles transformation in plants using synchrotron techniques. ***III simposio Internacional de Botanica Aplicada, XXXV Encontro Regional de Botanicos, I Encontro de Taxonomistas de Minas Gerais, Lavras, Brazil, 12-15 de Mayo, 2015.***
76. **Gardea-Torresdey, J.L. 2015.** How to get published in scientific & engineering journals. ***Workshop at University of Science and Technology of China at Hefei, Hefei, China, April 5, 2015.***
77. López-Moreno, M.L., Lugo Avilés, L.E, Román, F., Lugo Rosas, J., Hernández-Viezcás, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2015.** Sludge and compost amendments in tropical soils: Impact on coriander (*Coriandrum Sativum*) nutrient content. ***ICEES 2015: XIII International Conference on Environmental and Earth Sciences, Venice, Italy, Apr 13-14, 2015.***
78. **Gardea-Torresdey, J.L. 2015.** Environmental implications of nanotechnology: Locating metal oxide nanoparticles transformation in plants using synchrotron techniques. ***Seminar at Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, Guizhou, China, March 31, 2015.***
79. **Gardea-Torresdey, J.L. 2015.** How to get published in scientific & engineering journals. ***Workshop at Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, Guizhou, China, March 30, 2015.***

80. **Gardea-Torresdey, J.L. 2015.** What Exposure conditions are used in assessing M&ENM ecological hazard potential for model organisms? ***Workshop at UCLA campus, California NanoSystems Institute, March 19-20, 2015.***
81. Zuverza-Mena, N., Medina-Velo, I.A., Barrios, A.C., Tan, W., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2015** Copper nanoparticles/compounds impact agronomic and physiological parameters in cilantro (*Coriandrum sativum*). ***SUS-SNO-GUIDENano, Sustainable Nanotechnology Conference, Mestre Venice, Italy, March 7- 15, 2015. (Nubia obtained the 2nd place “impromptu speech contest”).***
82. **Gardea-Torresdey, J.L., Majumdar, S., Peralta-Videa, J.R. 2015.** Nanoceria exposure to *Phaseolus vulgaris* alters plant physiology and shows transference to the next trophic level. ***SUN-SNO-GUIDENANO Sustainable Nanotechnology Conference 2015, Venice, Italy, March 9-11, 2015 (invited seminar).***
83. **Gardea-Torresdey, J. 2015.** Environmental implications of nanotechnology: Locating metal oxide nanoparticles transformation in plants using synchrotron techniques. ***Seminar at Institute Polytechnique La Salle Beauvais, Beauvais, France, February 17, 2015 (invited seminar).***
84. **Gardea-Torresdey, J. 2015.** Environmental implications of nanotechnology: Locating metal oxide nanoparticles transformation in plants using synchrotron techniques. ***Seminar at the Department of Chemistry and biochemistry, Florida International University, Miami, FL, January 30, 2015 (invited seminar).***
85. **Gardea-Torresdey, J. 2015.** How to get published in scientific & engineering journals. ***Workshop at College of the Environment & Ecology, Xiamen University, Xiamen, China, January 10, 2015.***
86. **Gardea-Torresdey, J. 2015.** How to get published in scientific & engineering journals. ***Workshop at Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, January 9, 2015.***
87. **Gardea-Torresdey, J. 2015.** Cerium oxide nanoparticles exposure to bean plants modifies physiological characteristics and shows translocation to the next trophic level: Are there implications in plant nutrition and human health? ***Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, January 8, 2015. Invited Seminar.***
88. **Gardea-Torresdey, J. 2015.** Environmental implications of nanotechnology. ***University of Science and Technology of China at Hefei, Hefei, China, January 7, 2015. Invited Seminar.***

89. Zuverza-Mena, N., Trujillo-Reyes, J., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2014. Colloidal Silver Reduces Water Content, Root Growth and Modifies Macromolecules in Radish (*Raphanus sativus*) Seedlings. **Materials Research Society (MRS), Boston MA, Nov. 30 - Dec. 5th 2014.**
90. **Gardea-Torresdey, J.**, Hernandez-Viezcas, J., Castillo-Michel, H. 2014. Locating metal oxide nanoparticle transformation in plants using synchrotron X-Ray. 2014 **Eastern Analytical Symposium & Exposition; the Art and Science of Analysis. Somerset, New Jersey, November 17-19, 2014.**
91. Rico, C.M., Barrios, A.C., Tan, W.J.; Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2014. Cerium oxide nanoparticles modify crop physiology and grain quality in cereals. **Graduate Research Exposition, The University of Texas at El Paso, November 14, 2014.**
92. Barrios A.C., Rico C.M., Peralta-Videa J.R., **Gardea-Torresdey J.L.** 2014. Comparison of coated and uncoated nanocerium and its effects on tomato (*Solanum lycopersicum* L.). **Graduate Research Expo, UT El Paso, Texas November 14, 2014.**
93. Majumdar, S., Trujillo-Reye, J., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2014. Trophic transfer of cerium oxide nanoparticles along a terrestrial food chain. **Graduate Research Exposition, The University of Texas at El Paso, November 14, 2014.**
94. **Gardea-Torresdey, J.L.** 2014. Environmental implications of nanotechnology: tracing nanoparticle transformations in terrestrial plants using synchrotron techniques. **Nano Monterrey 2014 International Forum, Monterrey, Mexico, November 10-11, 2014. (Keynote talk)**
95. Barrios A.C., Rico C.M., Peralta-Videa J.R., **Gardea-Torresdey J.L.** 2014. Comparison of the toxicity of uncoated and coated cerium oxide nanoparticles on tomato (*Solanum lycopersicum* L.). **Third Sustainable Nanotechnology Organization Conference, Boston, MA, November 2-4, 2014.**
96. Majumdar, S., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2014. Trophic transfer of metal oxide nanoparticles along a terrestrial food chain: an ecological risk. **Third Sustainable Nanotechnology Organization Conference, Boston, MA, November 2-4, 2014.**
97. Zuverza-Mena, N. Trujillo-Reyes, J., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2014. Colloidal silver reduces water content, root growth and modifies macromolecules in radish (*Raphanus sativus*) seedlings. **Third Sustainable Nanotechnology Organization Conference, Boston, MA, November 2-4, 2014.**
98. Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2014. Environmental implications of nanotechnology. **Seminar 101, UTEP, October 22, 2014.**

99. **Gardea-Torresdey, J.L. 2014.** Como publicar en revistas de ciencia e ingeniería. Taller impartido en la *XXXIX Semana de Química, Universidad Autónoma de Chihuahua, Chihuahua, Mexico, Octubre 7, 2014.*
100. **Gardea-Torresdey, J.L. 2014.** Implicaciones ambientales de la nanotecnología: Estudios de sincrotrón para determinar el destino de nanopartículas metálicas en plantas. *Seminario XXXIX Semana de Química, UACH, Chihuahua, Mexico, Octubre 6, 2014.*
101. Barrios A.C., Rico C.M., Peralta-Videa J.R., **Gardea-Torresdey J.L. 2014.** Comparison of coated and uncoated cerium oxide nanoparticles and their impact on tomato (*Solanum lycopersicum* L.): a toxicity study of plants grown in organic soil. *2014 SACNAS National Conference, Los Angeles, California, October 16-18, 2014.*
102. **Gardea-Torresdey, J.L. 2014.** How to get published in scientific and engineering journals. Workshop at the *Instituto Tecnológico de Nuevo Leon, Monterrey, Nuevo Leon, Mexico, Septiembre 30, 2014.*
103. **Gardea-Torresdey, J.L. 2014.** Implicaciones ambientales de la nanotecnología: Estudios de sincrotrón para determinar el destino de nanopartículas metálicas en plantas. *Instituto Tecnológico de Nuevo Leon, Monterrey, Nuevo Leon, Mexico, Septiembre 29, 2014.*
104. Barrios A.C., Rico C.M., Peralta-Videa J.R., **Gardea-Torresdey J.L. 2014.** Comparison of the toxicity of uncoated and coated cerium oxide nanoparticles on tomato (*Solanum lycopersicum* L.). *University of Texas System Louis Stokes Alliance for Minority Participation Student Research Conference and General Meeting, UT El Paso, Texas September 25-27, 2014.*
105. Holden, P. A., Nisbet, R. M., Lenihan, H. S., Schimel, J. P., **Gardea-Torresdey, J. L., Godwin, H. A. July 14, 2014.** Scaling Environmental Nanotoxicology to Ecological Endpoints: a “white paper” for Nano Risk Analysis (II): A Workshop to Explore How a Multiple Models Approach can Advance Risk Analysis of Nanoscale Materials, organized by the *Society for Risk Analysis (SRA) Emerging Nanoscale Materials Specialty Group (ENMSG) Washington, DC on September 15-16, 2014.*
106. **Gardea-Torresdey, J.L. 2014.** How to get published in scientific and engineering journals. Workshop at the Third Symposium on Agriculture and Related Sciences, Center for Education and Training in Agricultural and Related Sciences, *Inter-American University of Puerto Rico at San German, Puerto Rico, August 11-12, 2014.*
107. **Gardea-Torresdey, J.L. 2014.** Nanotechnology and the Environment. *Third Symposium on Agriculture and Related Sciences, Center for Education and Training in*

Agricultural and Related Sciences, *Inter-American University of Puerto Rico at San German, Puerto Rico, August 11-12, 2014.*

108. Barrios, A.C., Rico, C.M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2014.** Comparison of coated and uncoated cerium oxide nanoparticles and their impact on tomato (*Solanum lycopersicum* L.): A toxicity study of plants grown in organic soil. ***Third Symposium on Agriculture and Related Sciences, Center for Education and Training in Agricultural and Related Sciences, Inter-American University of Puerto Rico at San German, Puerto Rico, August 11-12, 2014.***
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109. Tamez, C., Morelius, E.W., Hernandez-Viezcas, J.A. Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2014.** Effects of copper nanoparticles on the growth and nutrient uptake of sugar cane (*Saccharum officinarum*). ***Third Symposium on Agriculture and Related Sciences, Center for Education and Training in Agricultural and Related Sciences, Mayaguez, Puerto Rico, August 11-12, 2014.***
110. **Gardea-Torresdey, J.L. 2014.** Tracing nanoparticle fate in plants using synchrotron techniques: Is there a potential risk of the transfer of nanoparticles into the food chain? ***Nanofair 2014, 10th International Nanotechnology Symposium-New Ideas for Industry, July 1-3, 2014 Dresden, Germany.***
111. **Gardea-Torresdey, J. 2014.** Theme 4: Nanoparticles ecosystems impact. Plant nano-ecotoxicology issues/concerns. ***UCSB. June 10, 2014, Invited Webinar.***
112. **Gardea-Torresdey, J.L. 2014.** Environmental implications of nanotechnology: Locating metal oxide nanoparticle transformation in plants synchrotron techniques. ***Seminar at Southwest University of Science and Technology, Mianyang, China, June 4, 2014.***
113. **Gardea-Torresdey, J.L. 2014.** How to get published in scientific & engineering journals, ***Southwest University of Science and Technology, Mianyang, China June 4, 2014.***
114. **Gardea-Torresdey, J. 2014.** Environmental implications of nanotechnology: Locating metal oxide nanoparticle transformation in plants using X-rays. Seminario, ***Instituto Tecnológico de Toluca Toluca, Mexico, Mayo 12, 2014***
115. **Gardea-Torresdey, J. 2014.** Agricultural Implications of Nanotechnology. ***UCSB. May 9, 2014, Invited Webinar.***
116. **Gardea-Torresdey, J.L. 2014.** Locating metal oxide nanoparticle transformation in terrestrial plants using X-Rays. Symposium: Applications of in-situ synchrotron radiation techniques in nanomaterials research, 2014. ***Materials Research Society Spring Meeting & Exhibit, April 21-25, 2014, San Francisco, California.***

117. **Gardea-Torresdey, J. 2014.** Writing scientific manuscripts: Tips for non-native speakers of English. ***Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV), April 9, 2014***, Mexico City, 2014 (***Invited Seminar***).
118. **Gardea-Torresdey, J. 2014.** Writing scientific manuscripts: Tips for non-native speakers of English. ***Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, April 8, 2014***, Mexico City 2014 (***Invited Seminar***).
119. **Gardea-Torresdey, J. 2014.** How to get published in scientific & engineering journals. Graduate Students Professional Development Workshop at ***the University of Texas at El Paso, April 4, 2014***.
120. Peralta-Videa, J.R.; Hong, J., **Gardea-Torresdey, J.L. 2014.** Utilización de nanomateriales en la producción agrícola: Beneficios o posibles amenazas? ***Universidad Nacional Agraria. Abril 02, 2014***, Managua, Nicaragua.
121. **Gardea-Torresdey, J. 2014.** How to Get Published In Scientific & Engineering Journals School of Environmental Science & Technology, Dalian University of Technology, Dalian, China, February 18, 2014 (***Invited Seminar***).
122. **Gardea-Torresdey, J. 2014.** Environmental Implications of Nanotechnology: Tracing Nanoparticle Transformations in Terrestrial Plants using Synchrotron Techniques. Seminar at School of Environmental Science & Technology, Dalian University of Technology, Dalian, China, February 17, 2014 ***Invited Seminar***
123. **Gardea-Torresdey, J. 2014.** Environmental Implications of Nanotechnology: Tracing Nanoparticle Transformations in Terrestrial Plants using Synchrotron Techniques ***"International Symposium on Environmental Solutions for Industrial Cities (ISESIC)" University of Ulsan, Ulsan, South Korea January 14 - January 16, 2014. Plenary Talk.***
124. **Gardea-Torresdey, J. 2014.** Environmental Implications of Nanotechnology: Locating Metal Oxide Nanoparticle Transformation in Plants Synchrotron Techniques Seminar at Ocean University of China, Qingdao, China, January 8, 2014. ***Invited Seminar.***
125. **Gardea-Torresdey, J. 2014.** Our soil phytoremediation journey: from gold to chromium. New World Environmental Services Group, Qingdao, China January 7, 2014. ***Invited talk.***
126. Rico, C.M., Barrios, A.C., Hong, J., Morales, M.I., McCreary, R., Lee, W.Y., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** The interaction of CeO₂ nanoparticles with rice: Impacts on productivity and nutritional value. ***Society of Risk Analysis 2013 Annual Meeting, December 8-11, 2013, Baltimore, Maryland.***

127. Majumdar, S., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Nanoceria biotransform in root epidermis of Kidney bean (*Phaseolus vulgaris*) and demonstrate antioxidant properties in the tissues. ***SETAC North America 34th Annual Meeting, November 17-21, 2013, Nashville, Tennessee.***
128. Hong, J., Sahi, S., Rico, C.M., Zhao, L., Peralta-Videa, J.R., and Gardea-Torresdey, J.L. 2013. Foliar uptake of CeO₂ nanoparticles by cucumber plants (*Cucumis sativus*) and the physiological impacts. ***SETAC North America 34th Annual Meeting, November 17-21, 2013, Nashville, Tennessee.***
129. Rico, C.M., Hong, J., Barrios, A.C., Morales, M.I., McCreary, R., Lee, W.Y., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2013. CeO₂ nanoparticles induce biochemical but not phenotypical modifications in rice. ***SETAC North America 34th Annual Meeting, November 17-21, 2013, Nashville, Tennessee.***
130. Morales, M.I., Rico, C.M., Hernandez-Viezcas, J.A., Nunez, J.E., Barrios, A.C., Tafuya, A., Flores-Marges, J.R., Peralta-Videa, J. R., **Gardea-Torresdey, J. L. 2013.** Toxicity assessment of cerium oxide nanoparticles in cilantro (*Coriandrum sativum* L.) plants grown in organic soil. ***Second Sustainable Nanotechnology (SNO) Conference, November 3-5, 2013, Santa Barbara, CA.***
131. Majumdar, S., Trujillo, J., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Fate of nanoceria in Red kidney beans and its filial generation: Differential response to soil quality. ***Second Sustainable Nanotechnology Conference, November 3-5, 2013, Santa Barbara, California.***
132. Moreno Olivas, F., Gant, V. U., Johnson K.L, Peralta-Videa, J. R., and **Gardea-Torresdey, J. L. 2013.** Determination of the genotoxic effects of TiO₂ nanoparticles in *Cucurbita pepo* by random amplified polymorphic DNA analysis. ***Second Sustainable Nanotechnology Organization Conference, November 3-5, Santa Barbara, California.***
133. Hong, J., Rico, C.M., Zhao, L., Peralta-Videa, J.R., and Gardea-Torresdey, J.L. 2013. Toxicity effects of seven Cu compounds/nanoparticles in lettuce (*Lactuca sativa*) and alfalfa (*Medicago sativa*). ***2nd Annual Conference of Sustainable Nanotechnology Organization, November 3-5, 2013, Santa Barbara, California.***
134. Rico, C.M., Barrios, A.C., Hong, J., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2013. Cerium oxide nanoparticles compromise the quality of rice (*Oryza sativa* L.) grains. ***2nd Annual Conference of Sustainable Nanotechnology Organization, November 3-5, 2013, Santa Barbara, California.***
135. Mukherjee, A., Bandyopadhyay, S., Rico, C.M., Zhao, L., Peralta-Videa, J.R., and Gardea-Torresdey, J.L. **2013.** Toxicity of bare ZnO NPs on green pea plants (*Pisum*

sativum L.) grown in soil. **Second Sustainable Nanotechnology Organization Conference, November 3-5, 2013, Santa Barbara, CA.**

136. Mukherjee, A., Bandyopadhyay, S., Rico, C.M., Zhao, L., Peralta-Videa, J.R., and **Gardea-Torresdey, J.L. 2013.** Toxicity of bare ZnO NPs on green pea plants (*Pisum sativum* L.) grown in soil. **246th ACS National Meeting, September 8-12, 2013, Indianapolis, Indiana.**
137. Bandyopadhyay, S., Mukherjee, A., Peralta-Videa, J.R., Plascencia-Villa, G., Rico, C.M., José-Yacamán, M., **Gardea-Torresdey, J.L. 2013.** Comparative eco-toxicities of nanoparticulate ZnO, bulk ZnO and ionic zinc (ZnCl₂) to the alfalfa-*Sinorhizobium meliloti* system in soil matrix. **246th ACS National Meeting, September 8-12, 2013, Indianapolis, Indiana.**
138. **Gardea-Torresdey, J.L. 2013,** Environmental Implications of Nanotechnology: Tracing Nanoparticle transformations in Terrestrial Plants using Synchrotron Techniques. **International Conference on Nanoscience & Technology, China 2013, September 5-7, 2013, Beijing, China. Key-note Talk**
139. **Gardea-Torresdey, J.L. 2013.** Workshop on “How to Get Published in Scientific & Engineering Journals,” **Invited Workshop at Research center for Eco-Environmental Sciences, Chinese Academy of Sciences, September 6, 2013, Beijing, China.**
140. Hong, J., Sahi, S., Rico, C.M., Zhao, L., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Translocation and physiological impacts of foliar application of CeO₂ nanoparticles on cucumber plants (*Cucumis sativus*). **246th ACS National Meeting, September 8-12, Indianapolis, Indiana.**
141. **Gardea-Torresdey, J.L.,** Servin, A.D., Morales, M.I., Barrios, A.C. **2013.** Nanotechnology in agriculture at the University of Texas El Paso. **2nd CETARS symposium, August 12-13, 2013, Mayaguez, Puerto Rico.**
142. Morales, M.I., Rico, C.M., Hernandez-Viezcás, J.A., Nunez, J.E., Barrios, A.C., Tafoya, A., Flores-Marges, J.P., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Toxicity assessment of cerium, oxide nanoparticles in cilantro (*Coriandrum sativum* L.) plants grown in organic soil. **2nd CETARS symposium, August 12-13, 2013, Mayaguez, Puerto Rico.**
143. Servin, A.D., Morales, M.I., Castillo-Michel, H., Munoz, B., Hernandez-Viezcás, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Synchrotron micro-XRF and micro-XANES confirmation of the uptake and translocation of TiO₂ nanoparticles in cucumber fruit (*Cucumis sativus* L.). **2nd CETARS symposium, August 12-13, 2013, Mayaguez, Puerto Rico.**

144. **Gardea-Torresdey, J.L. 2013.** Nanotechnology and the Environment: Tracing Nanoparticle Transformations in Terrestrial Plants using Synchrotron Techniques. **Key-note Talk. The 9th Asian Pacific Conference on Sustainable Energy and Environmental Technologies, July 5-8, 2013 Narita, Japan**
145. **Gardea-Torresdey, J.L. 2013.** Workshop on “How to Get Published in Scientific & Engineering Journals,” **Invited Workshop at Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, June 21, 2013**
146. **Gardea-Torresdey, J.L. 2013.** Environmental Implications of Nanotechnology: Locating Metal Oxide Nanoparticle Transformation in Plants using X-rays. **Invited Seminar at Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, June 19, 2013.**
147. Trujillo-Reyes, J., Majumdar, S., Peralta-Videa, J.R., **Gardea-Torresdey J.L. 2013.** Efectos fisiológicos de los óxidos nanoestructurados de hierro y cobre en lechuga (*Lactuca sativa*) y cebolla (*Allium cepa*). **XII Congreso Internacional y XVIII Congreso Nacional de Ciencias Ambientales, June 5-7, Ciudad Juárez, Chihuahua, México.**
148. **Gardea-Torresdey, J.L. 2013.** Is There a Potential Risk of the Transfer of Metal Oxide Nanoparticles into the Food Chain? **Key-note Talk, Gordon Conference, StoweLake Resort and Conference Center, Stowe, VT, June 2-7, 2013**
149. **Gardea-Torresdey, J.L. 2013.** Environmental Implications of Nanotechnology: Locating Metal Oxide Nanoparticle Transformation in Plants using X-rays, PhD **Seminar at Department of Agricultural Chemistry, National Taiwan University, Taipei, Taiwan, May 24, 2013.**
150. **Gardea-Torresdey, J.L. 2013.** Workshop on “How to Get Published in Scientific & Engineering Journals,” National **Yunlin University of Science & Technology, May 23, 2013, Yunlin, Taiwan.**
151. **Gardea-Torresdey, J.L. 2013.** Environmental Implications of Nanotechnology: Locating Metal Oxide Nanoparticle Transformation in Plants using X-rays Prof. Jorge L. Gardea-Torresdey, PhD **Seminar at Department of Environmental Engineering, National Yunlin University of Science & Technology, May 23, 2013, Yunlin, Taiwan.**
152. **Gardea-Torresdey, J.L. 2013.** Environmental Implications of Nanotechnology: Locating Metal Oxide Nanoparticle Transformation in Plants using X-rays Prof. Jorge L. Gardea-Torresdey, PhD **Seminar at Department of Environmental Engineering, National Chung-Hsing University, Taichung, Taiwan, May 22, 2013.**

153. Rico, C.M., Morales, M.I., Barrios, A.C., McCreary, R., Hong, J., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Physiological impacts of cerium oxide nanoparticles in rice plants. *UC-CEIN EH&S Forum, May 8-9, Los Angeles, CA.*
154. Bandyopadhyay, S., Mukherjee, A., Peralta-Videa, J.R., Plascencia-Villa, G., Rico, C.M., José-Yacamán, M., **Gardea-Torresdey, J.L. 2013.** Eco-toxicological effects of ZnO nanoparticles onto *Medicago sativa*-*Sinorhizobium meliloti* association: An essential symbiotic association towards N-fixation. *UC CEIN Nano EHS Forum: Scientific Advances towards Reducing Complexity in Nano EHS Decision Making. May 8, 2013 at UC-CEIN, UCLA California NanoSystems Institute.*
155. Hernandez-Viezcas, J.A., Castillo-Michel, H., Andrews, J.C., Cotte, M., Rico, C., Peralta-Videa, J.R., Ge, Y., Priester, J.H., Holden, P.A., **Gardea-Torresdey, J.L. 2013.** In Situ Synchrotron X-ray Fluorescence Mapping and Speciation of CeO₂ and ZnO Nanoparticles in Soil Cultivated Soybean (*Glycine max*). *UC-CEIN Nano EHS Forum Poster Session, May 8, Los Angeles, CA.*
156. Moreno-Olivas, F., Johnson, K. L., Peralta-Videa, J. R., **Gardea-Torresdey, J.L. 2013** Genotoxic effects of TiO₂ Nanoparticles in Zucchini Determined by Random Amplified Polymorphic DNA analysis. *UC-CEIN Nano EHS Forum Poster Session, May 8, Los Angeles, CA.*
157. Morales, M.I., Rico, C.M., Hernandez-Viezcas, J.A., Nunez, J.E., Barrios, A.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Toxicity assessment of CeO₂ nanoparticles on cilantro (*Coriandrum sativum*) growth in organic soil. **Chemistry Research Day at the University of Texas at El Paso. May 3-4.**
158. Rico, C.M., Morales, M.I., Barrios, A.C., Hong, J., McCreary, R., Lee, W.Y., Varela-Ramirez, A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** The impact of CeO₂ nanoparticles in rice. *UTEP Chemistry Research Day, May 3-4, El Paso, TX.*
159. **Gardea-Torresdey, J.L. 2013.** “Locating Metal Oxide Nanoparticle Transformation in Soybean using X-rays” **International Water Association, Symposium on Environmental Nanotechnology 2013, April 24-27, 2013, Nanjing, China.**
160. Barrios, A.C., Morales, M.I., Rico, C.M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2013.** Cerium Oxide Nanoparticles and their impact on tomato (*Solanum lycopersicum*). *Third annual UTEP Campus Office Undergraduate Research Initiative Symposium, April 20, 2013. El Paso, Texas.*
161. Moreno-Olivas, F., Pohkrel, Suman, Mädler, Lutz, Peralta-Videa, J. R., **Gardea-Torresdey, J. L. 2013.** Determination of [Zn²⁺] in aqueous solution through volumetric analysis and atomic absorption spectroscopy: effect of amino acids. **Third annual UTEP**

Campus Office Undergraduate Research Initiative Symposium, April 20, El Paso, TX.

162. **Gardea-Torresdey, J.L. 2013.** “How to Get Published In Scientific & Engineering Journals,” A Graduate Student Professional Development Workshop, **April 5, 2013, UTEP.**
163. **Gardea-Torresdey, J.L. 2013.** Use of Synchrotron Techniques to Study the Environmental Implications of Nanoparticles in the Environment: The Case of Terrestrial Plants. **Seminar at the Stockbridge School of Agriculture, University of Massachusetts Amherst, MA. April 1, 2013.**
164. **Gardea-Torresdey, J.L. 2013.** Mechanisms of Biotransformation of Metal Oxide Nanoparticles in Terrestrial Plants. **Seminar at the Department of Environmental Geosciences University of Vienna, Vienna, Austria, March 18, 2013.**
165. **Gardea-Torresdey, J.L. 2013.** Use of synchrotron techniques to study the Environmental implications of nanoparticles in the environment: The case of terrestrial Plants. **Seminar at the Department of Civil & Environmental Engineering & Earth Sciences at the University of Notre Dame, February 7, 2013.**
166. **Gardea-Torresdey, J.L. 2012.** Mechanisms of Biotransformation of Metal Oxide Nanoparticles in Terrestrial Plants. **2012 NSF Nanoscale Science and Engineering Grantees Conference, December, 3-4, 2012, Arlington, VA. (Invited Speaker).**
167. **Gardea-Torresdey, J.L. 2012.** My Journey into Environmental Technology: Impact of Metal Nanoparticles in Plants. **Society of Hispanic Professional Engineers 2012 Graduate Conference, November, 15-17, 2012, Dallas, Texas. (Invited Speaker).**
168. **Gardea-Torresdey, J.L. 2012.** Mechanisms of interaction and translocation on Nanoparticles in Plants. **107th Congress of the Italian Botanical Society, September 18-20, 2012, Benevento, Italy. (Invited Speaker).**
169. **Gardea-Torresdey, J.L. 2012.** Evidence of the differential biotransformation and genotoxicity of ZnO and CeO₂ nanoparticles on soybean (*Glycine max*) plants. **Science-Policy Translation Seminar, September, 2012, UCLA. (Invited Speaker).**
170. **Gardea-Torresdey, J.L. 2012.** Use of Synchrotron Techniques to study the Environmental Implications of Nanoparticles in the environment. **XXI International Materials Research Congress, August 12-17, 2012, Cancun, Mexico. (Invited Speaker).**
171. **Gardea-Torresdey, J.L. 2012.** Differential Effects and Translocation of Two Manufactured Metal Oxide Nanomaterials in Cultivated Soybean: Evidence for Food

- Quality and Soil Fertility. 2012 *Symposium, Center for Education and Training in Agriculture and Related Sciences (CETARS), University of Puerto Rico, August, 6-7, 2012, Mayaguez, PR. (Invited Speaker).*
172. Gardea-Torresdey, J.L. 2012. How to Get Published In Scientific Journals. 2012 *Symposium, Center for Education and Training in Agriculture and Related Sciences (CETARS), August, 6-7, 2012, Mayaguez, PR. (Invited Speaker).*
173. Gardea-Torresdey, J.L. 2012. Use of synchrotron techniques to study the Environmental implications of nanoparticles in the environment: The case of terrestrial Plants. *4th African Network of Analytical Chemists (SEANAC) Conference, July, 07-11, 2012, Maputo, Mozambique. (Invited Speaker).*
174. Gardea-Torresdey, J.L. 2012. Environmental Nanotechnology: Impact of Metal Oxide Nanoparticles in Plants. *SINO-US International Forum on Emerging Issues in Environmental Research, May 29-31, 2012, Nanjing University, China. (Invited Speaker).*
175. Gardea-Torresdey, J.L. 2012. Our phytoremediation journey: from gold to chromium (Case-study 1). *Course: Food and Agricultural Applications of Nanotechnology, University of Puerto Rico, May, 8-9, 2012, Mayaguez, PR. (Invited Speaker).*
176. Gardea-Torresdey, J.L. 2012. Environmental Nanotechnology: Impact of Metal Nanoparticles in Plants. *Enviromin 2012, March, 11-15, 2012, Loskop, South Africa. (Invited Speaker).*
177. Gardea-Torresdey, J.L. 2012. Environmental Nanotechnology: Impact of Metal Nanoparticles in Plants. *International Conference on Plant Biotechnology for Food Safety: New Frontiers 2012, February, 22-24, 2012, New Delhi. (Invited Speaker).*
178. Gardea-Torresdey, J.L. 2012. Our phytoremediation journey: from gold to chromium. *Center for Eco-Environmental Sciences, Chinese Academic Sciences, January 11, 2012, Beijing, P.R. China. (Invited Speaker).*
179. Gardea-Torresdey, J.L. 2012. How to Get Published In Scientific Journals. *Research Center for Eco-Environmental Sciences, Chinese Academic Sciences, January 10, 2012, Beijing, P.R. China. (Invited Speaker).*
180. Rico, C.M., Morales, M.I., Hong, J., Barrios, A.C., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2012. CeO₂ nanoparticles enhance lipid peroxidation in the shoot of germinating rice seeds. *SETAC North America 33rd Annual Meeting, November 11-16, Long Beach, CA.*

181. Rico, C.M., Hong, J., Morales, M.I., Barrios, A.C., McCreary, R., Lee, W.Y., Varela-Ramirez, A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** The impact of CeO₂ NPs on rice roots: the relationship between enzyme activity, membrane damage, and macromolecule contents. **UTEP Graduate Research Expo, November 9, 2012, UTEP.**
182. Servin, A.D., Hernandez, J.A., Castillo-Michel, H., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** Synchrotron confirmation of the uptake and translocation of TiO₂ NPs in cucumber (*Cucumis sativus*) plants. **First Sustainable Nanotechnology Organization (SNO) Conference, November 4-6, 2012, Washington D.C.**
183. Rico, C.M., Hong, J., Morales, M.I., Barrios, A.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** The impact of CeO₂ NPs on rice roots: the relationship between enzyme activity, membrane damage, and lipid content. **First Sustainable Nanotechnology Organization (SNO) Conference, November 4-6, 2012, Washington D.C.**
184. Morales, M.I., Barrios, A.C., Rico, C.M., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** Impact of Cerium Oxide Nanoparticles on Cilantro (*Coriandrum sativum*). **SETAC North America 33rd Annual Meeting, November 11-15, 2012, Long Beach, CA.**
185. Bandyopadhyay, S. Peralta-Videa, J. R., Plascencia Villa, G., **Gardea-Torresdey, J. L. 2012.** Toxicity assessment of CeO₂ and ZnO nanoparticles towards nitrogen fixing gram negative bacteria *Sinorhizobium meliloti* (Rm 1021). **244th American Chemical Society National Meeting, August 19th- 24th, 2012, Philadelphia, PA.**
186. Majumdar S., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** Impact of cerium oxide nanoparticles on Kidney beans (*Phaseolus vulgaris*). **244th ACS National Meeting, August 19-23, 2012, Philadelphia, Pennsylvania.**
187. Morales, M.I., Barrios, A.C., Rico, C.M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** Impact of Cerium Oxide Nanoparticles on Cilantro (*Coriandrum sativum*). **Center for Education and Training in Agricultural and Related Sciences-Symposium, August 6-8, 2012, Mayaguez, Puerto Rico.**
188. Hernandez-Viezcas, J.A. Castillo-Michel, H. Andrews, J.C. Zhao, L. Rico C.M., Priester, J. H. Ge, Y. Mielke, R.E. Horst, A.M. Moritz, S. C. Espinosa, K. Walker, S. L. Nisbet, R. M. An, Y. J. Schimel, J. P. Palmer, R. G. **Gardea-Torresdey, J. L. Holden. P. A. 2012.** Synchrotron imaging of the uptake and speciation of ZnO and CeO₂ in soil cultivated soybean (*Glycine max*)” **244th ACS National Meeting. Philadelphia, Pennsylvania, August 19-23.**
189. Servin, A.D., Hernandez, J.A., Castillo-Michel, H., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2012.** TiO₂ NPs can be taken up by roots and translocated to leaves in

cucumber (*Cucumis sativus*) plants. **244th American Chemical Society National Meeting & Exposition, August 19-23, 2012 Philadelphia, PA.**

190. Barrios A.C., Morales M.I., Rico C.M., Peralta-Videa J.R., **Gardea-Torresdey J.L.** 2012. Impact of Cerium Oxide Nanoparticles on cilantro (*Coriandrum sativum*) **Campus Office of Undergraduate initiatives Symposium. April 21, 2012, University of Texas at El Paso Chemistry and Computer Science Building.**
191. Moreno-Olivas, F., Gant, V., Montes, I., Castillo-Michel, H., Johnson, K.L. Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2012. Toxicity of TiO₂ Nanoparticles in the Genomic DNA of Cucurbita pepo. Campus Office of Undergraduate initiatives Symposium. **April 21, 2012, University of Texas at El Paso Chemistry and Computer Science Building.**
192. Servin, A.D., Castillo H.M., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2012. TiO₂ NPs can be taken up by roots and translocated to leaves in cucumber (*Cucumis sativus*) plants. 2012 NSF/EPA **Site visit to the UC Center for Environmental Implications of Nanotechnology, Los Angeles, CA, April 3-5, 2012.**
193. Servin, A.D., Castillo H.M., Hernandez-Viescas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2012. TiO₂ NPs can be taken up by roots and translocated to leaves in cucumber (*Cucumis sativus*) plants. **26th Annual Departmental Colloquium Department of Geological Sciences, UT El Paso, March 1-3, 2012.**
194. **Gardea-Torresdey, J.L.** 2011. Our phytoremediation journey: From gold to chromium. Instituto Universitario de Biotecnología de Asturias, Oviedo, **Spain, November 30, 2011 (Invited Seminar Speaker).**
195. **Gardea-Torresdey, J.L.** 2011. Environmental nanotechnology: Impacts of metal nanoparticles in plants. **Instituto Universitario de Biotecnología de Asturias, Oviedo, Spain, November 29, 2011 (Invited Seminar Speaker).**
196. **Gardea-Torresdey, J.L.** 2011. How to get published in scientific journals. **Instituto Universitario de Biotecnología de Asturias, Oviedo, Spain, November 28, 2011 (Invited Seminar Speaker).**
197. De la Rosa, G., Reyes, J.A., Figueroa Gerstenmaier, S., **Gardea-Torresdey, J.L.**, Lopez, M.L., Cruz-Jimenez, C. 2011. Natural attenuation of Cr(VI) toxicity by plants growing on a contaminated site in Mexico. **Reunion de Ingenieria y Fisica de la Universidad de Guanajuato RIyFUG 2011. Leon, Guanajuato 22-25 Nov. 2011.**
198. Moreno-Olivas, F., Gant, V., Montes, I., Servin, A.D., Castillo-Michel, H., Johnson, K.L., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2011. Genotoxicity of TiO₂

Nanoparticles in *Cucurbita Pepo*. **67th Southwest Regional ACS Meeting, Austin TX November, 9-12 2011.**

199. **Gardea-Torresdey, J. L. 2011.** Concerns of nanomaterials in the Environment: Effects on Terrestrial Plants. ***CPHEE International Conference on Chemistry of Phytopotentials: Health, Energy and Environmental Perspectives, Agra, India, November 4-6, 2011(keynote speaker).***
200. Castillo-Michel, H.; Servin, A.D.; Hernandez-Viezcas, J.A.; Gardea-Torresdey, J.G. X-ray microspectroscopy study of TiO₂ nanoparticle uptake in cucumber plants (*Cucumis sativus*). ***Science days, Grenoble, France, October 10-12, 2011.***
201. **Gardea-Torresdey, J.L. 2011.** Use of synchrotron techniques to study the environmental implications of nanoparticles in the environment: The case of terrestrial Plants. Euroanalysis, ***16th European Conference on Analytical Chemistry, Belgrade Serbia, September 11-15, 2011 (Keynote lecture).***
202. **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 (Invited talk).***
203. 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 (Invited talk).***
204. 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.***
205. 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, 2011, San Juan, Puerto Rico.***
206. 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, 2011, San Juan, Puerto Rico.***

207. **Gardea-Torresdey, J.L.** Peralta-Videa, J.R., López-Moreno, M.L., de la Rosa, G., Hernández-Viezcas, J.A., Castillo-Michel, H., Botez, C. **2011.** Uptake and Biotransformation of ZnO and CeO₂ Nanoparticles on Mesquite (*Prosopis juliflora-velutina*) and Soybean (*Glycine max*) Plants. 11th International Congress on the Biogeochemistry of Trace Elements, **Florence, Italy, July 3-7, 2011 (Invited talk).**
208. **Gardea-Torresdey, 2011.** Environmental Nanotechnology: Impact of Metal Nanoparticles in Mesquite plants. 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems, **Crete, Greece June 26-29, 2 (Invited talk).**
209. **Gardea-Torresdey, J.L. 2011.** Fate and Toxicity of Nanoparticles (NPs) in the Food Chain. 3rd International Conference from Nanoparticles and Nanomaterials to devices and Nanosystems, **Crete, Greece June 26-29, 2011 (Invited talk).**
210. **Gardea-Torresdey, J.L. 2011.** Environmental Nanotechnology: Impact of Metal Nanoparticles in Plants. Presentation at **Shanxi Agricultural University, Taigu, China June 9, 2011 (Invited talk).**
211. **Gardea-Torresdey, J.L. 2011.** How to get published. Presentation at **Shanxi Agricultural University, Taigu, China June 9, 2011 (Invited talk).**
212. **Gardea-Torresdey, J.L. 2011.** International Workshop on “Frontiers in Environmental Chemical Research.” **Pohang University of Science and Technology, Pohang Korea, May 30, 2011 (Invited talk).**
213. **Gardea-Torresdey, J.L. 2011.** Environmental Nanotechnology: Impact of Metal Nanoparticles in Plants. Presentation at BAM Bundesanstalt für Materialforschung und –prüfung, **Berlin, Germany, May 23, 2011 (Invited talk).**
214. **Gardea-Torresdey, J.L.,** Hernandez-Viezcas, J.A., Castillo-Michel, H., Servin, A.D., Peralta-Videa, J.R. **2011.** Biotransformation studies of CeO₂ and ZnO NPs in mesquite plants. **ICEIN 2011-EPA Nano-Grantees Conference, Duke University, Durham, NC, May 9-11, 2011. (Invited session chair).**
215. Servin, A.D., Hernández-Viezcas, J.A., Castillo-Miche^l H., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2011.** Effects of TiO₂ on cucumber (*Cucumis sativus*). **ICEIN 2011-EPA Nano-Grantees Conference, Duke University, Durham, NC, May 9-11, 2011.**
216. 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. **ICEIN 2011-EPA Nano-Grantees Conference, Duke University, Durham, NC, May 9-11, 2011.**

217. **Gardea-Torresdey, J.L. 2011.** Environmental nanotechnology: Impact of metal nanoparticles in Plants. **Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China, April 14, 2011 (Invited talk).**
218. **Gardea-Torresdey, J.L. 2011.** How to get published in scientific journals. **UTEP seminar, April 1, 2011.**
219. **Gardea-Torresdey, J. 2011.** “Our phytoremediation journey: From gold to chromium. **Freeport McMoRan, Tucson, AZ, March 24, 2011 (Invited talk).**
220. **Gardea-Torresdey, J.L. 2011.** Environmental Nanotechnology: Impact of metal nanoparticles in plants. **Florida Institute of Technology, Department of Chemistry, Melbourne, FL, March 17, 2011 (Invited Seminar Speaker).**
221. **Gardea-Torresdey, J.L. 2011.** How to get published in scientific journals. **University of Puerto Rico at Mayaguez, Department of Chemistry, March 1-5, 2011 (Invited talk).**
222. Armenta, R.B., Lopez, M.L., de la Rosa, G., Hernandez, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2011.** 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, 2011.**
223. **Gardea-Torresdey, J. 2011.** “Toxicity and Biotransformation of Metal Oxide Nanoparticles in the Environment. The Case of Terrestrial Plants” Department of Chemistry, **Universidad de Castilla-La Mancha, Ciudad Real, Spain, January 25, 2011 (Invited Speaker).**
224. **Gardea-Torresdey, J. 2011.** “Our Phytoremediation Journey: From Gold to Chromium” Universidad de Castilla-La Mancha, **Ciudad Real, Spain, Institute for Chemical and Environmental Technology, January 26, 2011 (Invited Speaker).**
225. **Gardea-Torresdey, J.L., López-Moreno, M.L., de la Rosa, G., Hernández-Viezcás, 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).**
226. **Gardea-Torresdey, J.L. 2010.** Biotransformation and speciation of nanoparticles on Terrestrial plants using XAS: The case of Ni(OH)₂, ZnO and CeO₂ Nanoparticles. 2° Encontro Brasileiro sobre Especificação Química (Second Brazilian Meeting on Chemical Speciation) - **EspeQ/Brasil/-São Pedro, 2010 (12-15 December 2010).**
227. **Gardea-Torresdey, J.L., López-Moreno, M.L., de la Rosa, G., Hernández-Viezcás, 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. SW/SE regional ACS meeting in **New Orleans, La November 30-December 4 2010 (Invited speaker).**

228. 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.**
229. **Gardea-Torresdey, J.** 2010. "Toxicity and biotransformation of nanoparticles on Terrestrial plants: The case of Ni(OH)₂, ZnO and CeO₂ nanoparticles." NanoScience Technology Center and Advanced Materials Processing & Analysis Center Seminar. **Orlando, FL. October 29, 2010.**
230. Castillo-Michel, H., Hernández-Viezcas, J.A., Dokken, K., Peralta-Videa, J.R. **Gardea-Torresdey, J. L. 2010.** 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.**
231. **Gardea-Torresdey, J.L. 2010.** How to get published, workshop 4th, **Chania, Crete, Greece, October 8, 2010.**
232. 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.**
233. **Gardea-Torresdey, J.L. 2010.** Biotransformation of nanoparticles in the environment: Is it a hazard? CRETE 2010, 2nd International Conference on Hazardous and Industrial Waste Management, **Chania, Crete, Greece, October 5-10, 2010 (Invited speaker).**
234. **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.**
235. De La Rosa A., Peralta-Videa JR, and **Gardea-Torresdey JL. 2010.** "Determination of Toxicity of CeO₂ Nanoparticles on Soybean Plants grown in Hydroponics," National Association of Black Geologists and Geophysicists 29th Annual Technology Conference, **San Antonio TX, 9-10 September 2010.**
236. **Gardea-Torresdey, J.L. 2010.** Toxicity and biotransformation of nanoparticles on Terrestrial plants: The case of Ni(OH)₂, ZnO and CeO₂ nanoparticles. Department of

Biotechnology, Indian Institute of Technology-Roorkee, **Roorkee, India, June 23, 2010, invited talk.**

237. Servin, A.D., Castillo, H., Peralta, J., **Gardea-Torresdey, J. 2010.** "Toxicity of TiO₂ on cucumber (*Cucumis sativus*)", NSF site visit 2010, **Los Angeles, USA, June 15th 2010.**
238. Ramirez, M.L., de la Rosa, G., Cano I., Cruz-Jimenez, G., **Gardea-Torresdey, J.L., Avila R., M. 2010.** Especiacion de cromo en biomasa de girasol mediante espectrosocpia de absorpcion de rayos X. VII Encuentro Participacion de la Mujer en la Ciencia, **Leon Guanajuato, Mexico, 26-28 de Mayo 2010.**
239. Servin, A.D., Castillo, H., Peralta, J., **Jorge Gardea-Torresdey. 2010.** "Toxicity of TiO₂ on cucumber (*Cucumis sativus*)", **ICEIN 2010, Los Angeles, USA, 11-13 May 2010.**
240. Montes, M.O, Peralta-Videa, J.R., Jose-Yacamán, M., **Gardea-Torresdey, J.L. 2010.** Biosynthesisi of gold nanoparticles using alfalfa biomass extracts. ICEIN 2010: International Conference on the Environmental Implications of Nanotechnology. **Los Angeles, CA May 11 - 13, 2010**
241. Hernandez-Viezcas JA, Lopez ML, de la Rosa G, Peralta-Videa JR, **Gardea-Torresdey JL.** Biotransformation and distribution of ZnO and CeO₂ nanoparticles in the desert plant *Prosopis juliflora velutina*, **ICEIN 2010, Los Angeles, CA, 10-13 May 2010.**
242. Gonzalez, CM, Hernandez, J, Parsons, JG, **Gardea-Torresdey, JL. 2010.** Sorption and interference batch studies of selenite (SeO₃²⁻) and selenate (SeO₄²⁻) to engineered nano-Jacobsite in aqueous solutions," 239th American Chemical Society National Meeting and Exposition, 2010, **San Francisco, CA, 21-25 March 2010.**
243. **Gardea-Torresdey, J.L. 2010.** Nanotecnologia ambiental: impacto de las nanoparticulas metalicas en plantas terrestres. X Congreso Nacional de Microscopia, **Morelia, Michoacan, Mexico, May 23-27, 2010, Invited talk.**
244. Acevedo, C., **Gardea-Torresdey, J., Tarquin, A. 2010.** Silica removal from brine by using ion exchange. EWRI 2010, World Environmental & Water Resources Congress 2010, Providence, **Rhode Island, May 16-20, 2010.**
245. **Gardea-Torresdey, J. L. 2010** Toxicity and biotransformation of uncoated and coated nickel hydroxide nanoparticles on mesquite plants, Department of Chemistry, **West Virginia University, April 7, 2010. Invited seminar speaker.**
246. **Gardea-Torresdey, J.L. 2010.** My phytoremediation journey. 3rd Symposium Consortium Japan-Mexico-United States of Technological Engineering, University of Guanajuato, Gto., Mexico, **March 8, 2010, keynote talk.**

247. **Gardea-Torresdey, J.L. 2010.** Toxicity and biotransformation of $\text{Ni}(\text{OH})_2$ nanoparticles. University of Florida, Gainesville, FL, **March 12 2010, invited seminar speaker.**
248. **Gardea-Torresdey, J.L. 2010.** Impacto ambiental de nanopartículas metálicas en plantas terrestres. Pontificia Universidad Católica de Puerto Rico, Colegio de Ciencias, Programa PR-LSAMP, **Ponce, PR, February 26, 2010, Distinguished 2010 Spring Seminar speaker.**
249. **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, invited talk.**
250. **Gardea-Torresdey, J.L. 2009.** A Tribute to Gary Eiceman: Introductory remarks. 65th Southwest Regional Meeting of the ACS, **El Paso, TX November 4-7, 2009. Invited talk**
251. **Gardea-Torresdey, J.,** de la Rosa, G., Lopez-Moreno, M., Hernandez-Viezcas, J., Castillo-Michel, H., Peralta-Videa, J. **2009.** Biological transformation of nanoparticles in soybean plants via x-ray absorption spectroscopy. 65th Southwest Regional Meeting of the ACS, **El Paso, TX November 4-7, 2009. Invited talk.**
252. 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*). 65th Southwest Regional Meeting of the ACS, **El Paso, TX November 4-7, 2009.**
253. 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*. 65th Southwest Regional Meeting of the ACS, **El Paso, TX November 4-7, 2009**
254. 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 CeO_2 nanoparticles by RAPD. Annual Biomedical Research Conference for Minority Students (ABRCMS). **Phoenix, AZ, November 4-7, 2009 (2009 ABRCMS First Place Presentation Award)**
255. **Gardea-Torresdey, J.L.,** de la Rosa, G., Lopez, M.L., Hernandez, J.A., Castillo-Michel H. Peralta-Videa, J.R., **2009.** CeO_2 and ZnO nanoparticles undergo differential biological transformations in soybean plants. ACS Southeaster regional meeting, **San Juan Puerto Rico, October 21-24, 2009 (Invited speaker).**
256. Gonzalez, C. M., Hernandez, J.E., Parsons, J.G., **Gardea-Torresdey, J.L. 2009.** Sorption of selenite (SeO_3^{2-}) and selenate (SeO_4^{2-}) to engineered nano-Jacobsite. 2009 National

Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**

257. Hernandez, J.E., Gonzalez, C.M., Parsons, J.G., **Gardea-Torresdey, J.L. 2009.** Sorption of Chromium(III) and Chromium(VI) to high and low pressure nano-magnetite particles (Fe_3O_4). 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**
258. López-Moreno, M.L., de la Rosa, G., Hernández-Viezcas, J.A., Armenta, R.B., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2009.** Toxicity of ZnO and CeO₂ nanoparticles to *Glycine max* Seedlings: effects on germination, root growth and metal uptake. 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**
259. Hernandez-Viezcas, **J.A.**, Lopez-Moreno, M.L., de la Rosa, G., Peralta-Videa, J.R., Armenta, R.B. de Haro, D., **Gardea-Torresdey, J.L. 2009.** ZnO nanoparticle toxicity on mesquite (*Prosopis juliflora*) sprouts. 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**
260. 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*). 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**
261. de la Rosa, G., Lopez, M.L., Armenta, R., Hernández-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2009.** Nanotoxicity assessment for ZnO and CeO₂ in *Salsola kali*, a desert plant species. 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**
262. Castillo-Michel, H., Dokken, K.M., Peralta-Videa, J.R., Gardea-Torresdey, J.L. 2009. Phytostabilization of arsenic by three species of the Parkinsonia plant genus. 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**
263. **Gardea-Torresdey, J.L. 2009.** How to get published in Chemistry. Department of Chemistry Workshop, **UTEP Chemistry Department, October, 2, 2009.**
264. 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**
265. Floyd, K.W., Parsons, J.G., **Gardea-Torresdey, J.L.**, Walsh, E.J., Lieb, C.S. **2009.** Occurrence of road and traffic associated heavy metals in soil sediments in

southern New Mexico. International Conference on Ecology and Transportation, **Duluth, MN. September 16, 2009.**

266. 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 for Environmental Implications of Nanotechnology. **Washington, DC, September 9-11, 2009.**
267. 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 for Environmental Implications of Nanotechnology. **Washington, DC, September 9-11, 2009.**
268. **Gardea-Torresdey, J.L. 2009.** Co-Chair of the workshop: Development of new methods for measurement of Nanoparticles in complex media. International Meeting of the NSF Centers for Environmental Implications of Nanotechnology. **Washington, DC, September 11, 2009 Keynote talk.**
269. de la Rosa, G., López-Moreno, M.L. Hernández-Viezcas, J.A., Castillo-Michel, H, Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2009.** CeO₂ and ZnO NPs undergo differential biological transformations in soybean plants. International Meeting of the NSF Centers for Environmental Implications of Nanotechnology. **Washington, DC, September 9, 2009 (Invited talk).**
270. **Gardea-Torresdey, J.L., 2009.** A Tribute to Bill Glaze: A leader in Environmental Science and Technology, Introductory remarks. American Chemical Society, Division of Environmental Chemistry, 238th ACS National Meeting, **Washington, DC, August 16-20, 2009 (Organizer and Keynote speaker).**
271. **Gardea-Torresdey, J.L. 2009.** World synchrotrons. University of Puerto Rico, Mayaguez campus **August 5, 2009 (Invited talk).**
272. **Gardea-Torresdey, J.L. 2009.** How to get published in Chemistry. University of Puerto Rico, Mayaguez campus workshop, **August 4, 2009.**
273. Del Toro, I., Borrok, D., Floyd, K.W., **Gardea-Torresdey, J.L. 2009.** Heavy Metal Distribution and Bioaccumulation in Chihuahuan Desert Rough Harvester Ant (*Pogonomyrmex rugosus*) Populations. 94th Ecological Society of America Annual Meeting, **Albuquerque, NM. August 4, 2009.**
274. Castillo-Michel, H., Dokken, K.M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2009.** Study of localization and chemical forms of arsenic in three species of the *Parkinsonia* plant

- genus using X-ray spectromicroscopy. 10th International Conference on the Biogeochemistry of Trace Elements, **Chihuahua City, Mexico, Julio 13-16, 2009.**
275. Hernandez-Viezcas, J.A., López-Moreno, M.L., Peralta-Videa J.R., **Gardea-Torresdey, J.L. 2009.** Application of laser ablation inductively coupled plasma mass spectroscopy for lead, copper, and nickel quantification in mesquite (*Prosopis*) tissues. 10th International Conference on the Biogeochemistry of Trace Elements, **Chihuahua City, Mexico, Julio 13-16, 2009.**
276. **Gardea-Torresdey, J.L. 2009.** Environmental Nanotechnology: Impact of metal nanoparticles in plants. Cátedra Dr. Mario Molina, Nobel Laureate in Chemistry” Universidad Autónoma del Estado de México, **Toluca, Mexico, 24 de Junio de 2009** Keynote Lecture.
277. Cano-Resendiz, O. de la Rosa-Alvarez. G., Robinson, B., **Gardea-Torresdey, J.**, Cruz-Jimenez, G., Cano-Rodriguez, I., Fuentes-Ramirez, R., Galindo-Esquivel, I. **2009.** Aplicacion de fitoremediation en sitios contaminados con metales pesados empleando el phyto-dss (pytoremediation decisión support system). XXX Encuentro Nacional de **AMIDIQ, May 19-22, 2009.**
278. 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.**
279. 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.**
280. 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.**
281. **Gardea-Torresdey, J.L. 2009.** My phytoremediation journey and metal nanoparticle formation using plants. Invites Seminar Speaker, **Stevens Institute of Technology**, Nanotechnology Graduate Program, Nanotechnology Seminar Series Spring 2009. **April 8, 2009.**
282. **Gardea-Torresdey, J.L. 2009.** Environmental Engineering Program - "The Impact of stabilized and non-stabilized nickel hydroxide nanoparticles on mesquite plants. Invited Seminar Speaker, Department of Environmental Engineering, **University of Connecticut**, **March 4, 2009**
283. **Gardea-Torresdey, J.L. 2009.** How to get published. Invited Seminar Speaker, **Taiwan National Central University, Taiwan February 26, 2009.**

284. **Gardea-Torresdey, J.L. 2009.** Enhancement of lead phytoextraction by *Medicago sativa* assisted by phytohormones and EDTA: Effects of Nanotechnology in the Environment. Invited Seminar Speaker, **Taiwan National Central University, Taiwan February 26, 2009.**
285. **Gardea-Torresdey, J.L. 2009.** How to get published. Invited Seminar Speaker, **National Chung Hsing University, Taiwan, February 25, 2009.**
286. **Gardea-Torresdey, J.L. 2009.** Enhancement of lead phytoextraction by *Medicago sativa* assisted by phytohormones and EDTA: Effects of Nanotechnology in the Environment. Invited Seminar Speaker, **National Chung Hsing University, Taiwan February 25, 2009.**
287. **Gardea-Torresdey, J.L. 2009.** How to get published. Invited Seminar Speaker, **National Cheng Kung University, Taiwan February 24, 2009.**
288. **Gardea-Torresdey, J.L. 2009.** Enhancement of lead phytoextraction by *Medicago sativa* assisted by phytohormones and EDTA: Effects of Nanotechnology in the Environment. Invited Seminar Speaker, **National Cheng Kung University, Taiwan February 24, 2009.**
289. **Gardea-Torresdey, J.L. 2009.** The impact of stabilized and non-stabilized nickel hydroxide nanoparticles on mesquite plants. Invites seminar speaker, **Department of Environmental Engineering University of California Santa Barbara, February 12, 2009**
290. **Gardea-Torresdey, J.L. 2009.** Phytoremediation of heavy metals and studies of the impact of nanoparticles in the environment. Seminar speaker. **UTEP Department of Chemistry. January 23, 2009.**
291. 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.**
292. **Gardea-Torresdey, J. L. 2008.** The impact of stabilized and non-stabilized nickel hydroxide nanoparticles on mesquite plants. 32nd **ACS Senior Technical Meeting “Chemistry for Life” Rincon, Puerto Rico, November 21, 2008.**
293. **Gardea-Torresdey, J. L. 2008.** Enhancement of lead phytoextraction by *Medicago sativa* assisted by phytohormones and EDTA. Environmental Implications of Nanotechnology. Presentation at **University of Puerto Rico-Mayaguez November 20, 2008.**

294. 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**
295. 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.**
296. 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.**
297. Haque, N., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2008.** Differential influence of metal son 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.**
298. **Gardea-Torresdey, J.L. 2008.** Removal of Hazardous Heavy Metals Using Phytoremediation. Abu Dhabi Medical Congress 2008, **Abu Dhabi National Exhibition Center, 26-28 October 2008.**
299. 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**).
300. 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.
301. 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.

302. **Gardea-Torresdey, J.L.**, Haque, N., Peralta-Videa, J.R. Jones, G.L. **2008**. Determination of the phytoremediation potential of Desert broom (*Baccharis sarathroides* Gray) growing on mine tailings in Arizona, USA, 1st International Conference on Hazardous Waste Management, Chania-Crete, Greece, October 1-3, 2008.
303. **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.**
304. **Gardea-Torresdey, J.L. 2008**. Our phytoremediation journey: from gold to chromium. Invited Keynote Speaker at the Protection and Restoration of the Environment IX (PRE9) Conference. **Kefalonia, Greece, June 29-July 3, 2008.**
305. **Gardea-Torresdey, J.L. 2008**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at School of Environmental Science and Engineering, Pohang University of Science and Technology, **Pohang, South Korea 790-784, May 2008.**
306. Cabrera, L., Dokken, K., Lopez, M., Peralta-Videa, J., **Gardea-Torresdey, J. 2008**. Using infrared imaging to determine changes in plant structure of alfalfa plants exposed to plant hormones. **UTEP Research Expo 2008, April 17, 2008.**
307. **Gardea-Torresdey, J.L. 2008**. Absorción de metales, bioreducción y formación de nanopartículas en plantas, UAQ, **Queretaro, Mexico, April 11, 2008.**
308. **Gardea-Torresdey, J.L. 2008**. Absorción de Metales, Bioreducción y Formación de Nanopartículas en Plantas, CIDETEQ, **Queretaro, Mexico, April 11, 2008.**
309. **Gardea-Torresdey, J.L. 2008**. Absorción de Metales, Bioreducción y Formación de Nanopartículas en Plantas, Conferencia Plenaria at El Club Rotario Ciudad Juarez, Mexico, **April 4, 2008.**
310. **Gardea-Torresdey, J.L. 2008**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at McNeese State University **Lake Charles, Louisiana, March 20, 2008.**
311. **Gardea-Torresdey, J.L. 2008**. The role of plants in environmental science research. Presentation at the March Meeting of the Southwest Louisiana Section of American Chemical Society. **Lake Charles, Louisiana, March 19, 2008.**
312. **Gardea-Torresdey, J.L. 2007**. Metal Uptake, Reduction, and Nanoparticle Formation by Plants. **Keynote Speaker Honoring Juan Arratia**, Universidad Metropolitana, **San Juan Puerto Rico, December 10, 2007.**

313. 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.**
314. **Gardea-Torresdey, J.L. 2007.** Metal Uptake, Reduction, and Nanoparticle Formation by Plants. **Invited Seminar Speaker at the Department of Chemistry and Biochemistry, University of California at Los Angeles, Los Angeles, CA, November 1, 2007.**
315. de la Rosa, G., Cruz-Jimenez, G., Cano-Aguilera, I., Fuentes, R., **Gardea-Torresdey, J.L. 2007.** Understanding metal biotransformation in plants using X-ray atomic absorption spectroscopy. Materials Characterization Symposium, XVI International Materials Research Congress, **Cancun, Mexico, October 28-November 1.**
316. 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.**
317. 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.**
318. 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**)
319. 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.**
320. 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.**

321. 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.
322. 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.**
323. 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.
324. 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.
325. **Gardea-Torresdey, J.L.** **2007.** Metal Uptake, Reduction, and Nanoparticle Formation by Plants. **Invited Seminar Speaker in at the SAS-Chicago, Society for Applied Spectroscopy**, Chicago, IL, September 20, 2007.
326. **Gardea-Torresdey, J.L.** **2007.** Euroanalysis XIV (**Invited session chair**), Antwerp, Belgium, September 9-14, 2007.
327. **Gardea-Torresdey, J.L.** **(2007).** Absorción de Metales, Bioedución y Formación de Nanopartículas en Plantas. (Orador invitado). Universidad Autonoma de San Luis Potosi, Agosto 22, 2007
328. **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.
329. **Gardea-Torresdey, J.L.** **(2007).** Metal Phytoremediation and Nanoparticle Formation by Plants. Invited seminar speaker, facultad de Quimica, Universidad de Guanajuato, June 1, 2007.
330. **Gardea-Torresdey, J.L.** **(2007).** Absorción de Metales, Bioedución y Formación de Nanopartículas en Plantas. (Orador invitado) Instituto Tecnológico de Toluca, mayo 5, 2007

331. **Gardea-Torresdey, J.L.**, Parsons, J.G., Lopez, M.L., Martinez-Martinez, A., Peralta-Videa, J.R. ICP-MS and X-ray absorption spectroscopy studies of the arsenic uptake and speciation in corn plants. Taormina, Italy, February 13-19, 2007.
332. **Gardea-Torresdey, J.L. 2007.** Metal Uptake, Reduction, and Nanoparticle Formation by Plants. Presentation at Baylor University (**Invited Seminar Speaker in the Department of Chemistry and Biochemistry**), Waco, Texas, January 7, 2007.
333. 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**).
334. 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 Sciences, UTEP Research Expo, April 15, 2007.
335. 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.
336. 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.
337. 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.
338. Arias, J., Peralta-Videa, J.R., **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.
339. 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*. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.

340. 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. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
341. 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. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
342. 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*. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
343. Parsons, J.G., de la Rosa, G., **Gardea-Torresdey, J.L.** **2007**. Chromium uptake and speciation by both desert and non-desert plant species. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
344. 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*). 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
345. 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. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
346. Israr, M., **Gardea-Torresdey, J.L.**, Sahi, S.V. **2007**. Chromium accumulation and its influence on growth and antioxidative system in *Sesbania drummondii*. 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.
347. de la Rosa, G., Martinez-Martinez, A., Pelayo, H., Peralta-Videa, J.R., Sanchez Salcido, B., Cano-Aguilera, I., **Gardea-Torresdey, J.L.** **2006**. El transporte de cadmio en *Salsola kali*: una planta desértica con potencial fitorremediador de suelos áridos, Water and Soil Remediation Technologies, Universidad de Guanajuato, December 11-12, 2006.
348. Marshall, A.T., Haverkamp, R.G., Davies, C.E., Parsons, J.G., **Gardea-Torresdey, J.L.**, Van Agterveld, D. **2006**. Release of Gold Nanoparticles from Phytomined Biomass by Enzymatic Digestion. The 2006 American Institute of Chemical Engineering, Nanoscale Science and Engineering, San Francisco, CA, November 12-17, 2006.
349. **Gardea-Torresdey, J.L.** **2006**. Metal Phytoremediation and Nanoparticle Formation by Plants. ExpoChem 2006 Conference; "Chemistry in the New Millennium." November 9-

- 11, 2006 (**Invited Plenary Speaker**). University of Puerto Rico-Mayaguez, Mayaguez, Puerto Rico.
350. **Gardea-Torresdey, J.L. 2006.** Metal Phytoremediation and Nanoparticle Formation by Plants. Centro Internacional para el Estudio del Medio Ambiente y Desarrollo Sostenible Second Annual Meeting & International Environmental Conference. November 3-5, 2006 (**Invited Distinguished Plenary Speaker**). University of Turabo, Gurabo, Puerto Rico.
351. Montes, MO, Grusak, MA, Parsons, JG, Peralta-Videa JR, **Gardea-Torresdey, JL 2006.** Study of the effects of chromium exposure on sulfur 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.**
352. 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.**
353. 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.
354. Maldonado, J, Parsons, JG, **Gardea-Torresdey, JL. 2006.** Enhancement of arsenic removal by biomaterials using iron enrichment with wheat biomass. 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, Tampa, FL, October 26-29, 2006.
355. 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.
356. 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.
357. Haque, N, **Gardea-Torresdey, JL**, Mokgalaka, NS. **2006.** Equilibrium Isotherm Aspects for Arsenic Adsorption to Sorghum Biomass. 2006 SACNAS (Society for

Advancement of Chicanos and Native Americans in Science) National Conference, Tampa, FL, October 26-29, 2006.

358. Castillo-Michel, H, Zuverza-Mena, N, Parsons, JG, Peralta-Videa, JR, **Gardea-Torresdey, J.L. 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.
359. **Gardea-Torresdey, J.L. 2006.** Metal Uptake, Reduction, and Nanoparticle Formation by Plants. Presentation at Rice University, October 20, 2006 (**Invited Seminar Speaker in the Department of Civil and Environmental Engineering**). Houston, Texas.
360. **Gardea-Torresdey, J.L. 2006.** Metal Uptake, Reduction, and Nanoparticle Formation by Plants. Presentation at the University of South Florida, October 6, 2006 (**Invited Seminar Speaker in the Departments of Chemistry and Chemical Engineering**). Tampa, Florida.
361. Haque, N, Mokgalaka, NS **Gardea-Torresdey, J.L. 2006.** Hyperaccumulation of Arsenic by Sorghum Biomass in soil medium. 232rd ACS National Meeting, San Francisco, CA September 10-14, 2006.
362. **Gardea-Torresdey, J.L. 2006.** Phytoremediation of Metals and Nanoparticle Formation by Plants. Presentation at the University of Texas-San Antonio, September 1, 2006 (**Invited Seminar Speaker by the MARC-SCORE NIH Program**). San Antonio, Texas.
363. Hurtado, R., **Gardea-Torresdey, J.L. 2006.** Exposure to selenium in drinking water at “Los Altos de Jalisco, “Mexico. Selenium 2006, 8th International Symposium on Selenium in Biology and Medicine, University of Wisconsin, Madison, July 25-30, 2006.
364. Haque, M.N., Morrison, G.M., Cano-Aguilera, I., **Gardea-Torresdey, J.L. 2006.** Iron-modified light expanded clay aggregates for the removal of arsenic from groundwater. Zeolite 06-7th International Conference on the Occurrence, Properties, and Utilization of Natural Zeolites; Socorro, New Mexico, July 16-21, 2006. **Zeolite 06 Honorable Mention Student Poster Presentation Award Winner.**
365. 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.
366. de la Rosa, G., Parsons, J., R., Martinez, A., Cruz-Jimenez, G., Cano-Rodriguez, I., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2006.** Impacto de la especiacion de arsénico

en la absorcion de arsénico y fosforo en *Salsola kali*. XI Congreso Internacional y Nacional de Ciencias Ambientales. Oaxtepec, Morelos, Mexico. June 7-9, 2006.

367. 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.
368. Haque, N., Peralta-Videa, J.R., Jones, G.L., Merrell, D., Emmons, D.J., **Gardea-Torresdey, J.L. 2006.** Determination of phytoremediation potential of desert plants grown in a mine tailings reclamation project. 2006 South Central Regional SETAC Meeting, Denton, TX May 18-20, 2006. **Award of Excellence, First Place Oral Presentation Award Winner.**
369. 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.
370. 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.
371. de la Rosa-Alvarez, G., Gonzalez, G., A., H., Peralta-Videa J.R., Cruz Jiménez, G., Cano-Aguilera, I., **Gardea-Torresdey, J.L. 2006.** Efecto del EDTA en la absorpcion y traslocacion de Pb en *Salsola kali*. XXVII Simposio internacional de la Academia Mexicana de Investigación y Docencia en Ingenieria Quimica. Ixtapa, Mexico May 2-5, 2006.
372. M. L. Lopez, **Gardea-Torresdey, J.L. 2006.** Nanopartículas en Plantas Presentation at the Universidad Autonoma de Ciudad Juarez; Ciencia en la Frontera Symposium, April 29, 2006 (**Invited Seminar Speaker**).
373. **Gardea-Torresdey, J.L. 2006.** Metal Uptake, Reduction, and Nanoparticle Formation by Plants. Presentation at New Mexico State University, April 20, 2006 (**Invited Seminar Speaker in the Department of Chemistry**).
374. 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.
375. 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

376. 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
377. 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.**
378. **Gardea-Torresdey, J.L. 2006**. Metal Uptake, Reduction, and Nanoparticle Formation by Plants. Presentation at Western Kentucky University, April 14, 2006 (**Invited Seminar Speaker in the Department of Biology**).
379. 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.**
380. 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. 231st American Chemical Society National Meeting, Division of Environmental Chemistry, Atlanta, GA, March 26-30, 2006
381. 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. 231st American Chemical Society National Meeting, Division of Environmental Chemistry, Atlanta, GA, March 26-30, 2006
382. Haque, N., Mokgalaka, N.S., **Gardea-Torresdey, J.L. 2006**. Uptake and translocation of arsenate and arsenite in sorghum (*Sorghum Biocolor*) under hydroponic conditions. 231st American Chemical Society National Meeting, Division of Environmental Chemistry, Atlanta, GA, March 26-30, 2006
383. Rodriguez, E., Sanchez-Salcido, B.E., Peralta-Videa, J.R., Romero, J., Cruz-Jimenez, G., **Gardea-Torresdey, J.L. 2006**. Phytomining gold: soil trials. 231st American Chemical Society National Meeting, Division of Environmental Chemistry, Atlanta, GA, March 26-30, 2006.
384. **Gardea-Torresdey, J.L. 2006**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at the University of Puerto Rico at Mayaguez. February 7, 2006 (**Invited Seminar Speaker in the Department of Chemistry**).

385. **Gardea-Torresdey, J.L.** Peralta-Videa, J., Parsons J., Gomez, E, **2006**. Study of the Metal uptake, reduction, and nanoparticle formation by plants. Presentation at The Nano-Scale Processes in Earth and Planetary Sciences NSF Workshop. January 11-13, 2006, Albuquerque, New Mexico, **(Invited Seminar Speaker)**.
386. **Gardea-Torresdey, J.L. 2005**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at the University of Texas at San Antonio. November 18, 2005, San Antonio, Texas **(Invited Seminar Speaker in the Department of Earth and Environmental Sciences)**.
387. **Gardea-Torresdey, J.L. 2005**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at Texas A & M University at Kingsville, Kingsville, Texas. November 11, 2005. **(Invited Seminar Speaker in the Department of Environmental Engineering)**.
388. **Gardea-Torresdey, J.L. 2005**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at the University of Texas at Austin. November 3, 2005, Austin, Texas **(Invited Seminar Speaker in the Chemistry Department)**.
389. Cruz Jiménez G, Díaz Jiménez DF., **Gardea-Torresdey JL.** , Peralta Videa JR., de la Rosa Alvarez G, Rodríguez Rodríguez, E. **2005**. Estudio de la acumulación y especiación de selenio en *Hesperaloe parviflora* (yuca roja). XXXVIII Congreso Nacional de Ciencias Farmaceuticas/III Congreso Internacional, Cancún, Mexico October 23-27, 2005.
390. E. Rodriguez, **Gardea-Torresdey J.L. 2005**. Using the Desert Plant *Chilopsis linearis* for Gold Phytomining. Emerging Technologies for a Sustainable Environment, 2005 EPA Conference. South Padre Island, Texas, October 20-21.
391. López, M.L., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Benitez, T. **2005**. Phytohormones and EDTA: Enhancing Phytoremediation of lead by *Medicago sativa* (alfalfa). Emerging Technologies for a Sustainable Environment, 2005 EPA Conference. South Padre Island, Texas, October 20-21.
392. Castillo-Michel, H., Martinez-Martinez, A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2005**. Amylase activity in response to chromium and arsenic uptake in *Pisum sativum* (peas). Emerging Technologies for a Sustainable Environment, 2005 EPA Conference. South Padre Island, Texas, October 20-21.
393. Haque, Nazmul, **Gardea-Torresdey, J.L. 2005**. Application of Chemical Modification for Finding Arsenic Binding Mechanism to Sorghum. Emerging Technologies for a Sustainable Environment, 2005 EPA Conference. South Padre Island, Texas, October 20-21.

394. **Gardea-Torresdey, J.L. 2005.** Absorción de Metales, Bio reducción y Formación de Nanopartículas en Plantas Octubre 17, 2005, Parral Chihuahua, Mexico. Parral Institute of Technology **(Invited Key-note Speaker in the celebration of the 30th anniversary of the Foundation of the Parral Tech).**
395. Cruz Jiménez G, **Gardea-Torresdey J.L.** , Peralta Videa JR., de la Rosa Alvarez G, Rodríguez Rodríguez, E. **2005.** Aplicación de la espectroscopia de absorpcion de rayos-X en la especiacion de selenio en especies vegetales del desierto de Chihuahua. XIX Congreso Nacional de Quimica Analitica, Guadalajara, Mexico October 11-13, 2005.
396. **Gardea-Torresdey, J.L. 2005.** Metal uptake, reduction, and nanoparticle formation by plants. Presentation at Florida Atlantic University. October 7, 2005, Boca Raton, Florida **(Invited Seminar Speaker in the Chemistry Department).**
397. **Gardea-Torresdey, J.L. 2005.** Metal uptake, reduction, and nanoparticle formation by plants. Presentation at the University of Puerto Rico, Recinto de Rio Piedras, San Juan, Puerto Rico. September 12, 2005. **(Invited Seminar Speaker in the Chemistry Department).**
398. 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.**
399. Torres, J., Peralta-Videa, J.R., Parsons, J.G., **Gardea-Torresdey, J.L. 2005.** Study of gold nanoparticle production by corn (*Zea mays*). 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.
400. Arias, J., Peralta-Videa, J.R., Zuverza, N., **Gardea-Torresdey, J.L. 2005.** Effects of Glomus Spp. on Cr(III), Cr(VI), and Pb(II) uptake by mesquite (*Prosopis* spp.). 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.
401. Montes, M.O., Grusak, M.A., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Parsons, J.G. **2005.** Physiological aspects of chromium accumulation. 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.
402. Benitez, T., Parsons, J.G., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2005.** Phytofiltration for uranyl nitrate salt 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.

403. Castillo-Michel, H., Martinez-Martinez, A., Peralta-Videa¹, J.R., **Gardea-Torresdey, J.L.** 2005. Amylase activity in response to chromium and arsenic uptake in *Pisum sativum* (peas). 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.
404. Rodriguez, E., **Gardea-Torresdey, J.L.**, Sanchez-Salcido, B., Peralta-Videa, J.R., Parsons, J.G., Romero, J., Delgado, M. 2005. Phytomining gold: soil trials. 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.
405. Delgado-Rios, M., **Gardea-Torresdey, J.L.**, Keer-Rendon, A., Manzanares, L., Parsons, J.G., Peralta-Videa, J.R., Rodriguez, E. 2005. Microenvironmental monitoring of contaminants: an evaluation of personal exposure at Chihuahua City. 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.
406. de la Rosa-Alvarez, G., Martínez-Martínez, A., Pelayo, H., Peralta-Videa J.R., Sanchez-Salcido, B., Cano-Aguilera, I., **Gardea-Torresdey, J.L.** 2005. El transporte de cadmio en *Salsola kali*, una planta desertica como potencial fitorremediador de suelos aridos. Simposio internacional El conocimiento Botanico en la Gestion Ambiental y el Manejo de Ecosistemas/2do Simposio Botanico del Norte de Mexico, Durango, Dgo., Mexico Septiembre 13-15, 2005.
407. Castillo-Michel, H., Martinez-Martinez, A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2005. actividad de la enzima alfa-amilasa en respuesta a la toma de cromo en *Pisum sativum* (chicharos). Simposio internacional El conocimiento Botanico en la Gestion Ambiental y el Manejo de Ecosistemas/2do Simposio Botanico del Norte de Mexico, Durango, Dgo., Mexico Septiembre 13-15, 2005.
408. Cruz Jiménez G, Díaz Jiménez DF., **Gardea-Torresdey JL.** , Peralta Videa JR., de la Rosa Alvarez G, Rodríguez Rodríguez, E. 2005. Estudio de la acumulación y especiación de selenio en *Hesperaloe parviflora* (yuca roja). Simposio internacional El conocimiento Botanico en la Gestion Ambiental y el Manejo de Ecosistemas/2do Simposio Botanico del Norte de Mexico, Durango, Dgo., Mexico September 13-15, 2005.
409. Lopez, M.L., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Benitez, T. 2005. Role of Phytohormones on the phytoextraction of lead by *Medicago sativa* (alfalfa). 2005 HBCU/MI ETC Environmental Technology Consortium National Meeting, Howard University, Washington, D.C. July 21-22, 2005.

410. Peralta-Videa, J.R., Cruz-Jimenez, G., Parsons, JG, de la Rosa, G., **Gardea-Torresdey, J.L.** 2005. Effect of sulfate concentration on selenium uptake and speciation in *Convolvulus arvensis*. 2005 South Central/Southwest Joint Regional Meeting, Balcones Springs Conference Center, Marble Fall, TX, May 12-14, 2005.
411. Peralta-Videa, J.R., Cruz-Jimenez, G., Parsons, JG, de la Rosa, G., **Gardea-Torresdey, J.L.** 2005. Effect of sulfate concentration on selenium uptake and speciation in *Convolvulus arvensis*. 2005 South Central/Southwest Joint Regional Meeting, Balcones Springs Conference Center, Marble Fall, TX, May 12-14, 2005.
412. Lopez, M.L., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Benitez, T. 2005. Role of kinetin on the phytoextraction of lead by *Medicago sativa* (alfalfa). 2005 South Central/Southwest Joint Regional Meeting, Balcones Springs Conference Center, Marble Fall, TX, May 12-14, 2005.
413. Torres, J., Peralta-Videa, J.R., Parsons, JG, Castillo-Michel, H., Lopez, M.L., de la Rosa, G., **Gardea-Torresdey, J.L.** 2005. Uptake and reduction of gold by corn (*Zea mays*) studied in hydroponics and agar media. 2005 South Central/Southwest Joint Regional Meeting, Balcones Springs Conference Center, Marble Fall, TX, May 12-14, 2005.
414. Arias, J. Cruz-Jimenez, G., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** 2005. Study of Slenium uptake and tolerance by *Tecoma stans* (yellow bells). UTEP Research Expo. April 15, 2005.
415. Armendariz, V., Herrera, I., Parsons, J. **Gardea-Torresdey, J.L.** 2005. Gold nanoparticle formation by *Avena sativa* and *Triticum aestivum*. UTEP Research Expo. April 15, 2005.
416. de la Rosa, G., Peralta-Videa, J.R., Martinez, A. **Gardea-Torresdey, J.L.** 2005. Agar and hydroponics studies on Pb(II) absorption by tumbleweed (*Salsola kali*): effect of EDTA on Pb(II) uptake and translocation. UTEP Research Expo. April 15, 2005.
417. Montes, M.O., Peralta-Videa, J.R., Martinez-Martinez, Alejandro, Castillo-Michel, H. de la Rosa, G., **Gardea_Torresdey, J.L** 2005. Biochemical and spectroscopic studies of the response of *Convolvulus arvensis* to Cr(VI) and Cr(III) stress. UTEP Research Expo. April 15, 2005.
418. Rodriguez, E., Peralta-Videa, JR., Romero-Gonzalez, J., Parsons, J, **Gardea-Torresdey, J.L.** 2005. Effect of pH on gold uptake by *Chilopsis linearis* in hydroponics medium. UTEP Research Expo. April 15, 2005.

419. Mather Sawalha, Jose R. Peralta- Videá, Jason G. Parsons, **Jorge L. Gardea-Torresdey. 2005.** Binding of Chromium (III) and Chromium (VI) to Native and Modified Saltbush (*Artriplex Canescens*) Biomass: Batch pH and XAS Studies. 5th International Phytotechnology Conference, Atlanta, GA, April 19, 2005.
420. Sawalha, M.F., Peralta-Videa, J.R., Parsons, J. **Gardea-Torresdey, J.L. 2005.** Binding of Cr(III) and Cr(VI) to native and modified saltbush (*Atriplex canescens*) biomass: Batch pH and XAS studies. UTEP Research Expo. April 15, 2005.
421. **Gardea-Torresdey, J.L.** Mary V. Aldrich, Peralta-Videa, J.R., Parsons, J.G. **2005.** Accumulation and biotransformation of As(III) and As(V) by mesquite (*Prosopis* spp.) studied using XAS and ICP/OES. 8th International Conference on the Botechnology of Trace Elements, Adelaide, Australia April 4, 2005 (Invited Speaker)
422. De la Rosa, G., J.R. Peralta-Videa, M. Montes, **J.L. Gardea- Torresdey.** Effect of Chromium Speciation on Chromium uptake and translocation in Tumbleweed (*Salsola kali*) 229th American Chemical Society National Meeting, Division of Environmental Chemistry. San Diego, CA, March 13-17, **2005.**
423. Rodriguez, E., Peralta-Videa, JR., Romero-Gonzalez, J., Parsons, J, **Gardea-Torresdey, J.L. 2005.** Effect of pH on gold uptake by *Chilopsis linearis* in hydroponics medium. 229th American Chemical Society National Meeting, Division of Environmental Chemistry. San Diego, CA, March 13-17, **2005.**
424. Lopez, M.L., **Gardea-Torresdey, J.L.**, Troiani, H., Jose-Yacaman, M., Herrera, I., Armendariz, V., De la Rosa, G., and Peralta-Videa, J.R., Biosynthesis of Gold Nanoparticles using native and modified Hop Biomass (*Humulus lupulus*). 229th American Chemical Society National Meeting, Division of Environmental Chemistry. San Diego, CA, March 13-17, **2005.**
425. Hurtado, R. **Gardea-Torresdey, J.L.** Contaminación natural del agua potable en “Los Altos de jalisco.” XI Congreso de investigación en Salud Publica. Cuernavaca, Morelos, Mexico. March 2-4, 2005.
426. **Gardea-Torresdey, J.L.** Peralta-Videa, J.R., Parsons, J.G. **2005.** Use of epectroscopy and microscopy techniques to determine the metal uptake, reduction, and nanoparticle formation by plants. Invitaded presentation at Texas Tex University, Lubbock, Texas March 2, 2005. **(Invited Seminar Speaker in the Chemistry Department)**
427. Gardea-Torresdey, J.L. Study of metal uptake, reduction, and nanoparticle formation by plants using spectroscopy and microscopy techniques. University of Cincinnati, Cincinnati, Ohio. February 16, **2005. (Invited Seminar Speaker in the Chemistry Department).**

428. J. V. Rios-Arana, E. J. Walsh, **J.L. Gardea-Torresdey**, Y. Chen & R. Webb. Variable responses in HSP60 production and metallothionein localization in rotifers exposed to heavy metals. 9th RCMI International Symposium on Health Disparities. Baltimore, MD. Dec 8-11, **2004**
429. Elena Rodriguez, Jason G. Parson, **Jorge L. Gardea-Torresdey**, J.R. Peralta-Videa. Ammonium Thiocyanate Enhances Gold Phytoextraction. **2nd Annual Rio Grande Science Conference**. El Paso, TX. November 20, **2004**.
430. Mather Sawalha, Jose R. Peralta- Videa, Jason G. Parsons, **Jorge L. Gardea-Torresdey**. Binding of Chromium (III) and Chromium (VI) to Native and Modified Saltbush (*Artriplex Canescens*) Biomass: Batch pH and XAS Studies. **2nd Annual Rio Grande Science Conference**. El Paso, TX. November 20, **2004**.
431. **J.L. Gardea-Torresdey**, M. Laura Lopez, J.R. Peralta-Videa, V. Arnedariz, I. Herrera, M. JoséYacmán, H. Thoroani. Gold Nanoparticles Produced by Native and Chemically Modified Hop Biomass. **2nd Annual Rio Grande Science Conference**. El Paso, TX. November 20, **2004**.
432. Montes, J.R. Peralta-idea, G. de la Rosa, B. Corral-Diaz, and **J.L. Gardea-Torresdey**. *Convolvulus arvensus* L, a Potencial Phytoremediator for Chromium contaminated sites. **2nd Annual Rio Grande Science Conference**. El Paso, TX. November 20, **2004**.
433. De la Rosa, G., **J.L. Gardea- Torresdey**, J.R. Peralta-Videa, M. Montes. Agar and Hydroponics Studies on Pb(II) absorption by Tumbleweed (*Salsola kali*): Effect of EDTA on Pb(II) Uptake and Traslocation. **2nd Annual Rio Grande Science Conference**. El Paso, TX. November 20, **2004**.
434. **Gardea-Torresdey, J.L.** Use of Spectroscopy and Microscopy Techniques to Determine the Metal Uptake, Reduction, and Nanoparticle Formation by Plants. **Eastern Analytical Symposioum**. Somerset, New Jersey. November 18, **2004 (Invited Speaker)**.
435. Armendariz, Veronica, **Gardea-Torresdey, J.L.**, Peralta-Videa, J., Parsond, J., Meitzner, G., Cruz, G., Herrera, I. Characterization of Gold Nanoparticle Formation by Oat and Wheat Biomasses: X-Ray absorption Spectroscopy Studies. **SACNAS National Conference**, Austin TX. October 21-25, **2004**.
436. De la Rosa, Guadalupe, **Gardea-Torresdey, J.L.**, Peralta-Videa, J., Martinez-Martinez, A., Castillo, H.A. Low Molecular Weigth Toils and Macronutrient Response to Cadmium (II) Stress in Tumbleweed (*Salsola Kali*) A Potential Cadmium Hyperaccumulator. **SACNAS National Conference**, Austin TX, October 21-25, **2004**.

437. Arias, Jack, **Gardea-Torresdey, J.L.**, Cruz-Jimenez, G., Peralta-Videa, J., Rodriguez, E. Screening of Potential Plant Species from El Paso –Juarez Region for Selnium Removal. **SACNAS National Conference**, Austin TX, October 21-25, **2004**.
438. Lopez, Laura M., Peralta-Videa, J., **Gardea-Torresdey, J.L.** Using Plant Growth Promoters for the Enhancement of Lead Uptake by *Medicago Sativa* (Alfalfa). **SACNAS National, Conference**, Austin TX. October 21-25, **2004**.
439. Montes, Milka O., Maritnez- Martinez, A., De la Rosa, G., Castillo, H.A., Peralta-Videa, J., **Gardea-Torresdey, J.L.** Response to Chromium-Induced Stress by *Convolvulus Arvensis* L.: Uptake, Speciation and Enzymatic Activity. **SACNAS National Conference**, Austin TX. October 21-25, **2004. First Place Oral Presentation Award Winner**.
440. Rodriguez, Elena, Parson, J.G., Peralta-Videa, J., Meitzner, G., Gardea-Torresdey, J.L. Enhancing Gold Phytoextraction by Using Chelating Agent. **SACNAS National Conference**, Austin TX. October 21-25, **2004**.
441. Pelayo B., H., Martinez, A., Corral, R., **Gardea-Torresdey, J.L.** Busqueda de metales pesados y metaloides en plantas asociadas al Rio Bravo. XVI Congreso Mexicano de Botanica, Sociedad Botanica de Mexico, Oaxaca Oaxaca, Octubre 17-22, **2004**.
442. **Gardea-Torresdey, J.L.**, Rodriguez, E., Parsons, J.G., Peralta-Videa, J.R., Meitzner, G. Use of ICP and XAS to determine the enhancement of gold phytoextraction by *Chilopsis linearis* using complexing agents. **European Conference on Analytical Chemistry**, Salamanca, Spain September 5-10, **2004**.
443. Barud-Zubillaga, A., Granados-Olivas, A., **Gardea-Torresdey, J.L.**, Esparza-Sanchez, E. Heavy metals analysis in stormwater runoff along a bi-national river. **XXXIII Congress IAH & 7° Congress ALHSUD “Groundwater Flow Understanding: from local to regional scales”**. Zacatecas, MX, October 11-15, **2004. (Invited Talk)**
444. **Gardea-Torresdey, J.L.** Use of Plants for Phytoremediation of Heavy Metal and Production of Metal Nanoparticles. **The XXXVIth International Conference on Coordination Chemistry**. Merida, Yucatan, MX, July 18-23, **2004**.
445. Rios Arana, J.V., Walsh, E.J., **Gardea-Torresdey, J.L.**, Ortiz, M., Webb, R. Integrating life history and molecular responses to arsenic and heavy metals in a basal consumer (Ritifera: *Platyonus platulus*) in a riverine food web. **Desert Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program**. El Paso, TX. June 25-26, **2004**.
446. Arias, J.A., Cruz-Jimenez, G., Peralta-Videa, J.R., Rodriguez, E., **Gardea-Torresdey, J.L.** Study of selenium uptake and tolerance by tecoma stans (*Yellow Bells*). **Desert**

Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program. El Paso, TX. June 25-26, 2004.

447. Rodriguez, E., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R. Ammonium Thiocyanate Enhances Gold Phytoextraction. **Desert Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program.** El Paso, TX. June 25-26, 2004.
448. De la Rosa, G., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Aldrich, M., Cruz-Jimenez, G. Agar and hydroponics studies on Pb(II) absorption by tumbleweed (*Salsola kali*): Effect of EDTA on Pb(II) uptake and translocation. **Desert Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program.** El Paso, TX. June 25-26, 2004. **Second Place Poster Presentation Award Winner.**
449. Sawalha, M. F., Peralta-Videa, J. R., Parson, J. G., **Gardea-Torresdey, J. L.** Chemical and spectroscopic approaches to determine the adsorption of chromium species to saltbush (*Atriplex canescens*) biomass: A batch biotechnology process. **Desert Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program.** El Paso, TX. June 25-26, 2004. **First Place Oral Presentation Award Winner.**
450. Pingitore, N. E. Jr., Clague, J. W., Delgado, M., **Gardea-Torresdey, J. L.**, Amaya, M. A., Juarez, P., Bader, J., Zevallos, J. C., Herrera, I. Lead in El Paso Soil. **Desert Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program.** El Paso, TX. June 25-26, 2004.
451. Cruz-Jimenez, G., **Gardea-Torresdey, J. L.**, Peralta-Videa, J. R., De la Rosa, G., Arias, J. A., Rodriguez, E. Screening of potential plant species from El Paso-Juarez for selenium removal. **Desert Southwest Society of Environmental Toxicology and Chemistry. 1st Annual Meeting Program.** El Paso, TX. June 25-26, 2004.
452. A. Duarte-Moller, P. Sanchez-Santiago, M.L. Lopez, **J.L. Gardea-Torresdey, J.A.** Lopez, W. Durrer, M.A. Ramos. EXELFS Characterization of Gold Nanoparticles, Produced by Esterified Hop Biomass Deposited on Si Substrates by the Spray Pyrolysis Technique. **SAMPE 2004 (49th ISSE).** Long Beach, CA, May 16-20, 2004.
453. Sawalha, M.F., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Parson, J.G., Gonzalez, J.H. Use of ICP/OES and XAS to Look at the Cadmium (II) Absorption by Saltbush (ATRIPLEX CANESCENS) Biomass. **2004 Student Research Expo "envision the future".** The University of Texas at El Paso, El Paso, TX, April 19, 2004.
454. Montes, M.O., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** Convolvulus Arvensis L: A Potential Phytoremediator of Cadmium, Chromium and Copper Contaminated Sites. **2004 Student Research Expo "envision the future".** The University of Texas at El Paso, El Paso, TX, April 19, 2004.

455. Herrera, I., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Tiemann, K.J. Flow Studies and X-Ray Absorption Spectroscopy of Silver (I) Absorption by Alfalfa Biomass. **2004 Student Research Expo “envision the future”**. The University of Texas at El Paso, El Paso, TX, April 19, **2004**.
456. De la Rosa, G., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Aldrich, M., Cruz-Jimenez, G. Agar and Hydroponics Studies on Pb(II) Absorption by Tumbleweed (Salsolakali): Effect of EDTA on Pb(II) Uptake and Translocation. **2004 Student Research Expo “envision the future”**. The University of Texas at El Paso, El Paso, TX, April 19, **2004**.
457. Cruz-Jimenez, G., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Arias, J.A., De la Rosa, G. Study of Selenium Tolerance and Uptake by Convolvulus arvensis (bindweed). **2004 Student Research Expo “envision the future”**. The University of Texas at El Paso, El Paso, TX, April 19, **2004**.
458. Armendariz, V., **Gardea-Torresdey, J.L.**, Yacaman, M.J., Peralta-Videa, J.R., Herrera, I., Lopez, M.L. Gold Nanoparticles Formation by Avena sativa (OAT) and *Triticum aestivum* (wheat) Biomasses. **2004 Student Research Expo “envision the future”**. The University of Texas at El Paso, El Paso, TX, April 19, **2004**.
459. Cruz-Jimenez, G., Gardea-Torresdey, J.L. Aplicacion de la espectroscopia de absorcion de rayos X en muestras de interes ambiental. **Universidad Autonoma de Queretaro**. Queretaro, MX, March 17, **2004**.
460. Aldrich, M., **Gardea-Torresdey, J.L.** Spectroscopic methods for Cr 6 remediation by mesquite. **PerkinElmer instruments “AA/ICP-Emission Users’ Group meetings”**. Albuquerque, NM, February 25-March 4, **2004. (Invited Talk)**
461. Parson, J.G., Tiemann, K.J., Peralta-Vieda, J.R., LeMone, D.V., **Gardea-Torresdey, J.L.** Phytoremediation generalized overview with specific focus on the remediation of uranium form water. **Waste Management Symposium 2004**. Tucson, AZ, February 29 – March 4, **2004**.
462. **Gardea-Torresdey, J. L.** Use of XAS and ICP/OES to study the gold, silver and chromium uptake by living alfalfa and mesquite plants. The Tenth Annual CAMD Users Meeting. Baton Rouge, LA. April 16, **2004. Keynote Speaker**.
463. **Gardea-Torresdey, J.L.**, Aldrich, M.V., Peralta-Videa, J.R., Parsons, J.G. Reduction pf health risks due to chromium(VI) using mesquite: a potential Cr hyperaccumulator. 227th American Chemical Society National Meeting, Division of Environmental Chemistry. Anaheim, CA, March 28- April 1, **2004**.

464. Cruz-Jimenez, G., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., De la Rosa, G. Larrea tridentata and Salvia roemeriana: Potencial selenium heperaccumulator desert plant species. 227th American Chemical Society National Meeting, Division of Environmental Chemistry. Anaheim, CA, March 28- April 1, **2004**.
465. Montes, M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, de la Rosa, G. Convolvulus arvensis L.: a potential phytoremediator of cadmium, chromium, and copper contaminates sites. 227th American Chemical Society National Meeting, Division of Environmental Chemistry. Anaheim, CA, March 28- April 1, **2004**.
466. De la Rosa, G., **Gardea-Torresdey, J.L.**, Peralta-Videa J.R., Aldrich, M.V. Effect of EDTa on Pb(II) uptake and translocation by tumbleweed (Salsola kali); agar and hydroponics studies. 227th American Chemical Society National Meeting, Division of Environmental Chemistry. Anaheim, CA, March 28- April 1, **2004**.
467. Cruz-Jimenez, G., **Gardea-Torresdey, J.L.** Aplicacion de la espectroscopía de absorcion de Rayos X en muestras de interes ambiental. Queretaro, Qro., Mexico, Marzo 17, 2004.
468. Barud-Zubillaga, A., Granados-Olivas, A., **Gardea-Torresdey, J.L.**, Esparza-Sanchez, E. Heavy metal Analysis in stormwater runoff along a binational river. XXXIII Congress IAH & 7 Congress ALHSUD, Mexico City, February 9, 2004.
469. López, J.A., Arcaraz, O., Duarte Moller, A., Durrer, W., **Gardea Torresdey, J.L.**, López, F., Ramos, M.A., Rodríguez, S.Y., and Zubia, D. “Radiation studies in engineering, environmental science and industry at UTEP. International Symposium on Radiation Physics”, held at ININ/UNAM in Mexico City, Dec. 1-3, 2003.
470. **Gardea-Torresdey, J.L.**, Aldrich, M.V., Peralta-Videa, J.R., Parsons, J.G. **2003**. Mesquite: a Desert Plant Potentially Usable to Phytoremediate Chromium Contaminated Soil. Society of Environmental Toxicology and Chemistry (SETAC) 24th Annual Meeting, Austin, Texas, 9 - 13 November 2003. (Invited Talk).
471. Rios V., J., Walsh, E., **Gardea-Torresdey, J.L.** **2003**. Arsenic and heavy metals in the Rio Grande: stress responses of a basal consumer. Society of Environmental Toxicology and Chemistry (SETAC) 24th Annual Meeting Austin, Texas, 9 - 13 November 2003.
472. Amaya, M., **Gardea-Torresdey, J.L.**, Pingitore, N., Clague, J., Juarez, P., and Delgado, M. **2003**. Geographic Distribution of Lead in El Paso-Juarez International Border. Society of Environmental Toxicology and Chemistry (SETAC) 24th Annual Meeting Austin, Texas, 9 - 13 November 2003.
473. Rodriguez, E., **Gardea-Torresdey, J.L.**, and Peralta-Videa J.R. 2003. Chilopsis linearis and Tecoma stans: Desert Plant Species Potentially Usable for Phytomining. American

Water Resource Association, Annual Water Resource Conference, San Diego, CA Nov. 3-6, 2003.

474. **Gardea-Torresdey, J.L.** Phytoremediation. UTEP Minority Institution for Excellence Seminar, El Paso, TX. Oct 29, 2003.
475. Aldrich, M.V., J.T. Ellzey **Gardea-Torresdey, J.L.**, Peralta-Videa, J., J.H. Gonzalez, Lead Uptake and Effects of EDTA on Lead-Tissue Concentrations in the Desert Species Mesquite (*Prosopis* spp.) The 19th Annual International Conference on Soils, Sediments and Water. University of Massachusetts, Amherst, MA. Oct 20-23, 2003
476. De la Rosa, G., Peralta-Videa, J.R., Montes, M., Parsons, J.G., and **Gardea-Torresdey, J.L. 2003.** Cadmium uptake and translocation in tumbleweed (*Salsola kali*), a potential Cd-hyperaccumulator desert plant species: ICP/OES and XAS studies. 30th Annual SSRL Users' Meeting, Palo Alto, CA, Oct 8-10, 2003 (Invited Talk)
477. **Gardea-Torresdey, J.L. 2003,** Phytoremediation technologies for the removal of heavy metals from the environment. 2003, SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003 (Invited speaker)
478. Cruz-Jimenez, G., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Study of Selenium Accumulation by Some Desert Plants. Poster, 2003, SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003.
479. Herrera, I., **Gardea-Torresdey, J.L.**, Armendariz, V., Parsons, J.G., Dokken, K., and Tiemann, K.J., Flow Studies and X-Ray Absorption Spectroscopy of Silver (I) Adsorption by Alfalfa Biomass. 2003, SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003. First Price Oral Presentation Award Winner
480. De la Rosa, G., **Gardea-Torresdey, J. L.**, Aldrich, M.V., Montes, M.O. and Peralta-Videa, J.R., Agar and Hydroponics Studies on Pb (II) Absorption by Tumbleweed (*Salsola kali*): Effect of EDTA on Pb (II) Uptake and Translocation. 2003, SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003.
481. Lopez, M.L., **Gardea-Torresdey, J. L.**, Troiani, H., Jose-Yacaman, M., Herrera, I., Armendariz, V., De la Rosa, G., and Peralta-Videa, J.R., Metal Gold Nanoparticles Obtained By Hop Biomass (*Humulus lupulus*). 2003 SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003.
482. Rodriguez, E., **Gardea-Torresdey, J. L.**, and Peralta-Videa, J.R., Phytomining Potential of *Chilopsis Linearis*, a Desert Plant Species. 2003 SACNAS Conference, Albuquerque, NM Oct 2-5, 2003.
483. Armendariz, V., **Gardea-Torresdey, J. L.**, Peralta-Videa, J.R., Lopez, M.L., Parsons,

- J.G., Herrera, I., Jose-Yacaman, M., Gold Binding and Nanoparticles Formation by Oat (*Avena sativa*) and Wheat (*Triticum aestivum*). 2003 SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003.
484. Montes, M. O., **Gardea-Torresdey, J. L.**, Peralta-Videa, J.R., De la Rosa, G., Diaz, B.C. *Convolvulus arvensis* A Potential Phytoremediator for Chromium Contaminated Soils. 2003 SACNAS Conference, Albuquerque, NM, Oct 2-5, 2003.
485. **Gardea-Torresdey, J. L.** Uso de plantas en la remediación de metales pesados y formación de nanoparticulas. Universidad Autonoma de Chihuahua, Facultad de Ciencias Quimicas. Orador invitado a la celebración del 40 aniversario. Octubre, 2003. Keynote Speaker.
486. Anderson, C.W.N., Stewart, R.B., Moreno, F.N., Wreesmann, C.T.J., **Gardea-Torresdey, J. L.**, Robinson, B.H. and Meech, J.A., Gold phytomining. Novel developments in a plant-based mining system. International Gold 2003 Conference: New Industrial Applications of Gold, September 27-29, 2003. Vancouver, Canada,
487. **Gardea-Torresdey, J.L.**, Fitoremediacion, 2003. Ciencia de Frontera, Instituto de Ingenieria y Tecnologia, September 20, Universidad Autonoma Ciudad Juarez, Mexico. (Invited Talk)
488. **Gardea-Torresdey, J.L.** Exploring the use of alfalfa and tumbleweed to restore, mercury, lead and selenium contaminated sites. Washington, DOE meeting, Sept 20, 2003. Washington DC.
489. **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., De la Rosa, G., Parsons, J.G., Phytoremediation Technologies for the Removal of Toxic Heavy Metal Ions from Contaminated Waters and Soils. Key Note Speaker, International IUPAC Southern and Eastern Africa Network of Analytical Chemists (SEANAC) Conference. Gaborone – Botswana, July 7-10, 2003. Session Chair Honor Committee
490. **Gardea-Torresdey, J.L.**, Gomez, E., Peralta-Videa, J., Parsons, J.G., Troiani, H., and Jose-Yacaman, M. Formation of Noble Metal Nanoparticles Inside Live Alfalfa Plants. International Conference of the Pan-American Advanced Studies Institute (PASI). June 7-15, Bariloche, Argentina.
491. Troiani, H.E., Camacho-Bragado, **Gardea-Torresdey, J.L.**, and Jose-Yacaman, M. Formation of Carbon Fullerenes by electron irradiation in the TEM in the Presence of Gold Nanoparticles. International Conference of the Pan-American Advanced Studies Institute (PASI). June 7-15, Bariloche, Argentina.
492. **J.L. Gardea-Torresdey**, K.J. Tiemann, M.L. Lopez, G. Gamez, J.R. Peralta, K. Dokken, M.J. Yacaman, Generating Gold nanoparticles using alfalfa biomass: A novel application

- of Phytoremediation. 2003 Meeting on Nanotechnology and Its Potential Role in Homeland Security, Kansas State University, Manhattan, Kansas, June, 2-5, 2003.
493. Contreras, C., de la Rosa, G., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** Removal of copper using a humin-silica based biopolymer. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
494. Armendariz, V., **Gardea-Torresdey, J.**, Jose-Yacamán, M., Gonzalez, J., Herrera, I., and Parsons, J. Gold nanoparticle formation by oat and wheat biomasses. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
495. De la Rosa, G., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Parsons, J.G., Montes, M. Potential Cd hyperaccumulation by tumbleweed: ICP/OES and XAS studies. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
496. Delgado-Rios, M., Manzanares, L., Keer, A., Duarte, J.A., **Gardea-Torresdey, J.L.** Suspended metallic nanoparticles study by electron microscopy in the atmosphere of Chihuahua City. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
497. **J.L. Gardea-Torresdey**, E. Gomez, J.R. Peralta-Videa, K. J. Tiemann, J.G. Parsons, H. Troiani y M. Jose-Yacamán. Fitoremediación de metales pesados y formación de nanopartículas usando plantas de alfalfa (*Medicago sativa* L.). IV Semana de Química de la Universidad de Juárez, April 1-4, 2003. (Invited Speaker).
498. Aldrich, M.V., **Gardea-Torresdey, J.L.**, Peralta-Videa, J., and Parsons, J.G. Uptake and reduction of Cr(VI) to Cr(III) by mesquite (*Prosopis* spp.): Chromate-plant interaction in hydroponics and solid media studies using XAS. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
499. Romero-Gonzalez, J., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., Rodriguez, E. Determining the equilibrium and kinetic parameters of the Cr(VI) and Cr(III) adsorption from aqueous solutions by Agave Lechuguilla Biomass. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
500. Montes, M.O., **Gardea-Torresdey, J.L.**, Peralta-Videa, J.R., De la Rosa G. Use of *Convolvulus arvensis* L. To phytoextract cadmium, chromium and copper. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.
501. Herrera, I., Tiemann, K.J., Armendariz, V., Parsons, J., Dokken, K., **Gardea-Torresdey, J.L.** Batch experiments and X-Ray spectroscopy studies of Silver (I) binding to *Medicago Sativa*. 2003. Student Research Expo. University of Texas at El Paso April 17, 2003.

502. Cruz-Jimenez G., Peralta-Videa J., De la Rosa G., **Gardea-Torresdey, J.L.** Preliminary study of selenium accumulation of some native species from the Chihuahuan Desert. 2003. Student Research Expo. University of Texas at El Paso, April 17, 2003.
503. **J.L. Gardea-Torresdey**, M. Laura Lopez, J.R. Peralta-Videa, V. Armendariz, I. Herrera, M. Jose Yacaman, H. Troani. Gold nanoparticles produced by native and chemically modified hop biomass. 2003 7th. International Symposium on Applied Bioinorganic Chemistry. University of Guanajuato, April 1-5, 2003.
504. Carolina Contreras, **Jorge L. Gardea-Torresdey**, Guadalupe de la Rosa, Jose R. Peralta-Videa. Removal of Copper using a Humin-Silica based biopolymer. 2003 7th. International Symposium on Applied Bioinorganic Chemistry. University of Guanajuato, April 1-5, 2003.
505. M.V. Aldrich, **J.L. Gardea-Torresdey**, J.R. Peralta Vida, and J.G. Parsons. Uptake and reduction of Cr(VI) to Cr(III) mesquite (*Prosopis* spp.): An X-ray absorption spectroscopic study. 2003. International Symposium on Applied Bioinorganic Chemistry. University of Guanajuato, April 1-5, 2003.
506. Jaime Romero Gonzalez, **Jorge L. Gardea-Torresdey**, Jose R. Peralta Videa, Elena Rodriguez Rodriguez. Determining the equilibrium and kinetic parameters of the Cr(VI) and Cr(III) absorption from aqueous solutions by agave lechuguilla biomass. 2003. International Symposium on Applied Bioinorganic Chemistry. University of Guanajuato, April 1-5, 2003.
507. Guadalupe de la Rosa, **Jorge L. Gardea-Torresdey**, Jose R. Peralta-Videa, Jason G. Parsons, Milka Montes. Potential Cd Hyperaccumulation by tumbleweed: ICP/OES and XAS studies. 2003. International Symposium on Applied Bioinorganic Chemistry. University of Guanajuato, April 1-5, 2003.
508. De la Rosa, G; **Gardea-Torresdey, J.L.**; Peralta-Videa, J.R.; Parsons, J.G.; Montes, M. ICP/OES and XAS studies of the Cd uptake by tumbleweed. 225th American Chemical Society National Meeting, Division of Environmental Chemistry. New Orleans, LA, March 23-27, 2003.
509. **Gardea-Torresdey, J.L.**, Gomez, E., Peralta-Videa, J.R., Tiemann, K.J., Parsons, J.G., Trolani, H., and Jose-Yacaman, M. (2003). Use of XAS and TEM to determine the uptake of gold and silver and nanoparticle formation by living alfalfa plants. 225th American Chemical Society National Meeting, Division of Environmental Chemistry. New Orleans, LA, March 23-27, 2003. (Invited Speaker).
510. Contreras, C., **Gardea-Torresdey, J.L.**, de la Rosa, G., Peralta-Videa, J.R. (2003). Flow rate and interference studies for copper(II) binding to a humin biopolymer: column and batch experiments. 225th American Chemical Society National Meeting, Division of

Environmental Chemistry. New Orleans, LA, March 23-27, 2003. First Price Oral Presentation Award Winner

511. V. Armendariz, **J.L. Gardea-Torresdey**, M. Jose-Yacaman, I. Herrera, H. Troiani, P. Santiago. Bio-Reduction of Gold and Nanoparticle Formation by *Avena fatua* (Oat) and *Triticum Aestivum* (Wheat). 2002 National Conference of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS). Anaheim, California, September 26-29, 2002.
512. I. Herrera, **J.L. Gardea-Torresdey**, K.J. Tiemann, V. Armendariz, J. G. Parsons. Batch Experiments and X-Ray Absorptions Spectroscopy Studies of Silver(I) Binding to *Medicago Sativa*. 2002 National Conference of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS). Anaheim, California, September 26-29, 2002. (Received Best Student Poster Presentation Award in the Area of Chemistry).
513. Hurtado, R., **Gardea-Torresdey, J.L.**, Fluoride in Drinking Water at “Los Altos De Jalisco” in the Central Mexico Region, International Conference on Water and Health, Ottawa, Ontario, Canada, September 23-25, 2002.
514. V. Armendariz, **J.L. Gardea-Torresdey**, M. Jose-Yacaman, J. Gonzalez, I. Herrera, J. Parsons. Gold Nanoparticle Formation by Oat and Wheat Biomass. The 2002 New Mexico Alliance for Graduate Education and the Professoriate (NM-AGEP) Conference “Building a Vision for Higher Education in Science, Technology, Engineering, and Math”. Albuquerque, New Mexico, September 19-21, 2002.
515. I. Herrera, **J.L. Gardea-Torresdey**, K.J. Tiemann, V. Armendariz, J. G. Parsons. Recovery of Silver(I) Ions by Alfalfa Biomass: Batch Experiments, Chemical Modification and X-Ray Absorption Spectroscopy Studies. The 2002 New Mexico Alliance for Graduate Education and the Professoriate (NM-AGEP) Conference “Building a Vision for Higher Education in Science, Technology, Engineering, and Math”. Albuquerque, New Mexico, September 19-21, 2002.
516. M.V. Aldrich, J.G. Parsons, **J.L. Gardea-Torresdey**. Uptake and Reduction of Cr(VI) to Cr(III) by Mesquite (*Prosopis* spp.): An X-Ray Absorption Spectroscopic Study. Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.
517. V. Armendariz, **J.L. Gardea-Torresdey**, M. Jose-Yacaman, J. Gonzalez, I. Herrera, and J.G. Parsons. Gold Nanoparticle Formation by Oat and Wheat Biomasses. Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.
518. G. De la Rosa, **J.L. Gardea-Torresdey**, J.R. Peralta-Videa, and I. Herrera. Heavy Metal Removal from Wastewater Using Silica-Immobilized Humin. Application of Waste

Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.

519. E. Gomez, J.R. Peralta-Videa, J.G. Parsons, and **J.L. Gardea-Torresdey**. Use of Alfalfa Plants for Gold and Silver Recovery from Solid Media and Growth Effect Study. Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.
520. I. Herrera, **J.L. Gardea-Torresdey**, K.J. Tiemann, K. Dokken, and J.G. Parsons. Binding Mechanism of Silver (I) Ions to Alfalfa Biomass: Batch and X-Ray Absorption Spectroscopy. Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.
521. J.G. Parsons, **J.L. Gardea-Torresdey**, K.J. Tiemann, J.R. Peralta-Videa, E. Gomez and J.H. Gonzalez. ICP-OES and XAS Investigation of the Phytoextraction of Lanthanides and Actinides from Aqueous Environmental Solutions. Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.
522. J.R. Peralta-Videa, J.L. **Gardea-Torresdey**, G. de la Rosa, J.H. Gonzalez, J. G. Parsons, and I. Herrera. Effects of the Growth Stage on the Tolerance to Heavy Metals in Alfalfa Plants (*Medicago sativa*). Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Kansas City, Missouri. July 30-August 1, 2002.
523. J.V. Rios, E.J. Walsh, J.L., **Gardea-Torresdey**. Impact of Multimetal Solutions on a Basal Member of a Riverine Food Web. American Society of Limnology and Oceanography (ASLO) 2002 Summer Meeting, Victoria, British Columbia, Canada, June 10-14, 2002. Received Best Presentation Award.
524. **Gardea-Torresdey, J. L.**, "Fundamental Studies of Bioproduced Nanomaterials and Applications," Annual Meeting of the Materials Corridor Council. El Paso, TX, May 1, 2002.
525. **Gardea-Torresdey, J.L.** "Investigacion de Mecanismos Involucrados en Fitoremediacion de Metales Pesados," 3rd Chemistry Week, University of Juarez. Juarez City, April 19, 2002. Plenary Lecture.
526. V. Armendariz, **J.L. Gardea-Torresdey**, M. Jose-Yacaman, J. Gonzalez, I. Herrera, J. Parsons. Gold Nanoparticle Formation by Oat and Wheat Biomasses. UTEP Student Research Expo 2002. El Paso, Texas, April 18, 2002.
527. L. Bess-Oberto, **J.L. Gardea-Torresdey**, K. Tiemann, G. Gamez, V. Armendariz, J.

Mahmoud. Environmental Analysis of Copper Ions with a Carbon Paste Electrode Modified with Alfalfa Biomass. UTEP Student Research Expo 2002. El Paso, Texas, April 18, 2002.

528. E. Gomez, J.R. Peralta-Videa, J.G. Parsons, K.J. Tiemann, I. Herrera, **J.L. Gardea-Torresdey**. Study of the Effects of the Metals Gold and Platinum on Seed Germination and Plant Growth on Alfalfa Plant (*Medicago sativa*) Grown in Solid Media. UTEP Student Research Expo 2002. El Paso, Texas, April 18, 2002.
529. I. Herrera, **J.L. Gardea-Torresdey**, K.J. Tiemann, K. Dokken, J.G. Parsons. Binding Mechanism of Silver(I) Ions to Alfalfa Biomass: Batch and X-Ray Absorption Spectroscopy. UTEP Student Research Expo 2002. El Paso, Texas, April 18, 2002.
530. J.V. Rios, E.J. Walsh, J.L. **Gardea-Torresdey**. Survey of Heavy Metals in the Rio Grande in the Paso/Juarez Area. UTEP Student Research Expo 2002. El Paso, Texas, April 18, 2002.
531. **J.L. Gardea-Torresdey**, J.R. Peralta-Videa. Aplicacion de la Fitoremediacion para Remover Metales Pesados; 4th National Mexican Congress of Chemists and Chemical Engineers, Chihuahua Mexico, March 5, 2002. Plenary Talk
532. J.R. Peralta-Videa, **J.L. Gardea-Torresdey**, E. Gomez, K.J. Tiemann, J. Parsons, G. Carrillo "Efecto de la concentracion de metales pesado y el pH de la solucion sobre la el crecimiento y la absorcion de los metales en alfalfa" XXXII congreso de investigacion y extension del Sistema Tec de Monterrey, Monterrey, Mexico. January 17-18, 2002. Invited lectura
533. **J.L. Gardea-Torresdey**, Bioremediation: Using Desert Plants, The Border that Unites Us: EPA United States-Mexico Border brownfields Conference, El Paso, TX., January 30-31, 2002. Key-note Speaker.
534. J.G. Parsons, **J.L. Gardea-Torresdey**, Determination of Low and High Level Binding of Pt(II) and Pt(IV) to Alfalfa Biomass, Perkin Elmer Users' Conference, El Paso, Texas, December 12, 2001
535. J.G. Parsons, **J. Gardea-Torresdey**, Determination of Low and High Level Binding of Pt(II) and Pt(IV) to Alfalfa Biomass, Perkin Elmer Users' Conference, Phoenix, Arizona, December 11, 2001
536. **Gardea-Torresdey, J.L.** "Investigation of the Mechanisms Involved in the Bio-phytoremediation of Heavy Metals," 25th American Chemical Society Senior Technical Meeting, Puerto Rico Section of the American Chemical Society, San Juan, Puerto Rico, November 2-3, 2001. Plenary Lecture.

537. X.C. Kretschmer, **J.L. Gardea-Torresdey**, R. Chianelli, R. Webb. "Determination of Copper Binding in *Anabaena flos-aquae* Purified Cell Walls and Whole Cells by X-Ray Absorption Spectroscopy 28th Annual Stanford Synchrotron Radiation Laboratory Users' Meeting, Stanford University, Menlo Park, California. October 17-19, 2001.
538. G. Cruz-Jimenez, N. E. Pingitore, **J.L. Gardea-Torresdey**, T.T. Espino. "Preliminary Speciation of Toxic Elements in air Filters from the El Paso-Juarez Border Region Using X-Ray Absorption Spectroscopy." 28th Annual Stanford Synchrotron Radiation Laboratory Users' Meeting, Stanford University, Menlo Park, California. October 17-19, 2001.
539. **Gardea-Torresdey, J. L.** "Aplicación de BioFitorremediación en la Remoción de Metales Pesados: Mecanismos Involucrados," 8th National Mexican Week of Science and Technology, Cancun, Mexico, October 26, 2001. Plenary Lecture.
540. **J.L. Gardea-Torresdey**, K. Dokken, K.J. Tiemann, G. Gamez, J. Parsons, Bioreduction of Chromium(VI) by Inactivated Alfalfa Biomass. 31st Annual Biochemical Engineering Symposium, Kansas State University, Manhattan, Kansas, September 8, 2001.
541. T.T. Espino, N. Pingitore, **J. Gardea-Torresdey**, Historical Outdoor Air Pollution, 2001 National Conference of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS). Phoenix, Arizona, September 27-30, 2001.
542. **J.L. Gardea-Torresdey**, K.J. Tiemann, K. Dokken, J.G. Parsons, I. Herrera, J. Gonzalez, E. Gomez, V. Armendariz. "Binding Mechanism of Silver(I) Ions to Alfalfa Biomass: Batch and X-Ray Absorption Spectroscopy." 28th Annual Stanford Synchrotron Radiation Laboratory Users' Meeting, Stanford University, Menlo Park, California. October 17-19, 2001.
543. **Gardea-Torresdey, J. L.** "Investigación de Mecanismos Involucrados en Fitorremediación de Metales Pesados," 26th Chemistry Week, University of Chihuahua. Chihuahua City, October 15, 2001. Plenary Lecture.
544. J.G. Parsons, **J.L. Gardea-Torresdey**, K.J. Tiemann, J.R. Peralta, J. Gonzalez. "ICP-OES and XAS Investigation of the Phytoextraction of Lanthanides and Actinides from Aqueous Environmental Solutions." 28th Annual Stanford Synchrotron Radiation Laboratory Users' Meeting, Stanford University, Menlo Park, California. October 17-19, 2001.
545. **Gardea-Torresdey, J.L.** Environmental Applications of Phytoremediation and Review of the ESE Program. Seminar Presentation in the ESE Ph.D. Program Fall 2001 Seminar Series, El Paso, TX. August 28, 2001.
546. J.G. Parsons, **J.L. Gardea-Torresdey**, Characterization Of The Adsorption Of

Lanthanide And Actinide Ions By Alfalfa Biomass From Environmental Solutions, Perkin Elmer Users' Conference, Albuquerque, New Mexico, July 19, 2001.

547. J. Rios, E. Walsh, **J.L. Gardea-Torresdey**, Survey of Heavy Metals in the Rio Grande along the El Paso-Juarez Reach, Presented at the Texas Clean Rivers Program for the Rio Grande Basin, US International Boundary and Water Commission, El Paso, Texas, July 17, 2001.
548. **J. Gardea-Torresdey**, I. Herrera, K.J. Tiemann, K. Dokken, J.G. Parsons, Recovery of Silver(I) Ions from Aqueous Solutions by Immobilized Alfalfa Biomass, Border Pollution Prevention Conference, Santa Teresa, New Mexico, June 27-28, 2001.
549. T. Espino, N. Pingitore, **J.L. Gardea-Torresdey**, Outdoor Air-Pollution, Clinical and Environmental Issues On the Border-The Fourth Binational Toxicology Has No Borders Conference, El Paso, Texas, June 22-23, 2001.
550. Hurtado, R., **Gardea-Torresdey, J.L.**, Distribution of Fluoride in Groundwater at "Los Altos De Jalisco" in the Central Mexico Region, Clinical and Environmental Issues On the Border-The Fourth Binational Toxicology Has No Borders Conference, El Paso, Texas, June 22-23, 2001.
551. **J.L. Gardea-Torresdey**, K.J. Tiemann, Studies of Bioproduced Materials and Applications, Border Pollution Prevention Conference, Santa Teresa, New Mexico, June 27-28, 2001.
552. E. Gomez, J.R. Peralta, J.G. Parsons, K.J. Tiemann, I. Herrera, **J.L. Gardea-Torresdey**, Study Of The Environmental Effects Of Gold And Platinum On Seed Germination And Plant Growth Of Medicago Sativa (Alfalfa). 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001
553. Herrera, K.J. Tiemann, K. Dokken, J.G. Parsons and **J.L. Gardea-Torresdey**, A Novel Method to Uptake Recovery of Silver(I) Ions from Aqueous Solutions by Immobilized Alfalfa Biomass. 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001.
554. J. G. Parsons, K. J. Tiemann, J. H. Gonzales, J. Peralta, and **J.L. Gardea-Torresdey**. Characterization of the Adsorption of Lanthanide and Actinide Ions by Alfalfa Biomass from Aqueous Solutions. 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001. This paper was selected as one of finalist to receive the best paper presented award in the Conference.

555. J.R. Peralta, E. Gomez, J. Walton, V. Armendáriz, I. Herrera, J. Parsons, K. Tiemann, G. Carrillo, and **J.L. Gardea-Torresdey**. Effect of Heavy Metal Concentration and Soil pH upon Plant Growth and Metal Uptake by Medicago Sativa (Alfalfa). 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001
556. K. Dokken, K.J. Tiemann, G. Gamez, J. Parsons, **J.L. Gardea-Torresdey**, Binding of Hexavalent and Trivalent Chromium to Silica Immobilized Alfalfa Biomass under Flow Conditions. 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001.
557. K.J. Tiemann, J.G. Parsons, L. Bess-Oberto, **J.L. Gardea Torresdey**, Investigation of Heavy Metal Ion Binding to Chemically Modified Alfalfa Biomass Using Electrochemical and X-ray absorption Spectroscopic Techniques. 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001.
558. M. Hejazi, K. Tiemann, J. Henning, and J.L. **Gardea-Torresdey**. Study of Harvested Hop Plant Tissues (*Humulus Lupulus*) for Heavy Metals Phytofiltration. 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001. (This paper was selected as one of finalist to receive the best paper presented award in the Conference).
559. V. Armendariz, K. Tiemann, M. Yacaman, G. Gamez, I. Herrera, **J.L. Gardea-Torresdey**. Use of Oat and Wheat Agricultural By-products for the Recovery of Gold(III) from Aqueous Solutions. 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Kansas State University, Manhattan, Kansas, May 22-24, 2001.
560. V. Armendariz, **J.L. Gardea-Torresdey**, Removal of Au(III) from aqueous solution and nanoparticle formation by Oat and Wheat Biomasses, 6th Annual National Conference of the Model Institutions for Excellence, El Paso, Texas. April 4, 2001.
561. V. Armendariz, **J.L. Gardea-Torresdey**. Gold Nanoparticle Production by Oat and Wheat Biomasses, 6th Annual National Conference of the Model Institutions for Excellence, El Paso, Texas. April 4, 2001.
562. **J.L. Gardea-Torresdey**. M. Hejazi, K. Tiemann, J. Henning. Environmental applications of hops derived biomaterials for the purpose of toxic metal ion removal from solution, Invited presentation in the 221th National Meeting of the American Chemical Society (Division of Environmental Chemistry), San Diego CA, April 2001.

563. J.G. Parsons, K. Tiemann, J. Gonzalez, J.L. **Gardea-Torresdey**. Use of GFAAS and ICP to determine trace and high level Pt(II) and Pt(IV) adsorption by alfalfa biomass from environmental solutions, Presentation in the 221th National Meeting of the American Chemical Society (Division of Environmental Chemistry), San Diego CA, April 2001.
564. K.J. Tiemann, G. Gamez, J.G. Parsons, L. Bess-Oberto, V. Armendariz, J. Mahmoud, **J.L. Gardea Torresdey**. Environmental analysis of Copper ions with a Carbon Paste electrode Modified with Alfalfa Biomass, Presentation in the 221th National Meeting of the American Chemical Society (Division of Environmental Chemistry), San Diego CA, April 2001.
565. **Gardea-Torresdey, J.L.**, Duarte-Gardea, M. (2001). Environmental and Toxicological Aspects of the Movie-Erin Brockovich. This is part of the NIH-RISE to The Challenge Program. El Paso Community College. March 1, 2001.
566. **Gardea-Torresdey, J.L. (2000)**. Environmental Science & Engineering Ph.D. Program. Presentation to the Texas Higher Education Coordinating Board. April 2, 2000.
567. Li, W.W., Orquiz, R., Garcia, J.H. Pingitore, N.E., Espino, T.T., **Gardea-Torresdey, J.**, Chow, J., and Watson, J.G. Analysis of Temporal Dichotomous PM Air Samples in the Paso del Norte Region. 2000 International NARSTO Conference: Tropospheric Aerosols, November 2000, Queretaro, Mexico.
568. Espino, T.T., Pingitore, N.E., and **Gardea-Torresdey, J.** ICP-MS Documentation of Seasonal Variation in Particulate Matter in El Paso-Juarez Airshed. 2000 International NARSTO Conference: Tropospheric Aerosols, November 2000, Queretaro, Mexico.
569. Dokken, K., and **Gardea-Torresdey, J.** The Use of Alfalfa to Recover Chromium(III) and Chromium(VI) from Aqueous Solution. Star Graduate fellowship 2000 Conference. EPA National Center for Environmental Research. July, 2000, Washington, D.C.
570. Orquiz, R., Li, W.W., J.H. Pingitore, N.E., Espino, T.T., **Gardea-Torresdey, J.** Temporal Measurements of PM Fine and Coarse Concentrations in El Paso. 93rd Annual Meeting of the Air & Waste Management Association. June 18-22, 2000, Salt Lake City, Utah.
571. A.E. Rascon, K.J. Tiemann, K. Dokken, **JL Gardea-Torresdey**. Study of the Binding Mechanisms of Heavy Metals by Inactivated Tissues of Solanum Elaeagnifolium, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
572. K. Dokken, K.J. Tiemann, G. Gamez, J.G. Parsons, I. Herrera, **J.L. Gardea-Torresdey**, N.E. Pingitore, Removal and Recovery of Cr(III) and Cr(VI) with Alfalfa Biomass, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to

Resource Development, Production, and Use. May 23-25, Denver, Colorado.

573. G. Gamez, K. Dokken, I. Herrera, J.G. Parsons, K.J. Tiemann, M.J. Yacaman, **J.L. Gardea-Torresdey**. Mechanisms of Au(III) Binding and Bioreduction by Alfalfa Biomass, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
574. Herrera, K.J. Tiemann, K. Dokken, G. Gamez, J.G. Parsons, **J.L. Gardea-Torresdey**. Adsorption and Recovery of Silver Ions from Aqueous Solutions by Medicago Sativa (Alfalfa) Biomass, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
575. J.G. Parsons, G. Gamez, K. J. Tiemann and J.L. **Gardea-Torresdey**. Determination of Trace Level Gold(III) Binding to Alfalfa Biomass Using Gfaas with Zeeman Background, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
576. J. R. Peralta, K.J. Tiemann, S. Arteaga, E. Rascon, J.G. Parsons, E. Gomez, **J.L. Gardea-Torresdey**. Study of Metal Uptake and Plant Growth on Live Alfalfa Plants Grown in Solid Media, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado. (This paper was selected as one of finalist to receive the best paper presented award in the Conference, which will be announce in May 2001).
577. K.J. Tiemann, G. Gamez, J.G. Parsons, K. Dokken, I. Herrera, J.L. **Gardea Torresdey**. Electrochemical and X-ray Absorption Spectroscopic Studies of Cu(II) and Pb(II) Binding to Alfalfa Biomass, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado. (This paper was selected as one of finalist to receive the best paper presented award in the Conference, which will be announced in May 2001).
578. Bess-Oberto, L., Armendariz, V., Tiemann, K.J., and **Gardea-Torresdey, J.L.** Characterization of Chromium(VI) Binding and Bio-reduction by Avena monida (Oat) Biomass, 2000. Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
579. V. Armendariz, L. Bess-Oberto, K.J. Tiemann, J.L. **Gardea-Torresdey**. Study of Metal Ion Binding to Chemically Modified Oat and Wheat By-products, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
580. Arteaga, S., **Gardea-Torresdey, J.L.**, Corroboration of Copper and Chromium Uptake by Creosote Bush Using Hydroponics: Spectroscopic Studies, 2000 Conference on

Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado. (This paper was selected as one of finalist to receive the best paper presented award in the Conference, which will be announced in May 2001).

581. Hurtado, R., **Gardea-Torresdey, J.L.**, Fluoride Occurrence in Tap Waters at “Los Altos De Jalisco” in the Central Mexico Region, 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. May 23-25, Denver, Colorado.
582. Espino, T. T., Pingitore, N.E, Cruz-Jimenez, G. and **Gardea-Torresdey, J.L.**, El Paso-Cd. Juarez Air Particulate Elemental Composition 1977-1997. American Geophysical Union 2000 Meeting, San Francisco, CA.
583. Rascon, A.E., Tiemman, K.J., Dokken, K., **Gardea-Torresdey, J.L.** Determination of the Heavy Metal Binding Mechanism to Solanum Elaeagnifolium, UTEP Model Institute for Excellence Students Research Exposition, April 17, 2000, El Paso, Texas.
584. Armendariz, V., Bess-Oberto L., Tiemann, K.J., **Gardea-Torresdey, J.L.** Characterization of The Metal Binding Ability to Esterified Oat And Wheat Agricultural By-products, UTEP Model Institute for Excellence Students Research Exposition, April 17, 2000, El Paso, Texas.
585. Bess-Oberto, L., Armendariz, V., Tiemann, K.J., **Gardea-Torresdey, J.L.**, Bio-reduction of Chromium(VI) to Chromium(III) Binding by Avena monida (Oat) Biomass, UTEP Model Institute for Excellence Students Research Exposition, April 17, 2000, El Paso, Texas.
586. Herrera, K.J. Tiemann, K. Dokken, G. Gamez, J.G. Parsons, J.L. **Gardea-Torresdey.** Adsorption and Desorption Studies of Silver(I) Through Medicago Sativa (Alfalfa) Biomass, UTEP Model Institute for Excellence Students Research Exposition, April 17, 2000, El Paso, Texas.
587. Peralta, J.R., **Gardea-Torresdey, J.L.** Gomez, E.A., Tiemann, K.J. Arteaga, S., Rascon, A.E., Parson, J.G., Feasibility of Using Live Alfalfa Plants in Phytoremediation of Heavy Metals: Study of Metal Uptake by Using Solid Media, UTEP Model Institute for Excellence Students Research Exposition, April 2000, El Paso, Texas.
588. **Gardea-Torresdey, J.L. (2000).** Environmental Applications of Phytoremediation. Presentation to DOD group headed by Dr Terry C. Hazen (Lawrence Berkeley National Laboratory), El Paso, TX. January 18, 2000.
589. Iglesias, A., Espino, T.T., **Gardea-Torresdey, J.L.**, Bruce, A., and Pingitore Jr. N.E. (1999). Speciation of Copper and Arsenic in Particulate Matter from El Paso/Juarez

Binational Airshed. Conference of the American Geophysical Union. San Francisco, CA.

590. **Gardea-Torresdey, J.L. (1999).** Environmental Applications of X-ray Absorption Spectroscopy. Seminar, Department of Chemistry, the University of North Texas, Denton Texas. November 19.
591. Espino, T. T., **Gardea-Torresdey, J.L.**, Pingitore, N.E. Seasonal and Geographic Variations of Elemental Compositions of Particulates in the Paso del Norte Airshed. Technical Conference of the Southwest Center for Environmental Research & Policy (SCERP). November 18, 1999, Las Cruces, NM.
592. Gamez, G., Dokken, K., Herrera, I., Tiemann, K.J., and **Gardea-Torresdey, J.L.** Biosorption and Bioreduction of Au(III) Ions by Alfalfa Biomass: Characterization through Spectroscopic Techniques. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
593. Tiemann, K.J., Gamez, G., Dokken, K., Chianelli, R., Herrera, I., Renner, M., Furenlid, L.R., **Gardea-Torresdey, J.L.** Use of X-ray Absorption Spectroscopy to Determine the Toxic Heavy Metal Chemical Environment upon Adsorption to Alfalfa Biomass. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
594. Arteaga, S., Chianelli, R., Pingitore, N.E., **Gardea-Torresdey, J.L.** Copper Uptake by Creosote Bush Using Hydroponics: Spectroscopic Studies. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
595. Dokken, K., Gamez, G., Herrera, I., Tiemann, K.J., Chianelli, R., **Gardea-Torresdey, J.L.** Determination of Chromium(VI) Bioreduction and Chromium(III) Binding to Alfalfa Biomass. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
596. Mahmoud, J., **Gardea-Torresdey, J.L.**, Enriquez, J., Rodriguez, O. Bioaccumulation and Determination of Copper at an Alfalfa-Modified Carbon Paste Electrode. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
597. Espino, T., **Gardea-Torresdey, J.L.**, Barnes, B., Pingitore, N. ICP-MS Documentation of Elemental Air Particulate in El Paso-Juarez Airshed. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
598. Cano-Aguilera, I., **Gardea-Torresdey, J.L.**, Tiemann, K.J., Pingitore, N. Metal Binding

by *Mucor Rouxii* and the Binding Mechanism. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.

599. Herrera, I., Dokken, K., Gamez, G., Tiemann, K.J., **Gardea-Torresdey, J.L.**
Adsorption of Silver Ions from Aqueous Solutions using *Medicago Sativa* (Alfalfa) Biomass. Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
600. Rios, J., Bess-Oberto, L., Tiemann, K.J., **Gardea-Torresdey, J.L.** Use of Agricultural Waste By-Products for Metal Ion Removal from Aqueous Solutions. Joint 55th Southwest / 15th Rocky Mountain Regional Meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
601. Parsons, J., Gamez, G., Dokken, K., Tiemann, K.J., **Gardea-Torresdey, J.L.** The Determination of Trace Level Metal Binding to Alfalfa (*Medicago sativa*) Biomass by Graphite Furnace Atomic Absorption Spectroscopy (GFAAS). Joint 55th Southwest / 15th Rocky Mountain Regional meeting of the American Chemical Society. October 21-23, 1999, El Paso, Texas.
602. Gamez, G., Dokken, K., Herrera, I., Tiemann, K.J., and **Gardea-Torresdey, J.L.**
Recovery of Au(III) Ions from Aqueous Solution through Adsorption and Reduction by Alfalfa Biomass. 1999 UTEP Student Research Exposition. October 14, 1999, El Paso, Texas.
603. Bess-Oberto, L., Armendariz, V., Rios, J., Tiemann, K.J., **Gardea-Torresdey, J.L.**
Adsorption of Heavy Metal Ions by Agricultural Waste By-Products, a New Pollution Prevention Technology Using Green Chemistry. 1999 UTEP Student Research Exposition. October 14, 1999, El Paso, Texas.
604. Herrera, I., Dokken, K., Gamez, G., Tiemann, K.J., **Gardea-Torresdey, J.L.** A Study of the Removal of Silver Ions from Aqueous Solutions through Adsorption by *Medicago sativa* (Alfalfa) Biomass. 1999 UTEP Student Research Exposition. October 14, 1999, El Paso, Texas.
605. Parsons, J., Tiemann, K.J., **Gardea-Torresdey, J.L.** The Determination of Trace Level Copper Binding to Alfalfa (*Medicago sativa*) Biomass with Graphite Furnace Atomic Absorption Spectroscopy (GFAAS). 1999 UTEP Student Research Exposition. October 14, 1999, El Paso, Texas.
606. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Cano-Aguilera, I. (1999). Heavy Metal Binding by *Mucor rouxii* Biomass Grown under Copper-Stressed Conditions. 1999 Conference on Hazardous Waste Research: Gateways to Environmental Solutions. May 24-27, St. Louis, Missouri.

607. Gamez, G., Dokken, K., Tiemann, K.J., Yacaman, M.J., **Gardea-Torresdey, J.L.**, Renner, M.W. (1999). Spectroscopic Studies of Gold(III) Binding to Alfalfa Biomass. 1999 Conference on Hazardous Waste Research: Gateways to Environmental Solutions. May 24-27, St. Louis, Missouri.
608. Tiemann, K.J., Gamez, G., Dokken, K., **Gardea-Torresdey, J.L.**, Renner, M.W. (1999). Copper(II) and Lead (II) Binding by Alfalfa Biomass: Use of Chemical Modification and X-ray Absorption Spectroscopy to Determine the Metal-Binding Mechanism. 1999 Conference on Hazardous Waste Research: Gateways to Environmental Solutions. May 24-27, St. Louis, Missouri.
609. Dokken, K., Gamez, G., Tiemann, K.J., Pingitore, N.E., **Gardea-Torresdey, J.L.**, Renner, M.W. (1999). Characterization of Chromium (IV) Bioreduction and Chromium (III) Binding to Alfalfa Biomass. 1999 Conference on Hazardous Waste Research: Gateways to Environmental Solutions. May 24-27, St. Louis, Missouri.
610. Rios, J.V., Bess-Oberto, L., Tiemann, K.J., and **J.L. Gardea-Torresdey. (1999)** Investigation of Metal Ion Binding by Agricultural By-Products. 1999 Conference on Hazardous Waste Research: Gateways to Environmental Solutions. May 24-27, St. Louis, Missouri.
611. Garcia, A.F., Gaig, T. Tiemann, K.J., and **J.L. Gardea-Torresdey. (1999)** Adsorption of Heavy Metal Ions by Biomass of Solanum elaeagnifolium (Silvery Nightshade). 1999 Conference on Hazardous Waste Research: Gateways to Environmental Solutions. May 24-27, St. Louis, Missouri.
612. Espino, T., **Gardea-Torresdey, J.L.**, Barnes, B., Pingitore, N. (1999). Seasonal Variations in Pollution Sources in the El Paso-Juarez Binational Airshed. American Geophysical Union 1999 Meeting. May 20, 1999.
613. Tiemann, K.J., Dokken, K., Gamez, G., Renner, M.W., Furenlid, L.R., and **Gardea-Torresdey, J.L. (1999)**. Difference in Oxidation State of Fe(II) and Fe(III) on the Metal Binding Properties by Medicago sativa. 1999 Ninth Annual WERC Conference on the Environment. April 26-29, 1999, Albuquerque, New Mexico.
614. A.E. Garcia, T.H. Baig, K.J. Tiemann, and J.L. **Gardea-Torresdey. (1999)**. Binding of Copper(II), Lead(II), and Zinc(II) by Modified and Unmodified Biomass of Solanum elaeagnifolium. 1999 Ninth Annual WERC Conference on the Environment. April 26-29, 1999, Albuquerque, New Mexico.
615. Gamez, G., Tiemann, K.J., Dokken, K., Renner, M.W., Furenlid, L.R., and **Gardea-Torresdey, J.L. (1999)**. Bioreduction and Binding Au(III) by Medicago sativa. 1999 Ninth Annual WERC Conference on the Environment. April 26-29, 1999, Albuquerque,

New Mexico.

616. Rios, J., Tiemann, K.J., and **Gardea-Torresdey, J.L. (1999)**. Study of Oat and Wheat Biomass for Metal Removal and Optimization of Metal Ion Binding. 1999 Ninth Annual WERC Conference on the Environment April 26-29, 1999, Albuquerque, New Mexico.
617. Dokken, K., Gamez, G., Tiemann, K.J., N.E. Pingitore, and **Gardea-Torresdey, J.L. (1999)**. Effects of Metal Binding to Medicago sativa due to the Presence of Chromium(III) in Mixed-Metal Solutions. 1999 Ninth Annual WERC Conference on the Environment. April 26-29, 1999, Albuquerque, New Mexico.
618. T.H. Baig, A.E. Garcia, K.J. Tiemann, and **J.L. Gardea-Torresdey. (1999)**. Removal of Lead(II) by Silica-Immobilized Larrea tridentata under Flow Conditions. 1999 Ninth Annual WERC Conference on the Environment. April 26-29, 1999, Albuquerque, New Mexico. (This presentation won the First Place Award at the Conference).
619. G. Gamez, K.J. Tiemann, K. Dokken, M.J. Yacaman, J.L. **Gardea-Torresdey. (1999)**. Use of Alfalfa as a Pollution Prevention Technology to Recover Gold(III) from Aqueous Solutions. 7th Annual HBCU/OMI Department of Energy Symposium. Miami, Florida, March 1999.
620. Iglesias, A., Espino, T.T., **Gardea-Torresdey, J.L.**, Bruce, A., and Pingitore Jr. N.E. **(1999)**. Speciation of Copper and Arsenic in Particulate Matter from El Paso/Juarez Binational Airshed. Conference of the American Geophysical Union. San Francisco, CA.
621. Espino, T.T., **Gardea-Torresdey, J.L.**, Barnes, B. and Pingitore Jr., N.E. **(1998)**. Identity, Elemental/Isotopic Composition and Origin of Particulates in El Paso-Juarez Air, 1968-1998. 1998 SCERP EPA Technical Conference the U.S. Mexico Border: A Shared Future. October 28-30, El Paso, Texas.
622. Espino, T.T., **Gardea-Torresdey, J.L.**, Barnes, B. and Pingitore Jr. N.E., **(1998)**. Seasonal Variation in Pollution Sources in El Paso/Juarez Binational Airshed. Conference of the American Geophysical Union. (This presentation won the Outstanding Presentation Award).
623. Tiemann, K.J., **Gardea-Torresdey, J.L.**, Gamez, G., Dokken, K. **(1998)**. Pollution Prevention Technology for the Removal of Heavy Metals from Aqueous Solution by Medicago sativa (Alfalfa). 1998 National EPA STAR Technical Conference. June 14-16, Arlington, Virginia.
624. **Gardea-Torresdey, J.L.**, Sias, S., Tiemann, K.J., Hernandez, A., Rodriguez, O., Arenas, J. **(1998)**. Evaluation of Northern Chihuahuan Desert Plants for Phytoextraction of Heavy Metals from Contaminated Soils. 1998 Conference on Hazardous Waste Research. May 19-21, Snow Bird, Utah.

625. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Dokken, K., Gamez, G. (1998). Investigation of Metal Binding in Alfalfa Biomass through Chemical Modification by Amino and Sulfhydryl Ligands. 1998 Conference on Hazardous Waste Research. May 19-21, Snow Bird, Utah.
626. Tiemann, K.J., **Gardea-Torresdey, J.L.**, Dokken, K., and Gamez G. (1998). Interference Studies for Multi-metal Binding by *Medicago sativa* (Alfalfa). 1998 Conference on Hazardous Waste Research. May 19-21, Snow Bird, Utah.
627. **Gardea-Torresdey, J.L.**, Hernandez, A., Tiemann, K.J., Rodriguez, O., Sias, S. (1998). Enhanced Metal Binding Capacity of NaOH Treated *Larrea tridentata* Leaf Tissue. 1998 Conference on Hazardous Waste Research. May 19-21, Snow Bird, Utah.
628. Espino, T.T., **Gardea-Torresdey, J.L.**, Barnes, B. and Pingitore Jr., N.E. (1998). Use of ICP-MS to Determine Elemental Composition of Air Particulates in El Paso/Juarez Airshed. 1998 Conference on Hazardous Waste Research. May 19-21. Snow Bird, Utah.
629. **Gardea-Torresdey, J.L.**, Gamez, G., Tiemann, K.J., Dokken, K., Yacaman, M.J. (1998). Innovative Technology to Recover Gold(III) from Aqueous Solutions by using *Medicago sativa*(Alfalfa). 1998 Conference on Hazardous Waste Research. May 19-21, Snow Bird, Utah. (This presentation won the Special Recognition Award at the Conference).
630. Espino, T., **Gardea-Torresdey, J.L.**, Pingitore, N.E. (1998) Determination of Metals in Ambient Particulate Matter From El Paso/ Juarez Air Using ICP/MS and XRMF. 1998 Geological Sciences Colloquium, El Paso, Texas, April 17-18.
631. **Gardea-Torresdey, J.L.** (1998). Metal Ion Binding by Alfalfa Biomass: Studies of the Metal-alfalfa Binding Mechanisms. Symposium in Environmental Chemistry, New Mexico State Univ., Las Cruces, NM, April 18, Invited Presentation.
632. **Gardea-Torresdey, J.L.**, Hernandez, A., Tiemann, K.J., Rodriguez, O., and Sias, S. (1998). Metal Ion Binding by *Larrea Tridentata* under Hard Water Conditions. Symposium in Environmental Chemistry, New Mexico State University, Las Cruces, NM, April 18.
633. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Dokken, K., and Gamez, G. (1998). Determination of Alfalfa Biomass Metal Binding by Amino Ligand through Chemical Modification. Symposium in Environmental Chemistry, New Mexico State University, Las Cruces, NM, April 18.
634. Morales, J., Lopez, J.A., **Gardea-Torresdey, J.L.** (1998). Using Alpha-Induced X-Ray Emission to Search for Heavy Metals in Vegetation. 1988 Joint Meeting of the American

Association of Physics Teachers, Columbus Ohio, April 18-21.

635. Mahmoud, J., **Gardea-Torresdey, J.L.**, Javaher, N., and Enriquez, J. (1998). Determination of Chromium(III) by Bioaccumulation of a Peat Moss-Modified Carbon Paste Electrode. Annual Meeting of the Rio Grande American Society for Microbiology, January 16-17. El Paso, Texas.
636. **Gardea-Torresdey, J.L.**, Pingitore Jr., N.E., and Espino, T. (1998). Elemental Analysis of Particles in El Paso/Juarez Air. 1998 Student Research Expo, El Paso, Texas, March 27.
637. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Gamez, G., and Dokken, K. (1998). Pollution Prevention Technology for the Removal of Gold(III) from Aqueous Solutions by *Medicago sativa* (Alfalfa). 1998 Student Research Expo, El Paso, Texas, March 27.
638. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Dokken, K., and Gamez, G. (1998). Determination of Alfalfa Biomass Metal Binding by Amino Ligands through Chemical Modification. 1998 Student Research Expo, El Paso, Texas, March 27.
639. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Hernandez, A., Sias, S., and Rodriguez, O. (1998). Metal Ion Binding by *Larrea tridentata* Under Hard Water Conditions. 1998 Student Research Expo, El Paso, Texas, March 27.
640. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Dokken, K., Gamez, G. (1998). Determination of Alfalfa Biomass Metal Binding by Amino Ligands through Chemical Modification. WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico.
641. Tiemann, K.J., **Gardea-Torresdey, J.L.**, Gamez, G., Dokken, K. (1998). Binding of Heavy Metal Ions from Mixed Metal Solutions by *Medicago sativa* (Alfalfa) Biomass. WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico.
642. Cano-Aguilera, I., **Gardea-Torresdey, J.L.**, Webb, R. (1998). Copper Uptake by Active Cells of *Mucor rouxii* and Identification of the Copper Binding Proteins. WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico.
643. **Gardea-Torresdey, J.L.**, Sias, S., Hernandez, A., Rodriguez, O., Arenas, J., Tiemann, K.J. (1998). Screening of Northern Chihuahuan Desert Plants for Their Heavy Metal Phytoremediation Potential in Contaminated Soils. WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2. Albuquerque, New Mexico.
644. **Gardea-Torresdey, J.L.**, Arenas, J., Webb, R., Tiemann, K.J. (1998). Effects of

Carboxyl-Group Esterification on Metal Binding Ability of *Synechococcus* PCC 7942 (Cyanobacteria), presented at the WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico.

645. **Gardea-Torresdey, J.L.**, Hernandez, A., Tiemann, K.J., Rodriguez, O., Sias, S. (1998). Metal Ion Binding by *Larrea tridentata* Under Hard Water Conditions. WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico.
646. **Gardea-Torresdey, J.L.**, Rodriguez, O., Tiemann, K.J., Gamez, G., Sias, S. (1998). Adsorption Isotherms: A Method for the Determination of Metal binding Capacity by *Medicago sativa* (Alfalfa). WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico.
647. **Gardea-Torresdey, J.L.**, Gamez, G., Tiemann, K.J., Dokken, K., Jose Yacaman, M. (1998). Pollution Prevention Technology for the Removal of Gold(III) from Aqueous Solutions by *Medicago sativa*(Alfalfa). WERC-WRHSR 1998 Joint Conference on the Environment. March 31-April 2, 1998, Albuquerque, New Mexico. (The presentation won the Second Place award).
648. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Dokken, K., and Rodriguez, O. (1998). *Medicago Sativa* (Alfalfa), System for the Removal and Recovery of Heavy Metal Ions from Aqueous Solution. 215th National Meeting of the American Chemical Society (Division of Environmental Chemistry), March 1998.
649. Cano-Aguilera, I, **Gardea-Torresdey, J.L.** and R. Webb (1998). Copper Binding to Active and Inactivated Cells of *Mucor rouxii*. Annual Meeting of the Rio Grande American Society for Microbiology, January 16-17. El Paso, Texas. (The presentation won the Second Place award).
650. Polette, L., **Gardea-Torresdey, J.L.**, Pingitore, N., Chianelli, R., Pickering, I., George, G., Yacaman, M.J. and Alatorre, A. (1997). X-ray Spectroscopic Studies of Heavy Metal Up take by *Larrea Tridentata*. Presented at the Conference "Applications of X-ray Absorption Spectroscopy in Monitoring, Understanding and Improving Phytoremediation." Stanford Synchrotron Radiation Laboratory 24th Conference. October 15-17. Stanford University, Stanford, California.
651. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Rodríguez, O., Gamez, G., and Sias, S. (1997). Metal Ion Binding by Alfalfa Biomass and Studies of the Metal-Alfalfa Binding Mechanism. International Biometals Symposium. August 10-14. University of Calgary, Calgary, Alberta, Canada. Invited Presentation
652. Cano-Aguilera, I., **Gardea-Torresdey, J.L.**, Pingitore, N.E. Jr., and Webb, R. (1997). Electron Microprobe and X-ray Microfluorescence Analyses of Copper Binding to Active

and Inactivated Cells of *Mucor rouxii*. 12th Annual Conference on Hazardous Waste Research 1997. May 19-22. Kansas City, Missouri.

653. Tiemann, K.J., **Gardea-Torresdey, J.L.**, Renner, M.W., Sias, S., Gamez, G., and Rodriguez, O. (1997). Study of the Ligands Involved in Metal Binding to Alfalfa Biomass. 12th Annual Conference on Hazardous Waste Research. May 19-22, 1997. Kansas City, Missouri.
654. **Gardea-Torresdey, J.L.**, Hernandez, A., Tiemann, K.J., Bibb, J., and Rodriguez, O. (1997). Uptake and Removal of Toxic Metal Ions from Solution by Inactivated Cells of *Larrea tridentata* (Creosote-Bush). 12th Annual Conference on Hazardous Waste Research. May 19-22. Kansas City, Missouri.
655. Polette, L. **Gardea-Torresdey, J.L.**, Chianelli, R., Pickering, I.J., and George, G.N. (1997). Determining Copper and Lead Binding in *Larrea tridentata* through Chemical Modification and X-ray Absorption Spectroscopy. 12th Annual Conference on Hazardous Waste Research, May 19-22. Kansas City, Missouri.
656. **Gardea-Torresdey, J.L.**, Arenas, J.L., Webb, R., Francisco, N.M.C., and Tiemann, K.J. (1997). Determination of the Ability of Inactivated and Immobilized Cells of *Synechococcus* PCC 7942 (Cyanobacteria) to Uptake Metal Ions from Solution. 12th Annual Conference on Hazardous Waste Research. May 19-22. Kansas City, Missouri.
657. Tiemann, K.J., **Gardea-Torresdey, J.L.**, Gamez, G., Rodriguez, O., Sias, S. (1997). Determination of Metal Binding Groups in Alfalfa Biomass. Hazardous Substance Research Center (HSRC) & Waste-management Education and Research Consortium (WERC) 1997 Joint Conference on the Environment, April 22-24, Albuquerque, NM.
658. **Gardea-Torresdey, J.L.**, Bibb, J., Tiemann, K.J., Hernandez, A., Rodriguez, O. (1997). Adsorption of Lead, Cadmium, Zinc, and Nickel by Inactivated Cells of *Larrea tridentata* (Creosote Bush). Hazardous Substance Research Center (HSRC) & Waste-management Education and Research Consortium (WERC) 1997 Joint Conference on the Environment, April 22-24, Albuquerque, NM.
659. **Gardea-Torresdey, J.L.** and Li, X. (1997). Cu(II) and Pb(II) Adsorption by Base-Modified and Unmodified Biomasses of Agricultural Byproducts. Hazardous Substance Research Center (HSRC) & Waste-management Education and Research Consortium (WERC) 1997 Joint Conference on the Environment, April 22-24, Albuquerque, NM.
660. **Gardea-Torresdey, J.L.**, Polette, L., Chianelli, R., Pickering, I., and George, G. (1997). Determining Copper and Lead Binding in *Larrea Tridentata* through Chemical Modification and X-Ray Absorption Spectroscopy. Hazardous Substance Research Center (HSRC) & Waste-management Education and Research Consortium (WERC) 1997 Joint Conference on the Environment, April 22-24, Albuquerque, NM.

661. Tiemann, K.J., **Gardea-Torresdey, J.L.**, Gamez, G., Rodriguez, O., Sias, S. (1997). Determination of Metal Binding Ligands in Alfalfa Biomass for a Potential Phyto-Filter. Presented at the 1997 UTEP Geological Sciences Colloquium, April 19. (The presentation won the First Place award).
662. Pollete, L.A., **Gardea-Torresdey, J.L.**, Chianelli, R., Pickering, I. and George, G. (1997). Determining Copper and Lead Binding in Larrea Tridentata through Chemical Modification and X-ray Spectroscopy. 1997 UTEP Geological Sciences Colloquium, April 19. (The presentation won the Second Place award).
663. **Gardea-Torresdey, J.L.**, Tiemann, K., Gamez, G. (1997) Characterization of Gold (III) Binding and Bioplasting by Medicago sativa Alfalfa: Presentation in the Environmental Field at the 1997 University of Texas at El Paso Geological Sciences Colloquium, April 18-19.
664. **Gardea-Torresdey, J.L.**, Tiemann, K., Gamez, G. (1997) Binding and Bioplasting of Gold(III) by Medicago sativa Alfalfa. 1997 Border Student Research Exposition, El Paso, Texas, April 11.
665. **Gardea-Torresdey, J.L.**, Bibb, J., Tiemann, K.J., Hernandez, A., Rodriguez, O. (1997). Adsorption of Lead, Cadmium, Zinc, and Nickel by Inactivated Cells of Larrea tridentata (Creosote Bush). 1997 Border Student Research Exposition, El Paso, Texas, April 11.
666. Xiaoyan L. **Gardea-Torresdey, J.L.** (1997). Cu and Pb Adsorption by Base-Modified and Un-modified Biomasses of Agricultural By-Products. 1997 Border Student Research Exposition, El Paso, Texas, April 11.
667. Rodríguez, O., **Gardea-Torresdey, J.L.**, Gamez, G., Tiemann, K. and Sias, S. (1997). Total Actual Binding Capacities and Adsorption Isotherms. 1997 Border Student Research Exposition, El Paso, Texas, April 11.
668. Pollete, L.A., **Gardea-Torresdey, J.L.**, Chianelli, R., Pickering, I., and George, G. (1997). X-ray Absorption Spectroscopic Analyses of Copper and Lead Binding in Larrea Tridentata. 1997 Border Student Research Exposition, El Paso, Texas, April 11.
669. Cano-Aguilera, I., **Gardea-Torresdey, J.L.**, and Webb, R. (1997). Enhanced Copper and Lead Adsorption in Cells of Copper Stressed Mucor rouxii. 1997 Border Student Research Exposition, El Paso, Texas, April 11.
670. Raphael, D.T., **Gardea-Torresdey, J.L.** and Tiemann, K. (1997). Volatile Impurities in Normothermic and Heated Plastic Intravenous Solution Bags, Presented at the International Anesthesia Research Society 71st Clinical and Scientific Congress, March 14-18, San Francisco, California.

671. **Gardea-Torresdey, J.L.**, Arenas, J., Webb, R., Tiemann, K.J., Gonzalez, J.H. (1996). Uptake of Metal Ions from Solution by Inactivated Cells of Cyanobacteria. Eleventh Annual EPA Conf. on Hazardous Waste Research, (HSRC/WERC Joint Conference on the Environment), Albuquerque, NM, May 21-23.
672. **Gardea-Torresdey, J.L.**, Polette, L., Arteaga, S., Tiemann, K.J., Bibb, J., Gonzalez, J.H. (1996). Determination of the Content of Hazardous Heavy Metals on Larrea Tridentata Grown Around a Contaminated Area. Eleventh Annual EPA Conf. on Hazardous Waste Research, (HSRC/WERC Joint Conference on the Environment), Albuquerque, NM, May 21-23.
673. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Gonzalez, J.H., Henning, J. A., Townsend, M. S. (1996). Calcium and Magnesium Interference Studies for the Binding of Heavy Metal Ions in Solution by Medicago Sativa. Eleventh Annual EPA Conf. on Hazardous Waste Research, (HSRC/WERC Joint Conference on the Environment), Albuquerque, NM, May 21-23.
674. **Gardea-Torresdey, J.L.**, Bibb, J., Tiemann, K.J., Gonzalez, J.H., Arenas, J. (1996). Adsorption of Copper Ions from Solution by Heavy Metal Stressed Larrea Tridentata (Creosote Bush) Biomass. Eleventh Annual EPA Conf. on Hazardous Waste Research, (HSRC/WERC Joint Conference on the Environment), Albuquerque, NM, May 21-23.
675. **Gardea-Torresdey, J.L.**, Gonzalez, J.H., Tiemann, K.J., Rodriguez, O. (1996) Biosorption of Cadmium, Chromium, Lead, and Zinc by Biomass of Medicago Sativa (Alfalfa). Eleventh Annual EPA Conf. on Hazardous Waste Research, (HSRC/WERC Joint Conference on the Environment), Albuquerque, NM, May 21-23.
676. **Gardea-Torresdey, J. L.**, Bibb, J., Pollete, L., Tiemann, K. J., Gonzalez, J. H., and Arenas, J. (1996). Adsorption of Copper Ions from Solution by Heavy Metal Stressed Larrea Tridentata (Creosote Bush) Biomass. 1996 Border Student Research Expo, El Paso, TX, April 9-10.
677. **Gardea-Torresdey, J.L.**, Arenas, J., Webb, R., Tiemann, K. J., and Gonzalez, J. H. (1996). Uptake of Metal Ions from Solution by Inactivated Cells of Synechoccus PCC 7942 (Cyanobacteria). 1996 Border Student Research Expo, El Paso, TX, April 9-10.
678. **Gardea-Torresdey, J.L.**, Gonzalez, J. H., Tiemann, K. J., and Rodríguez, O. (1996). Medicago sativa (Alfalfa) System for the Removal and Recovery of Heavy Metal Ions from Aqueous Solution. 1996 Border Student Research Expo, El Paso, TX, April 9-10. Our presentation won the First Place in the Research Projects Competition.
679. **Gardea-Torresdey, J.L.**, Tiemann, K. J., and Gonzalez, J. H., (1996). Uptake of Copper Ions from Solution by Different Varieties of Medicago Sativa (Alfalfa). 1996 Energy and

Environmental Scholars Poster Competition, El Paso, TX, March 28. This presentation won the Third Place in the Competition.

680. **Gardea-Torresdey, J.L.**, Gonzalez, J. H., Tiemann, K.J. (1996). Ability of Medicago Sativa (Alfalfa) to Uptake Nickel Ions from Aqueous Solution. 1996 Southwest Section AAPG Convention, "Energy, Minerals, and the Environment." El Paso, TX, March 10-12.
681. Barnes, B., Pingitore, N.E., Boughner, S., Amaya, M., French A., Rico-Escobar, E., Chavarria, C., and **Gardea-Torresdey, J.L** (1996). The Border Basket: Analysis of Toxic Elements in Retail Foods, El Paso-Juarez. Abstracts of the 1996 Southwest Section AAPG Convention, "Energy, Minerals, and the Environment." El Paso, TX, March 10-12.
682. Barnes, B., Pingitore, N.E., Mackay, W., and **Gardea-Torresdey, J.L.** (1996). Metals Concentrations in Soils, El Paso, Texas. Abstracts of the 1996 Southwest Section AAPG Convention, "Energy, Minerals, and the Environment. El Paso, TX, March 10-12.
683. Vazquez-Montiel, O., **Gardea-Torresdey, J.L.**, and VanDerslice, J. (1995). Field Evaluation of wastewater Reuse Practices in Northern Mexico. International Symposium on Wastewater Reclamation and Reuse, International Association on Water Quality, Iraklio, Crete, Greece, October 17-20.
684. **Gardea-Torresdey, J.L.**, Tiemann, K.J., Gonzalez, J. H., Cano-Aguilera, I., Henning, J. A., and Townsend, M. S. (1995). Ability of Medicago Sativa (Alfalfa) to Uptake Nickel Ions from Aqueous Solution. Tenth Annual EPA Conference on Hazardous Waste Research, Kansas State Univ., Manhattan, KS, May 23-24.
685. **Gardea-Torresdey, J.L.**, Martinez-Gonzalez, S., and Pannell, K.H. (1995). Method Development for the Determination of Tin in the Marine Environment of La Paz, B.C.S., Mexico, using Atomic Absorption Spectroscopy. Tenth Annual EPA Conference on Hazardous Waste Research, Kansas State Univ., Manhattan, KS, May 23-24.
686. **Gardea-Torresdey, J.L.**, Tiemann, K. J., and Gonzalez, J. H. (1995). Uptake of Copper Ions from Solution by Different Varieties of Medicago Sativa (Alfalfa). Tenth Annual EPA Conference on Hazardous Waste Research, Kansas State Univ., Manhattan, KS, May 23-24.
687. **Gardea-Torresdey, J.L.**, Cano-Aguilera, I., and Gutierrez-Corona, F. (1995). Copper Binding by *Mucor rouxii* Grown in the Presence and Absence of Copper Ions. Tenth Annual EPA Conference on Hazardous Waste Research, Kansas State Univ., Manhattan, KS, May 23-24.
688. **Gardea-Torresdey, J.L.**, Tang, L., and Salvador, J. M. (1995). Copper Adsorption by Sphagnum Peat Moss and Its Different Humic Fractions. Tenth Annual EPA Conference on Hazardous Waste Research, Kansas State Univ., Manhattan, KS, May 23-24.

689. **Gardea-Torresdey, J.L.**, Tang, L., and Salvador, J. M. (1995). Copper Adsorption by Sphagnum Peat Moss and Its Different Humic Fractions. 1995 Border Student Research Expo, El Paso, TX, April 11.
690. **Gardea-Torresdey, J.L.**, Martinez-Gonzalez, S., and Pannell, K.H. (1995). Method Development for the Determination of Tin in the Marine Environment of La Paz, B.C.S., Mexico. 1995 Border Student Research Expo, El Paso, TX, April 11.
691. **Gardea-Torresdey, J.L.**, Cano-Aguilera, I., and Gutierrez-Corona, F. (1995). Copper Binding by *Mucor rouxii* Grown at High and Low Copper Concentrations. 1995 Border Student Research Expo, El Paso, TX, April 11.
692. **Gardea-Torresdey, J.L.**, Tiemann, K. J., and Gonzalez, J. H. (1995). Uptake of Copper and Nickel Ions from Solution by Different Varieties of *Medicago Sativa* (Alfalfa). 1995 Border Student Research Expo, El Paso, TX, April 11. Our presentation won the Second Place in the Research Projects Competition.
693. **Gardea-Torresdey, J.L.**, Tiemann, K. J., and Gonzalez, J. H. (1995). Uptake of Copper Ions from Solution by Different Varieties of *Medicago Sativa* (Alfalfa). 1995 Energy and Environmental Scholars Poster Competition, El Paso, TX, March 31. This presentation won the Second Place in the Competition.
694. Vasquez, O., **Gardea-Torresdey, J.L.**, and Vander slice, J. (1994). Field Evaluation of Agricultural Irrigation with Waste Water in the Juarez/El Paso Area. 52th Annual Meeting of the US-Mexico Border Association of Environmental Health, Monterrey, Nuevo Leon, Mexico, June 3-6.
695. **Gardea-Torresdey, J.L.** (1994). Aplicaciones de las Algas en Quimica Ambiental. Invited Distinguished Seminar on Earth's Day by the Mexican Academy of Sciences and the Mexican National Council of Science and Technology (CONACyT). 5th Week of Scientific Research. Juarez, Mexico, April 18-22.
696. Core, R.J., Henning, J.A., and **Gardea-Torresdey, J.L.** (1993). *Medicago* Spp. Leaf and Stem Volatile Organic Compounds as Potential Chemical Signals for Insect Response. 41st Annual Meeting of the Entomological Society of America, Albuquerque, NM, February 8-12.
697. Darnall, D. W., McPherson, R. M., and **Gardea-Torresdey, J.** (1989). Metal Recovery from Geothermal Waters and Groundwaters Using Immobilized Algae. International Symposium on Bio-hydrometallurgy, Jackson, Wyoming, August.
698. Darnall, D. W., Gabel, A., and **Gardea-Torresdey, J.** (1989). Algasorb: A New Biotechnology for Removing and Recovering Heavy Metal Ions from Groundwater and

Industrial Wastewater. AWWA/EPA International Symposium, Cincinnati, Ohio.

699. Darnall, D.W., **Gardea-Torresdey, J.L.** and Krambeer, C. (1989). Immobilized Algae: A New Biotechnology for Removing and Recovering Heavy Metal Ions from Groundwaters. Hazmacon '89, Santa Clara California, April.
700. Wang, J., Zadeii, T., Martinez, T., Darnall, D., and **Gardea-Torresdey, J.** (1988). Voltammetric Sensors Based on Preconcentrating Chemically Modified Electrodes. 195th National Meeting of the American Chemical Society, Toronto, Ontario, Canada, June 5-10.
701. **Gardea-Torresdey, J.** Darnall, D., and Wang, J. (1988). Voltammetric Sensors Based on Algae-Modified Carbon Paste Electrodes. 9th Rocky Mountain Regional Meeting of the American Chemical Society, Las Vegas, Nevada, March 27-30.
702. Darnall, D. W., Greene, B., and **Gardea-Torresdey, J.** (1987). Gold Binding to Algae. The International Symposium on Biohydrometallurgy, Warwick, England.
703. Greene, B., Hosea, J. M., McPherson, R. A., **Gardea-Torresdey, J.**, Darnall, D. W. (1987). Algal Ion Exchangers for Waste Metal Reclamation. 194th National Meeting of the American Chemical Society, Environmental Chemistry Division, New Orleans, LA. Abstract No. 276
704. **Gardea-Torresdey, J.**, Duarte, M. M., and Olivas, V. R. (1983). Evaluation of the Soybean-Casein's System through Acidic Agents in the Development of Cheese Analogs. XIV National Congress of Food Science and Technology, Mexico City, Mexico, October 10-14.

Chairman in National and International Conferences:

Organizer of the First ERC Center, IPAB Meeting-UTEP, October 3rd and 4th 2017.

Organizer and Session chair at the Sixth Sustainable Nanotechnology Organization Conference, Hotel Marina del Rey, Los Angeles, CA, November 5-7, 2017.

Organizer of the symposium “Tribute to Pedro Alvarez” at the Sixth Sustainable Nanotechnology Organization Conference, Hotel Marina del Rey, Los Angeles, CA, November 5-7, 2017.

Session Chair in the symposium “Tribute to Pedro Alvarez,” Sixth Sustainable Nanotechnology Organization Conference, Hotel Marina del Rey, Los Angeles, CA, November 5-7, 2017.

Co-organizer and Session Chair at the International Symposium 2017 on AgroBio Nanotechnology, Saltillo, Coahuila, México, Octubre 25-27, 2017 (keynote speaker).

Session chair at the 2017 International Symposium on Environmental Science and Technology, Beijing Xijiao Hotel, Beijing, China, September 19–22, 2017.

Session chair 2nd International symposium on Environmental Impact of Engineered Nanoparticles, Qingdao, China, April 29-30, 2016.

Co-organizer of the International Chemical Congress of Pacific Basin Societies. Pacificchem 2015, Honolulu, Hawaii, USA December 15 - 20, 2015.

Co-organizer and session chair in the 2015 International symposium on Environmental Science and Technology, Chongqing, China, November 1-3, 2015.

Session chair 2015 International symposium on Environmental Science and Technology, Chongqing, China, November 1-3, 2015.

Chair of the Search Committee for UTEP Pharmacy faculty 2015

Co-organizer and session chair of the Exposure Workshop on Manufactured and Engineered nanomaterials, UCLA campus, California NanoSystems Institute March 19-20, 2015.

Session Chair at the 7th International Conference on Nanomaterials - Research & Application. Hotel Voronez I, Brno, Czech Republic, EU, October 14th - 16th 2015

Session Chair at the 12th International Phytotechnologies Conference, Manhattan, Kansas 27-30 September 2015.

Co-Organizer and Session Chair in the International Symposium entitled "International Symposium on Environmental Solutions for Industrial Cities (ISESIC)" University of Ulsan, Ulsan, South Korea January 14 - January 16, 2014.

Session Chair at the International Conference on Nanoscience & Technology, China 2013, September 5-7, 2013, Beijing, China.

Organizer and Session Chair in the symposium entitled "A Tribute to Bill Glaze": A leader in Environmental Science and Technology, American Chemical Society, Division of Environmental Chemistry, 238th ACS National Meeting, Washington, D.C. **August 16-20, 2012**

Session Chair at the 16th European Conference on Analytical Chemistry, Belgrade, Serbia, September 11-15, 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.

ICEIN 2011-EPA Nano-Grantees Conference, Duke University, Durham, NC, **May 9-11, 2011**. (Invited session chair).

Chairman, workshop on soil remediation. 3^{er} simposio consorcio Japon-Mexico-Estados Unidos de Ingenieria Tecnologica. University of Guanajuato, Gto., Mexico, **March 8, 2010**.

Organizer and Session Chair in the symposium entitled “A Tribute to Gary Eiceman”: 65th Southwest Regional Meeting of the ACS, El Paso, TX. **November 7-11, 2009**.

Organizer and Session Chair in the symposium entitled “A Tribute to Bill Glaze”: A leader in Environmental Science and Technology, American Chemical Society, Division of Environmental Chemistry, 238th ACS National Meeting, Washington, D.C. **August 16-20, 2009**

Co-Organizer 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**.

Invited external examiner, PhD committee Ruwandi Andrahennadi, University of Saskatchewan, Saskatoon, CA, **Fall 2009**.

NSF Panel Reviewer of 2009 IGERT Proposals, Arlington, VA, June 6-3, 2009.

Chairman of the workshop: Development of new methods for measurement in complex media. International Meeting of the Center for Environmental Implications of Nanotechnology. Washington, DC, September 9-11, 2009.

Session Chairman of the 2009 International Meeting of the Center for Environmental Implications of Nanotechnology, Washington, DC, September 9-11, 2009.

Organizer and Chair: Tribute to Bill Glaze Symposium. American Chemical Society, Division of Environmental Chemistry. 238th ACS Meeting, Washington, DC, August 16-20, 2009.

Co-Organizer 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.

Session Chair of the 10th International Conference on the Biogeochemistry of Trace Elements, Chihuahua City, Mexico, 13-16 July, 2009.

Session Chairman, the 4th Nordic Conference on Plasma Spectrochemistry, Loen, Norway, June 15-18, 2008.

Co-Organizer of the “Chromium Symposium” at the 233rd ACS National Meeting, Chicago, IL, March 25-29, 2007.

Session Chairman, Environmental Chemistry- 2006 International Congress on Analytical Sciences. Moscow, Russia, June 23-26, **2006.** (Unable to attend due to gall bladder surgery)

Session Chairman, Phyto- and Bioremediation- Emerging Technologies for a Sustainable Environment, 2005 EPA Conference. South Padre Island, Texas, October 20-21 **2005.**

Session Chairman- Nanobiotechnology-The XXXVIth International Conference on Coordination Chemistry. Merida, Yucatan, MX, July 18-23, 2004.

Session Chairman of the Society of Environmental Toxicology and Chemistry (SETAC) 24th Annual Meeting, Austin, Texas, 9 - 13 November **2003.**

Organizer-26th Chemistry Week (Semana de Quimica), University of Chihuahua, Chihuahua City, Mexico, October 15-19, 2003. (Invited 6 speakers from UTEP-and got the funding for- to participate in the five-day Symposia on Chemistry research).

Session Chairman of the Southern and Eastern Africa Network of Analytical Chemistry (SEANAC) Meeting, held in Gaborone, Botswana, 7-10 July, **2003.**

Session Chairman of the Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources 2002 Conference. Meeting, held in Kansas City, Missouri. July 30-August 1, **2002.**

Organizer-26th Chemistry Week (Semana de Quimica), University of Chihuahua, Chihuahua City, Mexico, October 15-19, 2001. (Invited 13 speakers from UTEP-and got the funding for- to participate in the five-day Symposia on Chemistry research.

Session Chairman of the 2001 Conference on Hazardous Waste Research: New Approaches to Managing Environmental Quality in the Heartland. Meeting, held in Manhattan, Kansas, 22-24 May, **2001**

Session Chairman of the 2000 Conference on Hazardous Waste Research: Environmental Changes and Solutions to Resource Development, Production, and Use. Meeting, held in Denver, Colorado, 23-25 May, 2000

Session Chairman & Organizer- General Analytical / Environmental Chemistry - Joint 55th Southwest and 15th Rocky Mountain Regional Meeting of the American Chemical Society (SWARM99) El Paso, Texas, October 21-23, 1999. (Invited 70 speakers for the two-day

Symposia on Environmental Chemistry.

Session Chairman- Metals Remediation - 1999 Conference on Hazardous Waste Research, St. Louis, Missouri, May 24-27, 1999.

Session Chairman-Metal Remediation Technologies- 99' Joint EPA-WERC-WRHSRC-NMHWMS Conference on the Environment. Albuquerque, New Mexico, April 26-29, 1999.

Session Chairman-Bioremediation-Phytoremediation of Metals- 1998 Annual Conference on Hazardous Waste Research. May 18-21, 1998, Snowbird, Utah.

Session Chairman-Environmental Chemical Sensors- 98' Joint EPA-WERC-WRHSRC-NMHWMS Conference on the Environment. March 31-April 1, 1998, Albuquerque, New Mexico.

Session Chairman-Environmental Chemistry and Environmental research in the US-Mexico Border- 97 EPA-HSRC-WERC Joint Conference on the Environment. April 22-24, 1997, Albuquerque, New Mexico.

Session Chairman-Bioremediation-Phytoremediation of Metals- 12th Annual EPA Conference on Hazardous Waste Research. May 19-22, 1997, Kansas City, Missouri.

Session Chairman, Bioremediation-Phytoremediation of Metals- 11th Annual EPA-HSRC-WERC Conference on Hazardous Waste Research. May 21-23, 1996, Albuquerque, New Mexico.

Co-Chairman of the First Joint International Symposium on Environmental Analysis, Mexico-USA, entitled "Implementation of Environmental Analytical Methods." Organized by The US-EPA and the Mexican Instituto Nacional de Ecologia. The Symposium was held in Juarez, Mexico (November 6-7, 1995), Monterrey, Mexico (November 9-10, 1995), Mexico City (November 13-14, 1995), and Guadalajara, Mexico (November 16-17, 1995).

News Items Highlighting Group Research

1. **Research Highlighted by the European Synchrotron Radiation Facility ESRF Spotlight on Science. 2017.** Bioaccumulation of nanoparticle CuO within a terrestrial food chain increases by weathering in soil. <http://www.esrf.eu/home/news/spotlight/content-news/spotlight/spotlight291.html>.
2. **Research Highlighted by the European Synchrotron Radiation Facility.** Tracing nanoparticle transformations in soybean plants. SSRF Highlights Newsletter 13 (8), 1-3.
3. **Research Highlighted by the European Synchrotron Radiation Facility,** X-rays reveal uptake of nanoparticles by soybean, April 2013.
4. **Research Highlighted by the European Synchrotron Radiation Facility,** Uptake of

- titanium dioxide nanoparticles by cucumber plants probed by submicrometer X-ray
November, 2012.
5. **Safety of nanoparticles in food crops is still unclear**, ACS News Service Weekly PressPac: Wed Jun 01 16:42:03 EDT 2011
 6. **Research highlighted by the NIH's National Institute of General Medical Sciences in the 2005 Budget request to US Congress of 2 billion dollars.**
 7. **Research highlighted by the NIH's National Institute of General Medical Sciences**, Fall 2003
 8. **Not just for grilling: Mesquite may help clean the environment**, *NIH NIGMS Minority Programs UPDATE*, *National Institute of General Medical Sciences*, Fall 2003, p. 7, Article by Kirstie Saltsman.
 9. **Mesquite: cleaner of the desert?** (Spectrum), Environment, Sept, 2003
 10. **Mesquite May Clean Up in the Desert**. Technology Solutions, *Environmental Science and Technology*, June 2003. p. 215A, Article by Kellyn Betts
 11. **Texas Professors Mine Plants for Gold**. *Hispanic Outlook*, January 2003
 12. **Mining with Alfalfa**. *Special Science News of ABCNEWS.com*, September 2002. Article by Lee Dye.
 13. **There's Gold in them there roots**. *New Scientist*, March 2002, p. 18. Article by Ian Sample.
 14. **Harvesting Gold nanoparticles from sprouts**. *Chemical and Engineering News. Science Highlights*, Vol. 80, 12, March 2002, p. 38.
 15. **Researchers spin straw into Gold**. *National Geographic*, August 2002. Article by Peter N. Spotts.
 16. **Nanopartículas de oro cosechadas en brotes de Alfalfa**. *Notas Científicas-Notas Breves, Asociación Mexicana de Ciencias*, Junio del 2002. Article by Antinona Segura Peralta.
 17. **Znanstvenici otkrili kako slamu pretvoriti u-zlato**. *Hina NewsLine*, July 2002.
 18. **Naucnici otkirili kako slamu da pretvore u-zlato**. *Zurca System*, July 2002.
 19. **Fields of Gold nanoparticles nodding in the Sun**. *DOE Pulse. Science and Technology Highlights from the DOE National Laboratories*, August 2002. Article by Tom Mead.
 20. **Scientists use Alfalfa plants to Harvest nanoparticles of Gold**. *Science Daily*, August 2002
 21. **No Fairy Tale: Researchers spin straw into Gold**. *The Christian Science monitor*, August 2002. Article by Peter N. Spotts.
 22. **Making money grow on trees**. *Space Daily*, August 2002. Article by Tom Mead.
 23. **Researchers looks at Harvesting Gold nanoparticles**. *The Alchemist News*, September 2002. Article by Jean Thilmany.
 24. **Small is beautiful smaller is Golden**. *Popular Science*, November 2002. Article by Etienne Benson.
 25. **Growing for Gold**. *Materials Today*, November 2002.
 26. **Fields of Gold**. *Texas innovator* November 2002.
 27. **Gold Nanoparticles**. *Research and Development Update, Chemical Engineering*, November 2002.
 28. **No Fairy Tale: Researchers spin straw into Gold**. *AgFiber technology*, September 2002. Article by Peter N. Spotts.

29. **No Fairy Tale: Researchers spin straw into Gold.** *The Sacramento Bee*, August 2002. Article by Peter N. Spotts.
30. **Scientists use Alfalfa plants to Harvest nanoparticles of Gold.** *Stanford University News service*, August 2002
31. **Mining Gold with Alfalfa.** *Nano/Bio Convergence*, **BBCNews**. September 2002.
32. **Mit Pftanzen Goldpartiked ernten.** *Neues aus der Wissenschaft*, September 2002
33. **Alfalfa plants harvest gold nanoparticles.** Article by Liz Kalaugher. **Nanotechweb.org**, August 2002
34. **Zlato iz biljaka, SLOBODNA DALMACIJA**, August 2002. pp. 2-4. Article by Goran Basic.
35. **Campos de Oro.** *Texas Innovator*, November 2002
36. **Znanstvenici otkrili kako slamu pretvoriti u-zlato.** **VJESNIK ON LINE**, July 2002
37. **International research team uses alfalfa plants to harvest nanoparticles of gold.** *Stanford Report*, August 2002. Article by Tom Mead.

Patents and Patent Applications

1. **Gardea-Torresdey, J.L.**, Parsons, J.G., Peralta-Videa, J.R., Gomez, E., Jose-Yacamán, M. (2003). Provisional Application for United States Letters Patent for the Preparation of Metal Nanoparticles in Plants. UTSE: 103USP1.
2. **Gardea-Torresdey, J.L.**, Tiemann, K. J., Polette, L., Chianelli, R., Pingitore, N., and Mackay, W. (1999). Phytoremediation of Heavy Metals with Creosote Plants. **United States Patent** No. 5,927,005, July 27
3. Darnall, D.W., McPherson, R.A., and **Gardea-Torresdey, J.L.** (1993). A Method of Purification of Trivalent Chromium Electroplating Baths, United States Patent No. 5,178,746, January 12.
4. Darnall, D.W., **Gardea-Torresdey, Jorge L.**, and McPherson, R.A. (1993). A Rapid, Ambient-Temperature Process for Stripping Gold Bound to Activated Carbon, United States Patent No. 5,176,886, January 5.
5. Greene, B., McPherson, R.A., Darnall, D.W., and **Gardea-Torresdey, Jorge L.** (1991). Removal of Metal Ions with Immobilized Metal Ion-Binding Microorganisms; United States Patent No. 5,055,402, October 8.

10. GRANTS

After 25 years at UTEP, Dr. Gardea-Torresdey has been successful in obtaining major grants (alone and jointly), which have brought about \$116,104,827 million dollars (118 grants).

1. ENVIRONMENTAL PROTECTION AGENCY (Superfund Program), Removal and Selective Recovery of Heavy Metal Ions from Superfund Sites Using Biological Materials. July 1, 1994 to May 31, 1996. **Funded at \$181,152.** Principal Investigator.

2. UNIVERSITY RESEARCH INSTITUTE, Chemical Modification of Carboxyl Groups in Humic Substances and Its Effect on Metal Ion Binding, February 14, 1994 to March 1995. **Funded at \$3,000.** Principal Investigator.
3. ENVIRONMENTAL PROTECTION AGENCY (Superfund Program), Bioremediation of Chromium in Contaminated Soils and Potential Application to the Bioremediation of Cr(VI) Contaminated Soils. With Philip Goodell, Larry Jones (UTEP Department of Geological and Biological Sciences), and S.D. Pillai (Texas A & M University, Research Experimental Station). July 1, 1994 to May 31, 1996. **Funded at \$149,036.** Co-PI
4. NATIONAL INSTITUTES OF HEALTH (MBRS Program), Recovery of Toxic Heavy Metals from Contaminated Water Supplies by Using Biologically-derived Materials. June 1, 1995 to May 31, 1999. **Funded at \$330,082.92.**
5. HEWLETT-PACKARD COMPANY, Application of Supercritical Fluid Extraction and Gas Chromatography/Mass Spectrometry in Environmental Analysis. June 1, 1995 to May 31, 1996. **Funded at \$61,695.** Principal Investigator.
6. OFFICE OF NAVAL RESEARCH, DEPARTMENT OF DEFENSE, Instrumentation Funding for an Environmental Scanning Electron Microscope. With L.W. ter Haar, and C.W. Dirk from the UTEP Department of Chemistry. September 1, 1995 to August 31 1998. **Funded at \$723,791.** Co-Principal Investigator.
7. ENVIRONMENTAL PROTECTION AGENCY, GREAT PLAINS/ROCKY MOUNTAIN HAZARDOUS SUBSTANCES RESEARCH CENTER. **Awarded \$3,000** to attend The 10th EPA Hazardous Waste Research Conference in May 23-24, 1995 in Manhattan, Kansas (along with research group).
8. ENVIRONMENTAL PROTECTION AGENCY, SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY, Seasonal Characterization of Inorganic and Organic Contaminants Associated to Suspended Particle Matter and Evaluation of its Possible Effects on Children Respiratory Health in Nuevo Laredo, Mexico. With Enrique Vogel Martinez (from the Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey Mexico). July 1, 1995 to January 31, 1997. **Funded at \$99,396.80.** Principal Investigator.
9. TEXAS TECH UNIVERSITY, HEALTH SCIENCES CENTER, DEPARTMENT OF ANESTHESIOLOGY, Investigation of Dissolved Vinyl Chloride Gas in Heated Plastic Intravenous Solutions Bags. With Dr. D. Raphael (Texas Tech University). **Funded at \$4000.** September 1995 to March 1996. Principal Investigator.
10. NATIONAL SCIENCE FOUNDATION, ACADEMIC RESEARCH INFRASTRUCTURE PROGRAM, Acquisition of X-Ray Fluorescence Instrumentation for Archaeological, Geological, and Environmental, Research and Training. With Dr. N.E.

- Pingitore (UTEP Department of Geological Sciences), Dr. D.L.Carmichael, and Dr. J.A. Peterson (UTEP Sociology and Anthropology Department). **Funded at \$181,126.** (Total project cost) for funding period of September 1, 1996 to August 31, 1999. Co-Principal Investigator.
11. NATIONAL INSTITUTES OF HEALTH, Acquisition of a Multi-Nuclear Nuclear Magnetic Resonance Spectrometer with Solids and Liquids Probe. With Dr. Salvador and Dr. Pannell (UTEP Chemistry Department). Funded at \$286,200 from NIH plus \$145,000 from the Kresge Foundation (**total funding \$431,200**).for Funding period of August 1, 1996 to May 31, 1999. Co-principal Investigator.
 12. WITCO CORPORATION, (Environmental Degradation Studies of Pesticides in Agricultural Formulations Containing Ultraviolet Stabilizers). Funded at \$14,925 plus \$3500 donation to the Chemistry Department and Equipment donation (Waters HPLC, ca. \$40,000). **Total funding approx. \$86,469** September 1, 1996 to August 31, 1997. Project awaiting continuation approval. Principal Investigator.
 13. SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY, ENVIRONMENTAL PROTECTION AGENCY, (Identity, Elemental/Isotopic Composition and Origin of Particulates in El Paso-Juarez Air, 1968-1998). With Nicholas E. Pingitore. **Funded at \$110,699** for the period June 1, 1997 through December 31, 1999. Co-principal Investigator.
 14. STANFORD SYNCHROTRON RADIATION LABORATORY, DEPARTMENT OF ENERGY, (Speciation of Metals in Creosote Bush, A Phytoremediating Desert Shrub). With Russell Chianelli. Proposal funded for beamtime for period May 1, 1997 to June 1, 1999. **Approximate value of \$100,000** Principal Investigator.
 15. DEPARTMENT OF ENERGY, (Study of Alfalfa Phytofiltration Technology to clean Heavy Metal Contaminated waters). **Funded at \$42,920** (Total Project Cost) for the period May 12, 1997 to October 30, 1997. Principal Investigator.
 16. BROOKHAVEN NATIONAL LABORATORY-NATIONAL SYNCHROTRON LIGHT SOURCE-DEPARTMENT OF ENERGY, (Mechanisms of Waste Metal Sorption to Biomass Materials During Pre-concentration and Separation using Synchrotron Radiation Techniques). With Mark Renner and Lars Furenlid (BNL-NSLS). Proposal partially funded for rapid turnaround beamtime for period September 1, 1997 to August 29, 1999. **Approximate value of \$50,000.** Co-Principal Investigator. Submitted July 1, 1997.
 17. DEPARTMENT OF ENERGY, (Study of Alfalfa Phytofiltration Technology to clean Heavy Metal Contaminated waters/Mixed Metal-Solutions). **Funded at \$34,640.88** (Total Project Cost) for the period November 1, 1997 to September 30, 1998. Principal Investigator.

18. UTEP-NSF MINORITY INSTITUTES OF EXCELLENCE (MIE) PROGRAM, (Introduction of Environmental Chemistry Field Sampling Equipment in Undergraduate Science and Engineering Courses). With J. Walton, C. Turner, and N. Pingitore. Funded at \$8,782 plus \$3952 indirect cost **(\$12,734 total funding)**. June 1, 1998- May 31, 1999. Co-Principal Investigator.

19. ENVIRONMENTAL PROTECTION AGENCY, (Study of Alfalfa Phytofiltration Technology to Clean Heavy Metal Contaminated Waters and Industrial Effluents). Funded at \$55,000 plus \$24,750 indirect cost **(\$79,750 total funding)**. March 1, 1998-August 31, 2000. Principal Investigator.

20. DEPARTMENT OF ENERGY, (Pollution Prevention Technology to Clean Heavy Metal and Organic Contaminants from Waters). **Funded at \$41,198.76.** October 1, 1998 to September 30, 1999. Principal Investigator.

21. SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY, ENVIRONMENTAL PROTECTION AGENCY, (Characterization of PM Air Concentrations in the Paso del Norte Air Quality Basin). This is a multi-institutional, multi-investigator proposal. **Funded at \$749,999** October 1, 1998 to August 31, 2000. Co-principal Investigator.

22. DEPARTMENT OF ENERGY, HBCU/MI, (Development of a Novel Environmental Electrochemical Sensor for Heavy Metal Ion Detection and Remediation Based on Alfalfa Biomass). **Funded at \$49,621.44.** October 1, 1999 to September 30, 2000. Principal Investigator.

23. DEPARTMENT OF DEFENSE, ARMY CORP OF ENGINEERS, Bioremediation, Education, Science and Technology Center (BEST). **Funded at \$266,231.** June 1, 1999 to October 31, 2000. Co-Investigator.

24. NATIONAL INSTITUTES OF HEALTH. (Amino Acid Residues Involved in Metal Ion Binding by Class II Metallothioneins). With R. Webb. **Funded at \$502,905.48.** June 1, 1999 to May 31, 2003. Co-Principal Investigator.

25. STAR EPA PROGRAM. (Characterization of Multimetal Binding by Alfalfa Using Spectroscopic Techniques). Proposal Submitted for the support of my graduate student, Kenneth Dokken, on March 1999. **Funded at approximately \$49,964.** September 1, 1999 to August 31, 2001. Principal Investigator.

26. ENVIRONMENTAL PROTECTION AGENCY, (Applications of Live Alfalfa Plants in Phytoremediation of Heavy Metals: Studies of the Uptake Mechanisms by using Hydroponics and Solid-Media). Funded at \$70,000 plus \$31,100 indirect cost **(\$101,100 total funding)**. September 1, 1999-December 31, 2001. Principal Investigator.

27. SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY, ENVIRONMENTAL PROTECTION AGENCY, (Characteristics of Ambient Particulate Matter in the Paso del Norte Region-2000/2002). This is a multi-institutional, multi-investigator proposal. **Funded at \$190,000** for the period September 1, 2000 through March 3, 2002. Co-principal Investigator

28. DEPARTMENT OF ENERGY. (Development of a Novel Environmental Electrochemical Sensor for Heavy Metal Ion Detection and Remediation Based on Alfalfa Biomass). **Funded at \$136,102.28**. October 1, 1999 to March 31, 2003. Principal Investigator.

29. SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY, ENVIRONMENTAL PROTECTION AGENCY, (Electrochemical Studies of Metal-ion Binding to Alfalfa Biomass). **Funded at \$19,309.56**. October 1, 2000 to May 31, 2001. With Kirk Tiemann, Co-principal Investigator.

30. 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.

31. DOE/STANFORD SYNCHROTRON RADIATION LABORATORY. (Mechanisms of Heavy Metal Adsorption by Biomaterials using XAS). With R.R. Chianelli, K. Tiemann, I. Pickering, G. George. Peer-reviewed competitive program for beam time allotment. **Approximate value of \$500,000**. Feb. 1, 2000-May, 31, 2005. Principal Investigator.

32. SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY, ENVIRONMENTAL PROTECTION AGENCY, (Use of ICP-OES to Investigate the Reduction and Reuse of Mixed Contaminate Wastewaters Using Phytofiltration). **Funded at \$63,173.80** October 1, 2000 to August 31, 2001. With Kirk Tiemann, Principal Investigator.

33. CONSEJO NACIONAL DE CIENCIA Y TECNOLOGIA-MEXICAN COUNCIL OF SCIENCE AND TECHNOLOGY, (Use of Biomaterials in the Removal and Recovery of Heavy Metals for Industrial Effluents). **Funded at \$12, 500**. January 1, 1999 to August 31, 2000. With I. Cano-Aguilera, University of Guanajuato, Mexico. Co-investigator.

34. DOE. (Synchrotron Based Studies at UTEP/Phase I). **Funded at \$81,400**. June 1, 2000 to August 31, 2001. With R. Chianelli and N. Pingitore. Co-investigator.

35. CONSEJO NACIONAL DE CIENCIA Y TECNOLOGIA DEL ESTADO DE GUANAJUATO – MEXICAN COUNCIL OF SCIENCE AND TECHNOLOGY OF THE STATE OF GUANAJUATO, (Use of Biofilters for the Removal of Metals from Natural Waters). **Funded at \$25,500**. October 1, 2000 to September 31, 2001. With I. Cano-Aguilera, University of Guanajuato, Mexico. Co-investigator.

36. DOE. (Synchrotron Based Studies at UTEP/Phase II). **Funded at \$278,240.** October 1, 2000 to September 30, 2002. With R. Chianelli and N. Pingitore. Co-investigator.
37. UTEP - INNOVATIVE BORDER HEALTH RESEARCH. (Childhood Lead Exposure in El Paso-Juarez). **Funded at \$34,000** (\$14,000 UTEP and \$20,000 Texas Tech Contribution). January 1, 2001 to August 31, 2001. With M. Amaya, N. Pingitore, K. Tiemann, J. Haynes and J. Zevallos. Co-Principal Investigator.
38. PAN AMERICAN HEALTH ORGANIZATION. (Data Collection and Analysis for Surveys on Water, Air, Soil, Safety Foods, and Solid Wastes on the US/Mexico Border). **Funded at \$1,000.** June 1, 2000 to August 31, 2000. Funds used to support Ph.D. Student Roberto Hurtado.
39. CONSEJO NACIONAL DE CIENCIA Y TECNOLOGIA-MEXICAN COUNCIL OF SCIENCE AND TECHNOLOGY, (Evaluation of the Health Effects due to Radon Inhalation in the States of Chihuahua and Zacatecas). **Funded at \$25,000.** January 1, 2001 to December 30, 2003. With Maria Montero, Centro de Investigacion en Materiales Avanzados, Mexico. Co-investigator.
40. RAYTHEON ELECTRONIC SYSTEMS, (Raytheon's Research and Engineering Apprenticeship Program at UTEP). **Funded at \$3,750.** September 1, 2001 to August 31, 2002. Principal Investigator.
41. SANDIA NATIONAL LABORATORIES (DOE), (Environmental Training along the US-Mexico Border). **Funded at \$30,527.96.** June 4, 2001 to December 31, 2002. Principal Investigator.
42. STAR ENVIRONMENTAL PROTECTION AGENCY PROGRAM. (STAR Graduate Fellowship at UTEP). Proposal Submitted for the support of graduate student Narcizo Guerrero. **Funded at approximately \$102,000.** September 1, 2001 to August 31, 2004. Principal Investigator.
43. NATIONAL INSTITUTES OF HEALTH. Reduction of Health Risks with the Use of Metal Accumulating Desert Plants, **Funded at approximately \$409,800.16.** June 1, 2001 to May 31, 2003. Principal Investigator.
44. DOE/MATERIAL CORRIDOR COUNCIL, (Fundamental Studies of Bioproduced Nanomaterials and Applications). **Funded at \$65,120.** June 1, 2001 to December 31, 2003. Principal Investigator.
45. US ARMY RESEARCH OFFICE, (Research and Engineering Apprenticeship Program). **Funded at \$7,500.** June 1, 2001 to December 31, 2001. Principal Investigator.

46. STAR ENVIRONMENTAL PROTECTION AGENCY PROGRAM. (STAR Graduate Fellowship at UTEP). Proposal Submitted for the support of graduate student Tania Espino. **Funded at approximately \$102,000.** September 1,2001 to August 31, 2004. Principal Investigator (with N. Pingitore).
47. NATIONAL SCIENCE FOUNDATION, (Acquisition of Laser Ablation for ICP/MS and Electron Microprobe Upgrade, for Geological and Environmental Research and Research Training. With N.E. Pingitore and C. Andronicos (UTEP Department of Geological Sciences) **Funded at \$135,345** (total project cost: \$60,000 NSF and \$75,345 UTEP match). September 1, 2001 to August 31, 2003. (Co-Principal Investigator).
48. DEPARTMENT OF DEFENSE-OFFICE OF NAVAL RESEARCH, (Ion Trap LC/MS System for Teaching and Research). With L. Martinez (PI), R. Chianelli, J. Salvador, E. Rael, S. Aley, and T. Primm. **Funded at \$250,000.** September 1, 2001 to December 31, 2002. (Co-Investigator).
49. ARGONNE NATIONAL LABORATORY-INTESNSE PULSE NEUTRON SOURCE, (Characterization of Heavy Metal Binding by Functional groups Found in Biomaterials). Peer-reviewed competitive program for beam time allotment. **Approximate value of \$100,000.** January 1, 2002-Jan.31, 2003. Principal Investigator.
50. NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES (NIH) (Community-Based Participatory Research in Environmental Health). With M. Amaya (PI), and N. Pingitore. **Funded at \$1,750,000.** September 1, 2001 to August 31, 2006.(Co-Investigator).
51. SOUTHWEST CENTER FOR ENVIRONMENTAL RESEARCH AND POLICY,ENVIRONMENTAL PROTECTION AGENCY, (Potential Sources of Contamination of the Rio Grande Depicted from a Surface Runoff Analysis in Developed Areas of the Paso del Norte Region). With Alberto Barud (CERM). **Funded at \$118,623.48** for funding period of June 1, 2002 to August 31, 2003. Co-Principal Investigator.
52. CENTER FOR BORDER HEALTH RESEARCH, (Search for Plants with Bioremediation Potential Associated with the Rio Grande). With Dr. H. Pelayo (Univ. Of Juarez). **Funded at \$41,212.** December 31, 2002 to June 30, 2004. Co-Principal Investigator.
53. DOE. (Synchrotron Based Studies at UTEP/Phase III). **Funded at \$288,600.** October 1, 2002 to September 30, 2003. With R. Chianelli and N. Pingitore. Co-investigator.
54. DOE/STANFORD SYNCHROTRON RADIATION LABORATORY. (Speciation of Toxic Elements in Air Particulates from the El Paso-Juarez Border Region). With Gustavo Cruz-Jimenez (PI) and N. Pingitore. Peer-reviewed competitive program for beam time

- allotment. **Approximate value of \$100,000.** Sept. 2, 2002-May.31, 2005. Co-Principal Investigator.
55. NATIONAL INSTITUTES OF HEALTH (Supplemental Funding from NIH to our NIH Funded Project to Create a X-ray Diffractometer Core Facility) With Dr. Rael and and Dr. Pannell. Funded at \$274,706 from NIH plus \$490,000 match from UTEP (**total funding \$764,706**) for Funding period of June 1, 2002 to May 31, 2003. Co-principal Investigator.
 56. DOE/STANFORD SYNCHROTRON RADIATION LABORATORY. (XAS Investigations Into the Mechanisms of Lanthanide Uptake and Adsorption by Biomaterials). With Jason Parsons (PI) (My Ph.D. Student) Peer-reviewed competitive program for beam time allotment. **Approximate value of \$100,000.** Sept. 2, 2002-May. 31, 2005. Co-Principal Investigator.
 57. ACADEMY OF APPLIED SCIENCES, (2002 Research and Engineering Apprenticeship Program at UTEP). **Funded at \$10,000.** June 1, 2001 to August 31, 2002. Principal Investigator.
 58. DEPARTMENT OF ENERGY, (Use of ICP/OES to Investigate the Removal of Actinides and Lanthanides from Aqueous Solutions). **Funded at \$149,961.** Sept. 1, 2001 to June 31, 2003. Principal Investigator.
 59. UTEP GRADUATE SCHOOL. (Removal of chromium species from aqueous solutions using Agave Lechuguilla biomass). Proposal Submitted for the support of graduate student Jaime Romero. **Funded at \$1,000.** March 1, 2003 to December 31, 2003. Principal Investigator.
 60. US ARMY, WHITE SANDS MISSILE RANGE (Environmental spectroscopic and chromatographic equipment for teaching and research) With G. Saupe (Chemistry UTEP). **Funded at \$170,582.** 01/01/03-1/1/13. Pincipal Investigator.
 61. UTEP GRADUATE SCHOOL. (Study of Selenium Accumulation by Desert Plants). Proposal Submitted for the support of graduate student Gustavo Cruz. **Funded at \$1,000.** March 1, 2003 to December 31, 2003. Principal Investigator.
 62. TEXAS DEPARTMENT OF PUBLIC SAFETY (FT-Infrared Spectrometer equipment for teaching and research) With G. Saupe (Chemistry UTEP).Equipment has a value of approximately **\$70,000.** 04/01/03-3/31/08. PI
 63. ACADEMY OF APPLIED SCIENCES (2003 Research and Engineering Apprenticeship Program) **Funded at \$25,000** 5/01/03/ to 8/31/03

64. ACADEMY OF APPLIED SCIENCES, (2003 Research and Engineering Apprenticeship Program at UTEP). **Funded at \$25,000.** June 1, 2001 to January 31, 2004. Principal Investigator.
65. ENVIRONMENTAL PROTECTION AGENCY (SCERP) (Effects of Long Term Fluoride Intake from Drinking Water on Bone fractures, Blood Chemistry, and Thyroid Profile in Adolescents Living in Villa Ahumada, Chihuahua, Mexico). **Funded at \$64,561** for funding period of June 1, 2003 to December 31, 2004. Co-Principal Investigator.
66. NATIONAL SCIENCE FOUNDATION. (Bridges to the Doctorate program). Support for my graduate student Veronica Armendariz. **Funded at approximately \$100,640.** September 1, 2003 to August 31, 2005.
67. NATIONAL INSTITUTES OF HEALTH (Project Renewal) (Reduction of Health Risks with the Use of Metal Accumulating Desert Plants) **Funded at approximately \$795,800.** June 1, 2003 to May 31, 2007. Principal Investigator.
68. STANFORD LINEAR ACCELERATOR CENTER, STANFORD UNIVERSITY (DOE), (Synchrotron-Based Studies @ UTEP). With R. Chianelli and N. Pingitore. **Funded at \$746,827.75.** January 1, 2000 to September 30, 2004. (Co-Investigator).
69. US AIR FORCE (Can living plants synthesize biological gold catalysts suitable for industrial application?) With C. Anderson and R. Haverkamp, Massey University, New Zealand. **Funded at \$47,850** January 1, 2004 to December 31, 2007. (UTEP Principal Investigator).
70. UTEP GRADUATE SCHOOL. (Removal of chromium species from aqueous solutions using Agave lechuguilla biomass). Proposal Submitted for the support of graduate student Jaime Romero. **Funded at \$1,000.** March 1, 2003 to December 31, 2003. Principal Investigator.
71. CENTER FOR ADVANCED MICROSTRUCTURES AND DEVICES LOUISIANA STATE UNIVERSITY. (Study of Sulfur Interaction in the Accumulation of selenium by some desert plant species from the Chihuahuan desert). With Gustavo Cruz-Jimenez and G. Meitzner. Peer-reviewed competitive program for beam time allotment. **Approximate value of \$100,000.** January 1, 2004-December 31, 2007. Principal Investigator.
72. US DEPARTMENT OF ENERGY/HOWARD UNIVERSITY (Exploring the Use of Alfalfa and Tumbleweed to restore mercury and selenium contaminated soils) With J. R. Peralta-Videa. **Funded at \$74,330** 9/30/02 to 09/29/05. Principal Investigator.
73. UTEP GRADUATE SCHOOL. (Study of Selenium Accumulation by Desert Plants). Proposal Submitted for the support of graduate student Gustavo Cruz. **Funded at \$1,000.** March 1, 2003 to December 31, 2003. Principal Investigator.

74. NATIONAL SCIENCE FOUNDATION (Part of group representing the USA in the International IUPAC SEANAC inaugural conference in Gaborone Botswana). **Funded at approximately \$13,700** for funding period 7/2/03 to 7/10/03.
75. ACADEMY OF APPLIED SCIENCES (2004 Research and Engineering Apprenticeship Program at UTEP). **Funded at \$13,000**. March 02, 2004 to December 31, 2004. Principal Investigator.
76. UTEP GRADUATE SCHOOL. (Study of the uptake mechanism, translocation and storage of gold by the desert plant species *Chilopsis linearis*). Proposal Submitted for the support of graduate student Elena Rodriguez. **Funded at \$1,000**. August 31, 2004 to December 31, 2004. Principal Investigator.
77. UTEP GRADUATE SCHOOL. Phytofiltration potential of saltbush (*Atriplex canescens*) to clean up heavy metals contaminated waters. Proposal Submitted for the support of graduate student Maather Sawalha. **Funded at \$1,000**. August 31, 2004 to December 31, 2004. Principal Investigator.
78. SOUTHWEST CONSORTIUM FOR ENVIRONMENTAL RESEARCH AND POLICY/ENVIRONMENTAL PROTECTION AGENCY, (Heavy Metal Remediation Capacity of Native Southwestern Grasses for Mining-Contaminated Sites in the U.S.-Mexico Border Region). With Ken Marcum (ASU). **Funded at \$73,585** for funding period of June 1, 2004 to October 1, 2005. Co-Principal Investigator.
79. 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
80. 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. **Funded at \$100,000** for funding period 6/1/2005 to 5/31/2008. PI.
81. STANFORD SYNCHROTRON RADIATION LABORATORY (SSRL) Investigations into the uptake, formation, and extraction of gold nanoparticles from live and inactivated biological tissues. **Funded at \$100,000** for funding period 6/1/2005 to 5/31/2008. With Jason Parsons.
82. NATIONAL SCIENCE FOUNDATION (Bridge to the Doctorate Fellowship Program) Fellowship for my student Milka Montes. **Funded at approximately \$81,000** for the funding period 9/1/05 to 8/31/07.

83. NATIONAL RESEARCH FOUNDATION-GOVERNMENT OF SOUTH AFRICA. Grant to support Dr. Sharon Mokgalaka to do postdoctoral studies with me at UTEP. **Funded at \$43,000.** May, 17, 2005 to May 16, 2007. PI
84. NATIONAL SCIENCE FOUNDATION (Bridge to the Doctorate Fellowship Program) Fellowship for my student Jack Arias. **Funded at approximately \$81,000** for the funding period 9/1/05 to 8/31/07.
85. NATIONAL SCIENCE FOUNDATION MRI: Acquisition of a scanning electron microscopy for nanoscale science and technology research, training and teaching. **Funded at \$570,500** for the funding period 09/01/2005 to 08/31/2008 (with David Zubia, Rus Chianelli, John McClure, and Larry, Murr).
86. ACADEMY OF APPLIED SCIENCES 2005 Research and Engineering Apprenticeship Program (REAP). **Funded at \$7,800** for the funding period 06/01/05-08/30/05
87. STANFORD LINEAR ACCELERATOR CENTER, STANFORD UNIVERSITY (DOE), (Synchrotron-Based Studies at UTEP, phase III). With R. Chianelli and N. Pingitore. **Funded at \$ 198,800.** October 1, 2005 to 9/30/06. (Co-PI).
88. CONSEJO NACIONAL DE CIENCIA Y TECNOLOGÍA DE GUANAJUATO (Efecto de la Edad de la planta, presencia de quelante EDDS y concentracion de sulfatos en la tolerancia y absorcion de Cr por helianthus annuus) **Funded at \$12,000** for the funding period 3/20/2006 to 3/19/2007 (With Dr. Guadalupe de la Rosa). Co-PI
89. CONSEJO NACIONAL DE CIENCIA Y TECNOLOGÍA DE GUANAJUATO (Estudio del uso potencial de especies vegetales del estado de guanajuato en la remocion de selenio) **Funded at \$12,000** for the funding period 3/20/2006 to 3/19/2007 (With Dr. Gustavo Cruz-Jimenez). Co-PI
90. ACADEMY OF APPLIED SCIENCES 2006 Research and Engineering Apprenticeship Program (REAP) at UTEP. **Funded at \$13,000** for the funding period 06/01/06-08/31/07.
91. 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 12/31/2007.
92. UNIVERSITY OF TEXAS SYSTEM LERR PROGRAM (Use of Infrared Microspectroscopy (IMS) for the Direct Analysis of Plant Cell Wall Architecture). **Funded at approximately \$200,000** for the funding period 1/01/06 to 12/31/08.
93. SANDIA NATIONAL LABORATORIES (Removal of silica from RO concentrates) **Funded at \$250,000** for the funded period 6/01/2006 to 5/31/2008. PI

94. NATIONAL SCIENCE FOUNDATION (MRI): acquisition of a confocal Raman/AFM hybrid system) with Felicia Manciú, Narayan and Russ Chianelli. **Funded at \$288,090** for the funding period 9/1/2007 to 8/31/2010 Co-PI
95. U.S. EPA BORDER 2012 GRANT PROGRAM (Gastrointestinal diseases and causal effects at the Valle de Juárez, Chihuahua, Mexico) with Alberto Ramirez and Juan Pedro Flores. **Funded at \$55,000** for the funding period 9/1/2007 to 8/31/2009. Co-PI
96. CONACyT, MEXICO (Evaluating the feasibility of applying phytoremediation to several contaminated scenarios of Guanajuato using Phyto-DSS) (“Evaluación mediante modelaje matemático sobre la viabilidad de aplicar fitorremediación a diferentes escenarios contaminados con metales en el área del Bajío”). **Funded at \$56,000** for the funding period 6/17/2007 to 6/16/2010. UTEP PI.
97. UNIVERSITY OF TEXAS SYSTEM (STARs) Metal–Organic Nanosystems Laboratory. **Funded at \$514,000.00** for funding period of 1/1/2005 to 12/31/ 2013. Principal Investigator.
98. LAWRENCE 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.
99. LAWRENCE BERKELEY NATIONAL LABORATORIES Use of Synchrotron Infrared Microspectroscopy to study structural changes in mesquite plants exposed to ZnO and CeO₂ nanoparticles. **Funded at \$100,000** for the funding period 7/1/2010 to 12/31/2011.
100. USDA- UPRM (Research experiences to foster experiential learning and to enhance education in food, soils, and environmental sciences). **Funded at \$499,991** for the funding period 9/1/08 to 8/31/2012 (UTEP budget \$65,124). (With Felix Roman, University of Puerto Rico) UTEP PI
101. ACADEMY OF APPLIED SCIENCES/US ARMY RESEARCH OFFICE (2008 Research and engineering apprenticeship program (REAP). **Funded at \$10,400** for the funding period 6/01/08 to 6/01/2009. PI (grant # 26-3508-40).
102. NATIONAL SCIENCE FOUNDATION/EPA (University of California Center for the Environmental Implications of Nanotechnology). **Funded at \$24,000,000** for the funding period 10/01/08 to 09/30/2013 (**UTEP budget \$691,000**). With UCLA (P.I. Andre Nel) UTEP PI.
103. NSF (Acquisition of a liquid chromatography-mass spectrometer for research and teaching at a large minority serving institution). **Funded at \$313,879** for the funding period 02/01/09 to 01/31/12. PI. Grant # CHE-0840525.

104. NATIONAL INSTITUTES OF HEALTH, RESEARCH CENTER AT MINORITY INSTITUTIONS and Borders Biomedical Research Center (BBRC). **Funded at \$14,000,000** for the funding period 12/1/2009 to 5/31/2014. Co-PI in the Toxicology Unit.
105. STANFORD LINEAR ACCELERATOR CENTER (DOE) (Speciation of toxic elements and precious metals present in plant tissues and mine tailings from the Guanajuato mining district in Mexico. **Funded at \$100,000** for the funding period 9/1/2009 to 8/31/2012. Co-PI.
106. USDA/UPR -Mayaguez Center for education and training in agricultural and related sciences (CETARS): Consolidating the pipeline in agriculture and natural resources from K12- to the field. **Funded at \$3,200,000** for the funding period 09-01-2011 to 08-31-2016 (UTEP PI) (Grant number 2011-38422-30835).
107. ACADEMY OF APPLIED SCIENCES/US ARMY RESEARCH OFFICE (2011) Research and engineering apprenticeship program (REAP) at UTEP. **Funded at \$11,000** for the funding period 6/01/2011 to 01/31/2012. PI (grant # 26-3508-40).
108. STANFORD LINEAR ACCELERATOR CENTER (DOE). Synchrotron-based X-ray spectroscopy study of the distribution and speciation of oxide nanoparticles in desert and edible plants. **Funded at \$100,000** for the funding period to 02/01/2012 to 02/28/2014 (PI). (Proposal # SSRL3708)
109. NATIONAL SCIENCE FOUNDATION/EPA (University of California Center for the Environmental Implications of Nanotechnology). **Funded at \$24,000,000** for the funding period 10/01/2013 to 09/30/2018 (UTEP budget \$791,000). With UCLA (P.I. Andre Nel, UTEP PI).
110. NATIONAL INSTITUTES OF HEALTH, RESEARCH CENTER AT MINORITY INSTITUTIONS and Borders Biomedical Research Center (BBRC). **Funded at \$14,000,000** for the funding period 12/1/2013 to 5/31/2018. Co-PI in the Toxicology Unit.
111. NATIONAL SCIENCE FOUNDATION MRI: Development of a scan-less temporal focusing two-photon fluorescence microscope for high-speed three-dimensional imaging. **Funded at \$ 928,753** for the funding period 08/15/2014 to 07/31/2018 Co-PI (P.I. Chunqiang Li) Proposal number DBI-1429708.
112. ACADEMY OF APPLIED SCIENCES/US ARMY RESEARCH OFFICE (2014) Research and engineering apprenticeship program (REAP) at UTEP. **Funded at \$24,000** for the funding period 6/01/2014 to 01/31/2016. PI (grant # 26-3508-40).

113. STANFORD LINEAR ACCELERATOR CENTER (DOE) (2014) Spatial localization and speciation of CeO₂ ENPs in Soybean (*Glycine max*) nodules". **Funded at \$100,000** for the funding period 06/01/2014 to 05/31/2016. PI (grant number 4156).
114. AMERICAN CHEMICAL SOCIETY (Associate Editor for North America of the ACS Journal "Environmental Science & Technology,") Sponsored by AMER CHEM SOCIETY, Foundation, **\$300,000.00**. (January 1, 2011 - December 31, 2017).
115. US DEPARTMENT OF AGRICULTURE (FED) -SPN01411 (PhD Training in Agricultural Environmental Sciences). **Funded at \$ 20,000** for the funding period 6/1/2014 to 5/31/2016 (PI), award # 2012-38422-19826-03.
116. NATIONAL SCIENCE FOUNDATION (Nanosystems Engineering Research Center for Off-Grid Nanotechnology Enabled Water Treatment (NEWT)). **Funded at \$18,500,000** for the funding period 9/01/2015/ to 8/31/2020 (PI Pedro Alvarez, Gardea UTEP PI). NSF Award Number EEC-1449500.
117. US DEPARTMENT OF AGRICULTURE AFRI- Foundational Program (Nanoscale elements suppress plant disease, enhance macronutrient use efficiency and increase crop yield). **Funded at \$480,000** for the funding period 03/01/2016 to 2/28/2019 (PI Jason C. White, Gardea UTEP PI). Grant # 2016-67021-24985. (USDA, Center to Enhance Micronutrient Use Efficiency, and Increase Crop Yield)
118. ACADEMY OF APPLIED SCIENCES/US ARMY RESEARCH OFFICE (2016) Research and engineering apprenticeship program (REAP) at UTEP. **Funded at \$15,000** for the funding period 6/01/2016 to 01/31/2017.
119. AMERICAN CHEMICAL SOCIETY (Associate Editor for North America of the ACS Journal "Environmental Science & Technology,") Sponsored by AMER CHEM SOCIETY, **Funded at \$39,000.00**. (January 1, 2017 - December 31, 2017).
120. THE UNIVERSITY OF TEXAS-CONSEJO NACIONAL DE CIENCIA Y TECNOLOGIA (CONTEXT) (Phytoremediation of polluted soils from the Paso del Norte; Is there any synergistic role between nanoparticles and heavy metals?) **Funded at \$109,306** for the funding period 9/1/2017 to 8/31/2019. To support postdoctoral Keni Cota-Ruiz.
121. AMERICAN CHEMICAL SOCIETY (Associate Editor for North America of the ACS Journal "Environmental Science & Technology,") Sponsored by AMER CHEM SOCIETY, Funded at \$37,001.00. (January 1, 2018 - December 31, 2018). Total funds allocated to date **\$304,708.00**.

122. ACADEMY OF APPLIED SCIENCES/US ARMY RESEARCH OFFICE (2018)
Research and engineering apprenticeship program (REAP) at UTEP. **Funded at \$6,000** for the funding period 6/01/2018 to 08/31/2018.

Pending

1. NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA (NSERC-CREATE) Formation avancée en biotechnologies appliquées pour la valorisation et la remédiation environnementale (FABAVRE) (Satinder Brar, PI).
2. US DEPARTMENT OF AGRICULTURE AFRI- National Institute of Food and Agriculture (Transdisciplinary Evaluation of Alternative Water Sources for Agriculture). **Requested funds \$5, 200,000** for the funding period 04/01/2018 to 03/31/2023 (PI Arturo Keller, Gardea UTEP PI).

11. RESEARCH COLLABORATORS (OUTSIDE UTEP)

1. Andre Nel, 2008-present (UCLA, CEIN)
2. Hilary Arnold Godwin, 2008-present (UCLA, CEIN)
3. Eric, Hoek, 2008-present (UCLA, CEIN)
4. Patricia Holden, 2008-present (UCSB, CEIN)
5. Paul Westerhoff, 2015-present (U
6. Arturo Keller, 2008-present, (UCSB, CEIN)
7. Shivendra Sahi, 2000 – present (Western Kentucky University)
8. Pedro J. Alvarez, 2004- present (Rice University)
9. Guillermo Carrillo-Castaneda, 1999 – present (Colegio de Postgraduados, Mexico)
10. Irene-Cano Aguilera, 1998 – present (U of Guanajuato, Mexico)
11. Miguel Jose Yacaman, 1996 – present (UT Austin)
12. Jose Santiesteban, 1990 – present (Exxon Mobil Company)
13. Rupali Datta 2005- present (UT San Antonio)
14. Dibyendu Sarkar 2005-present (UT San Antonio)
15. Kenneth Marcum, 2004- present (Arizona State University)
16. Michael Grusak 2005-present (USDA-ARS)
17. Christian Anderson 2004- present (Massey University, New Zealand)
18. Gary Banuelos, 2009-present (USDA)
19. Jason White, 2009-present (Connecticut Agriculture Experiment Station)
20. Felix Roman, 2005-present (University of Puerto Rico, Mayaguez)

Postdoctoral Fellows/Visiting Scientists

1. Ramon Benavidez, High School teacher (NEWT summer 2017)
2. Dr. Martha Laura Lopez-Moreno, January 2017- present

3. Dr. Wenchao Du, 2015
4. Dr. Jose A. Hernandez-Viezcas, 3/01-2015- present
5. Dr. Jessica Trujillo Reyes, 2012- present
6. Dr. Lijuan Zhao, 2010- 2014
7. Dr. Guadalupe de la Rosa, 2009-2010
8. Dr. Hilario Lopez, 2008-2009
9. Dr. Martha Laura Lopez, 2007-2009
10. Dr. Edith Flores-Tavizon, 2006-2007
11. Dr. Ken Dokken, 2006-2008
12. Blanca Sanchez, 2005-2006
13. Dr. Sharon Mokgalaka, 2005-2006
14. Dr. Alejandro Martinez, 2003-2006
15. Dr. Jason G. Parsons, 2003, 2004-2008
16. Dr. Alberto Duarte, 2002-2003
17. Dr. Jose R. Peralta-Videa, 2002-2004
18. Dr. Kirk Tiemann, 1998 – 2001

12. CURRENT STUDENTS

Doctoral Students

1. Jesus Cantu, PhD, Chemistry, started January 2018
2. Carolina Valdes, PhD, Chemistry, started January 2018
3. Yuqing Ye, PhD, Chemistry, started summer 2017- to present
4. Suzanne Apodaca, PhD Environmental Science and Eng started Spring 2017- to present
5. Yi Wang, PhD, Chemistry, started Fall 2016- to present
6. Tania Quiroz, PhD, Environmental Science and Engineering, started Fall 2016- to present
7. Reagan Turley, PhD, Chemistry, started Spring 2016- to present
8. Ishaq Adisa, PhD, Environmental Science and Engineering, started Fall 2015- to present
9. Nestor Bonilla, PhD, Environmental Science and Engineering, started Fall 2015- to present
10. Chaoyi Deng, PhD, Chemistry, started Fall 2015- to present
11. Swati Rawat, PhD, Environmental Science and Engineering, started Fall 2014- to present
12. Pullagurala Venkata Laxma Reddy, PhD, Environ Sci Eng started Fall 2014- to present
13. Carlos Tamez PhD, Environmental Sci. and Engineering, started Spring 2014- to present
14. Aidee Medina, PhD, Chemistry, started Spring 2014-to present

Master Students

Undergraduate Students

Mariana Hernandez-Molina

Sahra Mahmud 08/17

Graduate Students-Completed

MS students (34)

1. Stephanie Robinson, Environmental Science, Asarco demolition fallout, a post study on Pb (lead) soil concentrations and environmental agents of redistribution in El Paso, Texas, July 2017
2. Suzanne Apodaca, Environmental Science, Modulation of the physiological and biochemical effects of copper nanoparticles in kidney bean (*Phaseolus vulgaris*) by kinetin, December, 2016.
3. Loren Ochoa, Environmental Science, Evaluating the effects of the phytohormone indole-3-acetic acid in the response of green pea (*Pisum sativum*, Fabaceae) to nanoscale CuO exposure in soil. December, 2016
4. Ana C. Barrios, Chemistry, Effects of citric acid coated and uncoated cerium oxide nanoparticles in tomato (*Solanum lycopersicum*) plants, May 3, 2016.
5. Vahid Jabbari, Chemistry, December 2014
6. Isabel Hernandez, Chemistry, Impact of CeO₂ nanoparticles on cilantro (*Coriandrum sativum*), May 2013 honors.
7. Daniel Arriaga, Environmental Science, Microelement localization in leaves of Populus spp. and tolerance mechanisms to boron-salt toxicity, December 12, 2012.
8. Christina M. Gonzalez, Chemistry, Iron and Manganese based nanomaterials for the removal of selenite and selenate from aqueous solution, August 2010.
9. Jeffrey Hernandez, Chemistry, Chromium(III)/(VI) binding to magnetite (Fe₃O₄), Hausmannite (Mn₃O₄), and Jacobsite (MnFe₂O₄) nanomaterials, July 2010.
10. Jose A. Hernandez-Viezcas, Environmental Science, Toxicity of zinc oxide and cerium oxide nanoparticles on mesquite (*Prosopis juliflora-velutina*), December 15th 2009.
11. Tenoch Benitez, Chemistry, "*Salsola kali* (tumbleweed): A possible biomonitor device for the detection of airborne heavy metals", December 11th 2009.

12. Carlos Acebedo, Chemistry, "Silica removal from brine by using ion exchange" December 10th, 2009.
13. Hiram Castillo-Michel, Environmental Science
14. Estela Rascon, Chemistry, "Characterization of the heavy metal binding mechanisms in *Solanum eleaeagnifolium* biomass using FTIR, AAS, and XAS" December 2005.
15. Isaac Herrera, Chemistry, "Characterization of silver(I) binding by alfalfa biomass (*Medicago sativa*) through pH profile, time, temperature, and X-ray absorption spectroscopy studies" August 2005.
16. Veronica Armendariz, Chemistry, "Bioreduction of gold(III) to gold(0) and nanoparticle formation by oat and wheat biomasses: the use of plants in nanobiotechnology" July 2005.
17. Carolina Contreras, Chemistry. "Ability of Immobilized Humin Biomass to Bind Heavy Metals under Flow Conditions: Batch and Column Interference Studies", July 2003.
18. Martha Laura Lopez, Chemistry. "Study of Gold Binding and Characterization of Gold Nanoparticles Obtained from Aqueous Solutions Using Hop Biomass", May 2003.
19. Guadalupe de la Rosa, Chemistry. "Use of ICP/OES and XAS to Determine Heavy Metal Binding to Humic Substances", May 2003.
20. Eduardo Gomez, Chemistry. "The Nanoparticle Formation and Uptake of Precious Metals by Living Alfalfa Plants", July 2002.
21. Lucero Bess-Oberto, Chemistry. "Nobel Bioelectroanalytical Sensor to Determine Lead(II) and Copper(II) Concentrations and metal Binding Mechanisms to Alfalfa Biomass", May 2002.
22. Kenneth Dokken, Chemistry. "Investigation of Chromium Adsorption by Biomaterials", May, 2001.
23. Jason Parsons, Chemistry. Method Development and Trace Level Adsorption of Heavy Metal Ions onto Alfalfa Biomass by Using GFAAS May 2000.
24. Gerardo Gamez, Chemistry. "Characterization of the Bioreduction of Gold(III) by Alfalfa Biomass using Spectroscopic and Electrochemical techniques", August 2000.
25. Tania Espino, Chemistry. "Use of Microwave Digestion and Inductively Coupled Mass Spectrometry (ICP/MS) to Determine Elemental Composition of Air Particulates in El Paso/Juarez Airshed," December 1999, (with N. Pingitore).

26. Osvaldo Rodriguez, Chemistry. "Applications of Electroanalytical Techniques to Prove Metal Ion Binding: Biosensors", May 1999.
27. Tabassum Baig, Chemistry. "Removal of Toxic Metal Ions from Aqueous Solution by *Solanum elaeagnifolium* and *Larrea tridentata* under flow conditions," August 1999.
28. Judith Rios, Chemistry. "Study of Oat and Wheat Biomasses for Metal Removal and Optimization of Metal Ion Binding," May 1999.
29. Sal Sias, Chemistry. "Evaluation of Northern Chihuahua Desert Plants for their Heavy Metal Phytoremediation Potential in Contaminated Soils," December 1998.
30. Xiaoyan Li, Chemistry, "Toxic Metal Ion Adsorption by Base-modified and Un-modified Biomasses of Pine Sawdust and Sunflower Seed Hulls," August 1997.
31. Lori Polette, Chemistry, "X-ray Spectroscopic Studies of Heavy Metal Up Take by *Larrea tridentata* (Creosote Bush)," December 1997.
32. Kirk Tiemann, Chemistry, "Investigation on the Binding of Metal Ions to Inactivated Cells of *Medicago sativa* (alfalfa) and Silica-Immobilized alfalfa," December 1995.
33. Luocheng Tang, Chemistry, "Copper Adsorption by Sphagnum Peat Moss and Its Different Humic Fractions," December 1995.
34. Angelica Hernandez

PhD students (34)

1. Wenjuan Tan, Environmental Science and Engineering PhD program, Exposure of commercial titanium dioxide and copper hydroxide nanomaterials on basil (*Ocimum basilicum*): A life cycle and transgenerational study, December 2017.
2. Nubia Zuverza-Mena, Materials Science & Engineering, Bioavailability of metal/metal oxide nanomaterials and their effects on the physiology of plants, April 19, 2016.
3. Kevin Floyd (Co-chair) with Elizabeth Walsh, Environmental Science and Engineering PhD program, An assessment of the role of roads in population demography and genetic structuring in two species of lizards in the northern Chihuahuan Desert. 2015
4. Cyren M. Rico, Chemistry, Effects of cerium oxide nanoparticles in cereals: Insights on toxicity mechanisms and macromolecular modifications, December 2014.

5. Sanghamitra Majumdar, Chemistry, Nanoceria exposure to kidney beans (*Phaseolus vulgaris*): Implications on plant physiology, nutrition and their transfer to next trophic level, December 2014.
6. Jie Hong, Environmental Science and Engineering PhD program, Uptake of copper and cerium by alfalfa, lettuce and cucumber exposed to $n\text{CeO}_2$ and $n\text{CuO}$ through the foliage or the roots: impacts on food quality physiological and agronomical parameters, August 2014.
7. Arnab Mukherjee, Environmental Science and Engineering PhD program, Impact of zinc oxide nanoparticles on green pea plant & seed quality and effects on physiological traits of green peas, corn, and zucchini by silver nanoparticles, August 2014.
8. Alia Denis Servin, Chemistry, Determination of the effects of TiO_2 nanoparticles in cucumber (*Cucumis sativus*), January 2014.
9. Jose A. Hernandez-Viezcas, Chemistry, Determination of the effects of ZnO and CeO_2 nanoparticles in mesquite (*Prosopis juliflora*) and soybean (*Glycine max*): Synchrotron and spectroscopic approaches, December 7, 2013.
10. Susmita Bandyopadhyay, Environmental Science and Engineering PhD program, Interaction of CeO_2 and ZnO nanoparticles towards the symbiotic association of alfalfa (*Medicago sativa*) and *Sinorhizobium meliloti* in soil, November 27, 2013.
11. Marian Zappala (Viveros) (with Dr. Judy Ellzey), Environmental Science and Engineering PhD program, Biological Effects of Copper on Screw bean Mesquite, October 3, 2012.
12. Hiram Castillo-Michel, Environmental Science and Engineering PhD program, Accumulation, speciation, and distribution of metal/(loids) in plants: Applications of synchrotron techniques in environmental sciences, February 2011
13. Yong Zhao, Chemistry, Physical and biochemical assessment of Mexican Palo Verde response to chromium toxicity, August 2010.
14. Milka Montes, Chemistry, A new green chemistry method based on plant extracts to synthesize gold nanoparticles, May 2010.
15. Jack Arias, Environmental Science and Engineering PhD Program, Symbiotic effects of the fungus *Glomus* spp. on chromium(III), chromium(VI), and lead(II) uptake by mesquite (*Prosopis* sp.): A novel method to remediate heavy metals, November, 2009.
16. Nazmul Haque, Environmental Science and Engineering PhD Program, Screening the phytoremediation potential of native plants growing on mine tailings in Arizona, USA, November, 2008.

17. Marcos Delgado Rios, Environmental Science and Engineering PhD Program, Microenvironmental soil and air monitoring of contaminants: an evaluation of indoor and outdoor levels in Chihuahua City, December 2007.
18. Martha Laura Lopez, 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.
19. Maather Sawalha, Environmental Science and Engineering PhD Program, Phytofiltration potential of saltbush (*Atriplex canescens*) to clean up heavy metal contaminated waters, May 2006
20. Elena Rodríguez, Environmental Science and Engineering PhD Program, Gold bioabsorption and reduction by *Chilopsis linearis* (Desert Willow): An alternative for in-situ gold extraction, May 2006.
21. Roberto Hurtado-Jimenez, Environmental Science and Engineering PhD Program, Environmental evaluation of the drinking water problems due to fluoride and other related pollutants at “Los Altos de Jalisco”, Mexico. May 2005.
22. Guadalupe de la Rosa, Environmental Science and Engineering PhD Program, “Application of modern spectroscopic techniques to study heavy metal accumulation and uptake mechanisms in tumbleweed (*Salsola kali*)”, April 2005.
23. Gustavo Cruz-Jimenez, Environmental Science and Engineering PhD Program, “Toxicity and accumulation of selenium by plant species from the Chihuahuan Desert”, September 2004.
24. Jaime Romero-Gonzalez, (With John Walton) Environmental Science and Engineering PhD Program, “Modeling the bioadsorption of Cr(III) and Cr(VI) from aqueous solution on *Agave lechuguilla* biomass: batch and column studies” July 2004.
25. Mary V. Aldrich, Environmental Science and Engineering PhD Program, “Toxicity and accumulation of chromium, lead, copper, and arsenic in mesquite (*Prosopis* spp.)”, June 2004.
26. Judith Rios, (With Elizabeth Walsh) Environmental Science and Engineering PhD Program, “Integrating Life History and Molecular Responses to Arsenic and Heavy Metals in a Basal Consumer (Rotifera: *Platyonus patulus*) in a Riverine Food Web” December 1, 2003.
27. Jason Parsons, Environmental Science and Engineering PhD Program “Spectroscopic Investigations into the binding of Lanthanides and Actinides Elements to Alfalfa

Biomass”, July 2003

28. Jose Peralta, Environmental Science and Engineering PhD Program “Applications of Live Alfalfa Plants in Phytoremediation of Heavy Metals: Studies of the Uptake Mechanisms by Using Hydroponics and Solid-Media,” graduate, May 2002.
29. Michael Hejazi, Environmental Science and Engineering PhD Program “New Technology to Remove Toxic Metal Ions Using Hop Biomass: Use of Chemical Modification and X-ray Absorption Spectroscopy to Determine the Mechanism(s) of Metal Removal”, December 2001.
30. Francisco Estrada (with R. Quintana), Environmental Science and Engineering PhD Program “Optimization of a Green Chemistry Process for Waste Minimization,” 2000.
31. Socorro Arteaga, Environmental Science and Engineering PhD Program, “Metal Uptake by Creosote Bush Using Hydroponics: Spectroscopic Studies”. December 2000.
32. Irene Cano-Aguilera, Environmental Science and Engineering PhD Program, “Mucor rouxii: Morphological Alterations and Applications in Environmental Chemistry,” May 1998.
33. Kirk Tiemann, Environmental Science and Engineering PhD Program, “ Study of Alfalfa Phytofiltration Technology and the Metal Binding Mechanisms Involved to Clean Heavy Metal Contaminated Waters,” May 1998.
34. Gilbert Tellez, Environmental Engineering (co-advisor), “Bioremediation of Oil Field Produced Waters.” May 1992 (New Mexico State University).

Undergraduate Students (27)

1. Raul Armendariz (2014)
2. Fabiola Moreno-Olivas (2013)
3. Javier Bibb (May 1997)
4. Javier Arenas (May 1997)
5. Jorge Gonzales (1997)
6. Gerardo Gamez (UTEP Chemistry Department., May 1999).
7. Kenneth Dokken (UTEP Chemistry Department., May 1999).
8. Amelinda Hernandez (UTEP Biology Department, August 1998).
9. Osvaldo Rodriguez, (UTEP Chemistry Department, December 1996)
10. Leila Dadras, UTEP Chemistry Department, Spring 1997)
11. Gabriel Wilmoth, UTEP Chemistry Department (in exchange from Virginia Tech., May 1997).

12. John Enriquez, El Paso Community College (June 199-1998)
13. Nina Jobaher, El Paso Community College (Summer 1997)
14. Issac Herrera, UTEP Chemistry Department (May 2002).
15. Lucero Bess-Oberto, UTEP Chemistry Department (Spring 2000).
16. Angelica Garcia, UTEP Biology Department (September 1998- August 1999).
17. Veronica Armendariz, UTEP Chemistry Department (Spring 2003).
18. Josie Maldnado, Undergraduate, May 2007
19. Nubia Zuverza, Undergraduate, May 2007
20. Jessica Torres, Undergraduate 2004-2007
21. Rebecca Armenta, Undergraduate 2009
22. Ashley Lopez, Undergraduate 2009
23. Libni Gutierrez, 2008
24. Angelica Ochoa, 2009
25. Alejandra Fernandez, 2009
26. Ivonne Gomez-2011
27. Alyssa De La Rosa, 2009-2011

13. PROFESSIONAL ACTIVITIES:

Reviewer of the following Journals and Funding Agencies:

- Academy of Science of the Czech Republic
- Advances in Environmental Research
- Analytica Chimica Acta
- Applied Spectroscopy
- Applied Spectroscopy Reviews
- Bioremediation, Biodiversity and Bioavailability (Japan)
- Bioresource Technology
- Boletin de la Oficina Sanitaria Panamericana
- Bulletin of the Pan American Health Organization
- Candain Journal of Chemistry
- Cottrell College Science Award
- Chemosphere
- Department of Energy
- Environmental Science and Technology
- Environmental Toxicology and Chemistry
- Environmental Protection Agency
- Environmental Pollution
- Environmental Progress
- Environment International
- Environmental Technology
- International Journal of Phytoremediation
- Industrial and Engineering Chemistry Research

- International Journal of Phytoremediation
- Journal of Hazardous Materials
- Journal of Hazardous Substance Research
- Journal of Chemical Technology and Biotechnology
- Journal of Environmental Quality
- Journal of Environmental Management
- Journal of Environmental Radioactivity
- Journal of Solar Energy Engineering
- Journal of the Air & Waste Management Association
- Journal of Plant Physiology
- Langmuir
- Microchemical Journal
- Ministerio de Educacion, Ciencia, y Tecnologia de Argentina
- National Science Foundation-Surface and Analytical Chemistry, Environmental Chemistry, Earth Sciences, Instrumentation, Environmental Biology and Engineering.
- National Institutes of Health (NIEHS and Score)
- Organizacion Mundial de la Salud (World Health Organizacion)
- Plant Physiology and Biochemistry
- Plant Physiology
- Petroleum Research Fund
- Research Corporation
- Science
- Science Asia
- Separation Science and Technology
- Stanford Synchrotron Radiation Laboratory-Stanford University
- Talanta
- United States Department of Agriculture
- UTEP-Center for Environmental Resource Management
- Water, Air & Soil Pollution
- Water Research
- Waste Management Education & Research Consortium/DOE/EPA