

CITY OF EL PASO, TEXAS
AGENDA ITEM DEPARTMENT HEAD'S SUMMARY FORM

DEPARTMENT: Office of the Mayor

AGENDA DATE: June 14, 2016

CONTACT PERSON/PHONE: Mayor Oscar Leeser, (915) 212-0021

DISTRICT(S) AFFECTED: All Districts

SUBJECT: Approve the following Resolution

Discussion and action regarding the appointment of one individual in the Environmental or Health position of the Public Service Board as recommended by the El Paso Water Utilities Public Service Board Selection Committee:

1. Dr. Jorge Gardea-Torresdey
2. Dr. Ivonne Santiago
3. Dr. Tom Davis

Mayor Oscar Leeser, (915) 212-0021

BACKGROUND / DISCUSSION:

Public Service Board member Dr. Richard T. Schoephoerster submitted his resignation letter with an effective date of July 1, 2016. Dr. Schoephoerster is holding the position on the board in the category of Environmental or Health. On May 25, 2016, as required by Ordinance Number 017167, the El Paso Water Utilities Public Service Board Selection Committee (hereinafter "Selection Committee") met and reviewed the applications submitted by qualified applicants. The Selection Committee's membership consists of the Public Service Board and eight persons appointed by City Council. After deliberation, the Selection Committee selected the top three candidates and ranked the top three candidates in the order of first, second and third preference. The recommendation is being forwarded to City Council for their consideration and appointment.

PRIOR COUNCIL ACTION:

Has the Council previously considered this item or a closely related one?

Yes. The City Council most recently approved a Resolution on December 8, 2015 appointing board member Dr. Kristina D. Mena to the Public Service Board to fill a vacancy of a board member whose term was set to expire on December 31, 2015.

AMOUNT AND SOURCE OF FUNDING:

The El Paso Water Utilities Public Service Board is funded through the budget of the El Paso Water Utilities.

BOARD / COMMISSION ACTION:

On May 25, 2016, the Selection Committee approved a Resolution selecting and ranking the three most qualified candidates from the area of expertise in Environmental or Health. The Selection Committee's Resolution is attached.

RESOLUTION

WHEREAS, a vacancy in the El Paso Water Utilities Public Service Board will occur on July 1, 2016 with the resignation of Richard T. Schoephoerster, a position with expertise in the area of environmental or health; and,

WHEREAS, the City of El Paso adopted Ordinance Number 017167 which requires that any vacancy in the membership of the El Paso Water Utilities Public Service Board be filled by the City Council from three persons eligible to serve as board members, nominated by a selection committee and presented to city council; and,

WHEREAS, the City of El Paso by Resolution established the El Paso Water Utilities Public Service Board Selection Committee, to be comprised of the members of the Public Service Board and additional members as appointed by the City Council to assist City Council in selecting eligible candidates to fill the vacancy; and,

WHEREAS, under the Resolution, the El Paso Water Utilities Public Service Board Selection Committee reviews résumés submitted by persons interested in filling the vacant position and submits to the City Council the names and the ranking of three eligible candidates; and,

WHEREAS, a quorum of the El Paso Water Utilities Public Service Board Selection Committee met on May 25, 2016 pursuant to the Texas Open Meetings Act and approved the nomination, ranking and recommendation of eligible candidates for consideration and appointment by City Council;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EL PASO, TEXAS:

THAT, a quorum of the El Paso Water Utilities Public Service Board Selection Committee met on May 25, 2016 pursuant to the Texas Open Meetings Act and approved the nomination, ranking and recommendation to the City Council the following candidates to fill a vacancy on the El Paso Water Utilities Public Service Board, in a position with expertise in the area of Environmental or Health:

1. Dr. Jorge Gardea-Torresdey
2. Dr. Ivonne Santiago
3. Dr. Tom Davis

THAT, the El Paso City Council hereby appoints _____ to fill the vacancy on the El Paso Water Utilities Public Service Board for the position with expertise in the area of Environmental or Health. The term of appointment shall commence on July 1, 2016 and shall be for a four (4) year term.

[SIGNATURES ON FOLLOWING PAGE]

PASSED, APPROVED and ADOPTED this _____ day of June, 2016.

THE CITY OF EL PASO

Oscar Leeser
Mayor

ATTEST:

APPROVED AS TO FORM:

Richarda Duffy Momsen
City Clerk

Sylvia Borunda Firth
City Attorney

RESOLUTION

WHEREAS, a vacancy in the El Paso Water Utilities Public Service Board will occur on July 1, 2016 with the resignation of board member Richard T. Schoephoerster who filled the position which required expertise in the area of environmental or health; and,

WHEREAS, the City of El Paso adopted Ordinance Number 017167 which requires that any vacancy in the membership of the El Paso Water Utilities Public Service Board be filled by the City Council; and,

WHEREAS, the City of El Paso, by Resolution, established the El Paso Water Utilities Public Service Board Selection Committee, to be comprised of the members of the Public Service Board and such additional members as appointed by the City Council to assist City Council in selecting eligible candidates to fill the vacancy; and,

WHEREAS, under the Resolution, the El Paso Water Utilities Public Service Board Selection Committee reviews résumés submitted by persons interested in filling the vacant position and submits to the City Council the names and the ranking of three eligible candidates;

NOW THEREFORE, BE IT RESOLVED BY THE EL PASO WATER UTILITIES PUBLIC SERVICE BOARD SELECTION COMMITTEE OF THE CITY OF EL PASO, TEXAS:

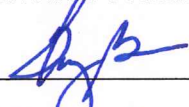
THAT, a quorum of the El Paso Water Utilities Public Service Board Selection Committee met on May 25, 2016 pursuant to the Texas Open Meetings Act and approved the nomination, ranking and recommendation to the City Council the following candidates to fill a vacancy on the El Paso Water Utilities Public Service Board:

1. *Jorge Gardea - Torresdey*
2. *Ivonne Santiago*
3. *Tom Davis*

THAT, the Chair of the Committee, forward the recommendation to the El Paso City Council for their consideration for filling the vacancy on the El Paso Water Utilities Public Service Board.

PASSED and APPROVED this 25th day of May 2016.

El Paso Water Utilities Public Service Board
Selection Committee



Henry Gallardo, Chair - Acting

APPROVED AS TO FORM:



Daniel Ortiz, Assistant General Counsel

**Dr. Jorge
Gardea-Torresday**

Georgette Webber

From: Georgette Webber
Sent: Wednesday, May 04, 2016 5:30 PM
To: 'Gardea-Torresdey, Jorge'
Cc: Lisa F. Rosendorf
Subject: RECEIVED: PSB Member Vacancy

Dr. Gardea-Torresdey:

Your application has been received by El Paso Water Utilities for the Environmental/Health position on the Public Service Board (PSB).

Thank you for your interest in serving on this Board. The PSB Selection Committee will review all applications and recommend three applicants to the El Paso City Council, which will then select one candidate. The process is expected to be completed in June 2016. Should you have any additional questions, feel free to contact me via phone at (915) 594-5501 or email at gwebber@epwu.org.

Sincerely,



Georgette M. Webber
Executive Secretary to President/CEO
El Paso Water Utilities
1154 Hawkins Boulevard, El Paso, Texas 79925
(O) 915-594-5501 | (F) 915-594-5666
gwebber@epwu.org | www.epwu.org

From: Gardea-Torresdey, Jorge [mailto:jgardea@utep.edu]
Sent: Wednesday, May 04, 2016 3:51 PM
To: Georgette Webber
Cc: Lisa F. Rosendorf
Subject: RE: PSB Member Vacancy

Dear Georgette,

Richard Schoephoerster informed me about the vacancy in the PSB. It is with great enthusiasm to express my genuine interest in being selected as a member of the The Public Service Board. I am the Dudley Professor of Chemistry and Environmental Science and Engineering at The University of Texas at El Paso (UTEP). I am currently the Chair of the Department Chemistry at UTEP Attached is my detailed resume and a cover letter. Please acknowledge receiving my application,

Best regards,

Jorge

Dr. Jorge Gardea-Torresdey
Dudley Professor of Chemistry and Environmental Science & Engineering
Chair, Department of Chemistry
The University of Texas at El Paso
El Paso, TX 79968
Phone- 915-747-5359
Fax- 915-747-5748
<http://www.gardea.utep.edu>

Associate Editor,
Environmental Science & Technology (ES&T), A Journal of the American Chemical Society
Web site:<http://pubs.acs.org/journal/esthag>
Ranked # 1 in the fields of Environmental Sciences and Environmental Engineering

From: Schoephoerster, Richard
Sent: Friday, April 29, 2016 12:31 PM
To: Nachtmann, Robert <nachtmann@utep.edu>; Kirken, Robert <rkirken@utep.edu>; Davis, Thomas A <tadavis2@utep.edu>; Walker, Shane (Civil Engr.) <wswalker2@utep.edu>; Tarquin, Anthony J <atarquin@utep.edu>; Curtis, Kathleen A <kacurtis@utep.edu>; Provencio-Vasquez, Elias <eprovinciovasquez@utep.edu>; Gardea-Torresdey, Jorge <jgardea@utep.edu>
Cc: lrosendorf@epwu.org
Subject: PSB Member Vacancy

Dear all,

As many of you know, I will be leaving UTEP and El Paso in July for my new position as dean of engineering at the American University of Sharjah in the UAE.

As a result, I have resigned my appointment to the Public Service Board, which oversees the El Paso Water Utilities, as of June.

The EPWU is now advertising for a replacement to start in July. See information attached. The position requires expertise in environment and/or health. They are especially interested in having an applicant from UTEP.

If you or someone you know would be interested in applying, please do so, or have them do so, before the deadline of May 6, next Friday.

If you have any questions, let me know. I have also copied Lisa Franklin Rosendorf, Chief Communications and Government Affairs Officer for the EPWU who will also be happy to speak with you.

Thanks.

Richard

Richard T. Schoephoerster
Riter Professor

Department of Engineering Education and Leadership
College of Engineering
The University of Texas at El Paso
Sent from my iPad



Department of
Chemistry

May 3, 2016

Dear Members of The Public Service Board,

It is with great enthusiasm that I write this letter to express my genuine interest in being selected as a member of the The Public Service Board. I am the Dudley Professor of Chemistry and Environmental Science and Engineering at The University of Texas at El Paso (UTEP). I am currently the Chair of the Department Chemistry at UTEP. My current research is funded by the US NIH, DOE, EPA, USDA, and the NSF. Over my professional career I have achieved significant accomplishments both as academician and as administrator in the Environmental Science & Engineering field. My professional experience as academician and leader who has been committed to the Paso del Norte Region for more than 30 years, can provide valuable insights and perspectives to the important mission of this prestigious board. Please find a summary of my accomplishments below:

Academic Achievements:

Publications, Patents and Student Mentoring. I have published more than 400 publications and issued five US patents for environmental remediation. I have graduated 33 PhD students (30 in Environmental Science and Engineering and three in Chemistry) and 28 students have received their M.Sc. degrees under my mentorship. By the end of 2016, I will have graduated five more PhDs and directed hundreds of projects for undergraduate students.

Because of all of these achievements, I have had the honor of being highlighted by several prestigious institutions including the Lawrence Hall of Science of the University of California Berkeley, Stanford University, and the European Synchrotron Radiation facility, among others. I also received the 2009 SACNAS Distinguished Scientist of the Year Award and I was awarded the 2012 Piper Professor Award, which is the most prestigious honor conferred to a Professor in the State of Texas.

My 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*. I was Editor of the *Journal of Hazardous Materials* from 2007 to 2010 and, in January 1, 2011, I was appointed Associate Editor of *ES&T*, which is ranked #1 in the world in the fields of Environmental Sciences and Environmental Engineering. Additionally, I have given hundreds of Keynote and Invited Lectures at national and international conferences and at many higher education and government institutions in more than 40 countries.

El Paso, Texas

79968-0513

(915) 747-5701/5720

Fax: (915) 747-5748

Administrative Achievements and Leadership:

Environmental Sciences and Engineering PhD Program Director. I came to UTEP in 1994 to develop the PhD program in environmental science and engineering, which the state of Texas approved in the same year. I directed the PhD program for seven years. I was then asked to chair the Department of Chemistry because they needed help in making the department one of the most successful chemistry departments in the country. In this position I was able to develop a strong relationship with the US EPA, and 10 of our students were funded by the STAR program of the EPA. The program had 70 PhD students upon my departure from the directorship in 2001.

Chair, Department of Chemistry. I have been Chair of the Department of Chemistry for almost 14 years. The department has grown to 21 faculty members from the original nine we had when I was given the position of Chairman. Accomplishments of my leadership position as the Department of Chemistry are summarized below. I hired the first woman faculty member and now we have a total of three women in the department. The department has grown from 40 Chemistry B. Sc. majors to almost 300. The undergraduate program has grown by almost 800%.

Development of New Academic Programs. In addition to developing the PhD program in Environmental Science and Engineering at UTEP, the PhD in Chemistry was developed and it was approved in 2007. Additionally, under my leadership a new Biochemistry B. Sc. degree was approved in 2010.

Infrastructure. Given my networking with the Chancellor of the University of Texas System and President of UTEP, we obtained funding for our new building, which was approximately \$90 million. The new Chemistry and Computer Science Building was finished in 2012 and we have since moved in.

Due to my extensive grant funding, (over \$116 million in research through 118 grants) I have developed very close relationships with the following federal agencies: USDA, US NSF, US EPA, US DOE, and US NIH. Every year I serve in the review panels of these agencies.

Interdisciplinary Collaborations. I am a very successful interdisciplinary researcher and I have developed very strong relationships with leaders in many different areas including plant physiology, plant genetics, food engineering, food nutrition, environmental sciences, environmental toxicology, environmental policy, water treatment, and environmental engineering, among others.

During the past years, I have decided that the best way to obtain major research grants is by developing partnerships aimed at building research centers focused in interdisciplinary research. I have been very successful in building these types of partnerships. This has been demonstrated by my role as a co-investigator of the University of California Center for Environmental Implications of Nanotechnology, which was funded in 2007 for \$24 million by the NSF and US EPA. This grant has just been renewed for five more years and an additional \$24 million. I also began collaborations with the University of Puerto Rico and in 2010 we were funded by the USDA and created a 3.5 million Center for Education and Nanotechnology Implications in Agriculture. Recently, I was just awarded a prestigious and fiercely competitive

Engineering Research Center (ERC) grant from the National Science Foundation (NSF). This five-year, renewable \$18.5 million grant with Rice, Yale and Arizona State University will give resources to expand our scientific advances in water treatment; thus, addressing the world's urgent demand for clean water through low-cost, energy-efficient and environmentally-friendly methods using nanotechnology and I am the UTEP principal investigator.

Every year I organize and chair at least three national and international conferences in the interphase of agriculture and environmental sciences.

In summary, my academic, administrative, networking abilities, national and international exposure, and leadership experience have provided me with an invaluable global view and a visionary approach to the many aspects of higher education and its linkage to community engagement. This trajectory has been recently recognized by two very prestigious awards. I received the Piper Professor Award. Recently, in June of 2013, I was awarded the title of Honorary Professor of the Chinese Academy of Sciences, to which I am the 46th foreign scientist to receive it (in the environmental field).

After 23 years at UTEP I feel that I need to contribute to my community by having the privilege of serving in The Public Service Board. I believe I am a highly qualified candidate and would feel honored to serve in this board. Thanks in advance for your consideration.

Respectfully,



Dr. Jorge Gardea-Torresdey
Dudley Professor of Chemistry and Environmental Science & Engineering
Chair, Department of Chemistry
The University of Texas at El Paso
El Paso, TX 79968
Phone- 915-747-5359
Fax- 915-747-5748
<http://www.gardea.utep.edu>

Associate Editor,
Environmental Science & Technology (ES&T), A Journal of the American Chemical Society
Web site: <http://pubs.acs.org/journal/esthag>
Ranked # 1 in the fields of Environmental Sciences and Environmental Engineering

CURRICULUM VITAE

JORGE L. GARDEA-TORRESDEY, Ph.D.

Dudley Professor of Chemistry and Environmental Science and Engineering

Department of Chemistry
The University of Texas at El Paso
El Paso, Texas 79968-0513

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

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 (Honors – GPA 4.0), Autonomous University of Chihuahua, Chih., Mexico, 1980

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

Chairman: Department of Chemistry, 2001-present

Director: Environmental Science and Engineering Ph.D. Program, 1998-2002

Endowed Dudley Professor of Chemistry and Environmental Science and Engineering, 2001-present

Full Professor of Chemistry and Environmental Science and Engineering 1999-present

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

Special appointments at UTEP:

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

Graduate Advisor: Environmental Sciences and 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 (unpaid), 1993-present

5. RESEARCH INTERESTS

- Environmental chemistry/Engineering
- Phytoremediation
- Nanoparticle production using plants, Nanobio technology
- 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

- Editorial Board, *Science of the Total Environment*, 2016-2019
- 2016 Recipient of the First Ever UTEP Graduate Mentor Award.
- 2016 Panelist at the Graduate School and CETaL meeting “Celebrating Graduate Mentoring.” Geological Sciences Reading Room, February 24, 2016.
- 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
- 2015 Mentor Award for Outstanding Doctoral Dissertation, UTEP Honors Convocation
- 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 407)

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

1. Holden, P.A, **Gardea-Torresdey, J.**, Klaessig, F., Turco, R.F., Mortimer, M., Hund-Rinke, K., Cohen Hubal, E.A., Avery, D., Barceló, D., Behra, R. Cohen, Y., Deydier-Stephan, L., Ferguson, P. L., Fernandes, T.F., Harthorn, B. H. , Henderson, W. M., Hoke, R. A., Hristozov, D., Johnston, J.M., Kane, A.B., Kapustka L., Keller, A.A., Lenihan, H.S., Lovell, W., Murphy, C.J., Nisbet, R.M., Petersen, E.J., Salinas, E.R., Scheringer, M., Sharma, M., Speed, D.E., Sultan, Y., Westerhoff, P., White, J.C., Wiesner, M.R., Wong, E.M., Xing, B., Horan, M.St., Godwin, H.A., Nel, A.E. **2016**. Realistic Considerations of Environmentally Relevant Test Conditions for Improved Evaluation of Ecological Hazards of Engineered Nanomaterials. *Environmental Science and Technology* (submitted and in review).
2. Reddy P.V. L., Hernandez-Viezcas, J.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2016**. Lessons learned; are engineered nanomaterials toxic to terrestrial plants? *Science of the Total Environment* (submitted and in review).
3. Tassi, E., Giorgetti, L., Morelli, E., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Barbaferi, M. **2016**. Physiological and biochemical responses of sunflower (*Helianthus annuus*) exposed to nano-CeO₂ and excess boron: Modulation of boron phytotoxicity. *Plant Physiology and Biochemistry* (submitted and in review).
4. 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.** **2016**. Effects of surface chemistry on the physiological and biochemical interactions between nano-TiO₂ and basil (*Ocimum basilicum*). *Plant Physiology and Biochemistry* (submitted and in review).
5. Peralta-Videa, J.R., Huang, Y., Parsons, J.G., Zhao, L., Lopez-Moreno, M.L., Hernandez-Viezcas, J.A., **Gardea-Torresdey, J.L.** **2016**. Is the green synthesis of engineered nanomaterials a realistic alternative to chemical synthesis? A review of the factors affecting their mass production and applications. *Nanotechnology for Environmental Engineering* (submitted and in review).
6. 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.** **2016**. Exposure of engineered nanomaterials to plants: Insights into the physiological and biochemical responses-A Review. *Plant Physiology and Biochemistry* (submitted and in review).
7. 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. **2016**. Elevated CO₂ levels increase the phytotoxicity and

- microbial toxicity of TiO₂ nanoparticles in paddy soils. *Environmental Science and Technology* (submitted and in review).
8. Jabbari, V., **Gardea-Torresdey, J.**, Villagran, D. **2016**. Nanoscale cadmium MOF decorated over graphene, oxide and CNTs synthesized via a facile, one-pot green solvothermal method. *Carbon* (submitted and in review).
 9. 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., Kumar, D. S., Khodakovskaya, M.V. (Eds.) *Plant Nanotechnology - Principles and Practices, Springer-Verlag GmbH, Berlin, Germany* (submitted and in Review).
 10. Mukherjee, A., Peralta-Videa, J.R., **Gardea-Torresdey, J.**, White, J.C. **2016**. Engineered nanoparticles and the environment: *Biophysicochemical processes and biotoxicity*. Xing, B., Vecitis, C., Senesi, N. (Eds.). *IUPAC Series on Biophysico-chemical processes in environmental systems Volume 4* (accepted).
 11. Barrios, A.C., Medina-Velo, I.A., Zuverza-Mena, N., Dominguez, O.E., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2016**. 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* (in press).
 12. Du, W., Tan, W., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.**, Ji, R., Yin, Y., Guo H. **2016**. Interaction of Metal Oxide Nanoparticles with Higher Terrestrial Plants: Physiological and Biochemical Aspects. *Plant physiology and Biochemistry* (in press).
 13. 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* (in press DOI: 10.1021/acs.est.5b04784).
 14. Barrios, A.C., Rico, C.M., Trujillo-Reyes, J., Medina-Velo, I.A., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** **2016**. Effects of uncoated and citric acid coated cerium oxide nanoparticles, bulk cerium oxide, cerium acetate, and citric acid on tomato plants. *Science of the Total Environment* (in press <http://dx.doi.org/10.1016/j.scitotenv.2015.11.143>)
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Consumer Distribution Pipelines and in Pipeline Residue. *Environmental Science and Technology* 19, 603-608.

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 661)

Research Presentations at Regional, National, and International Meetings

1. 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 Toxicology Congress, Westin Boston Waterfront Hotel, Boston, MA, June 1-4, 2016.*
2. 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, Boston, MA. June 1-4, 2016.*
3. 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.*
4. 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.*
5. **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).*
6. **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.*
7. 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.**
8. 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).***
 9. de la Rosa, G., Lopez, L., Cruz-Jimenez, 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.***
 10. 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.***
 11. 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.***
 12. 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).***
 13. 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.***
 14. **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).***
 15. **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 Voronez I, Brno, Czech Republic, EU, October 14th - 16th 2015
(Invited Lecturer).

16. **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.*
17. 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.*
18. **Gardea-Torresdey, J.L. 2015.** Interviewed by El Paso Times, Borderland section, **El Paso, TX, August 25, 2015**
19. 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.*
20. 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.*
21. 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.*
22. **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).*
23. **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, 105.*
24. **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)

25. **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.*
26. **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).
27. 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. *Gordon Research Conference on Environmental Nanotechnology, June 24th 2015. West Dover, VT.*
28. Majumdar, S., Arigi, E.A., Choi, H., Almeida, I., White, J.C., Peralta-Videa, J.R., **Gardea-Torresdey, J.L.** Nanoceria affects kidney bean proteome compromising seed nutritional quality. *Gordon Research Conference on Environmental Nanotechnology, June 21-26, 2015, Mount Snow, West Dover, VT (Poster).*
29. 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.*
30. 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).*
31. **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.*
32. **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.*

33. **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.*
34. López-Moreno, M.L., Lugo Avilés, L.E, Román, F., Lugo Rosas, J., Hernández-Viezcas, 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.*
35. **Gardea-Torresdey, J.L. 2015.** Environmental implications of nanotechnology: Locating metal oxide nanoparticles transformation in plants using synchrotron techniques. *Seminar at Insitute of Geochemistry, Chinese Academy of Sciences, Guiyang, Guizhou, China, March 31, 2015.*
36. **Gardea-Torresdey, J.L. 2015.** How to get published in scientific & engineering journals. *Workshop at Insitute of Geochemistry, Chinese Academy of Sciences, Guiyang, Guizhou, China, March 30, 2015.*
37. **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.*
38. Zuverza-Mena, N., Medina-Velo, I.A., Barrios, A.C., Wenjuan, W., Peralta-Videa, J.R., **Gardea-Torresday, 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”).
39. **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).*
40. **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).*
41. **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).*

42. **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.*
43. **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.*
44. **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.*
45. **Gardea-Torresdey, J. 2015.** Environmental implications of nanotechnology. *University of Science and Technology of China at Hefei, Hefei, China, January 7, 2015. Invited Seminar.*
46. 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.*
47. **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.*
48. 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.*
49. 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.*
50. 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.*
51. **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)

52. 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.***
53. 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.***
54. 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.***
55. Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2014.** Environmental implications of nanotechnology. ***Seminar 101, UTEP, October 22, 2014.***
56. **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.***
57. **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.***
58. 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.***
59. **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.***
60. **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.***

61. 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.*
62. 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.*
63. **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.*
64. **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.*
65. 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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66. 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.*
67. **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.*
68. **Gardea-Torresdey, J. 2014.** Theme 4: Nanoparticles ecosystems impact. Plant nano-ecotoxicology issues/concerns. *UCSB. June 10, 2014, Invited Webinar.*

69. **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.*
70. **Gardea-Torresdey, J.L. 2014.** How to get published in scientific & engineering journals, *Southwest University of Science and Technology, Mianyang, China June 4, 2014.*
71. **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*
72. **Gardea-Torresdey, J. 2014.** Agricultural Implications of Nanotechnology. *UCSB. May 9, 2014, Invited Webinar.*
73. **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.*
74. **Gardea-Torresdey, J. 2014.** 5. 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).*
75. **Gardea-Torresdey, J. 2014.** Writing scientific manuscripts: Tips for non-native speakers of English. *Universidad Nacional Autónoma de México, México City, México, April 8, 2014, Mexico City 2014 (Invited Seminar).*
76. **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.*
77. 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.*
78. **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).*

79. **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*
80. **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.*
81. **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.*
82. **Gardea-Torresdey, J. 2014.** Our soil phytoremediation journey: from gold to chromium. New World Environmental Services Group, Qingdao, China January 7, 2014. *Invited talk.*
83. 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.*
84. 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.*
85. 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.*
86. 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.*
87. Morales, M.I., Rico, C.M., Hernandez-Viezcas, J.A., Nunez, J.E., Barrios, A.C., Tafoya, 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.***
88. 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.***
 89. 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.***
 90. 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.***
 91. 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.***
 92. 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.***
 93. 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.***
 94. 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.***
 95. **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***

96. **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.*
97. 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.*
98. **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.*
99. Morales, M.I., Rico, C.M., Hernandez-Viezcas, 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 (*Corinadrum sativum* L.) plants grown in organic soil. *2nd CETARS symposium, August 12-13, 2013, Mayaguez, Puerto Rico.*
100. Servin, A.D., Morales, M.I., Castillo-Michel, H., Munoz, B., Hernandez-Viezcas, 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.*
101. **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*
102. **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*
103. **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.*
104. 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.

105. **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, Stoweflake Resort and Conference Center, Stowe, VT, June 2-7, 2013***
106. **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.**
107. **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.**
108. **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.**
109. **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.**
110. 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.***
111. 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.***
112. 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.***

113. 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.**
114. 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.**
115. 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.**
116. **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.**
117. 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.**
118. 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.**
119. **Gardea-Torresdey, J.L. 2013.** "How to Get Published In Scientific & Engineering Journals," A Graduate Student Professional Development Workshop, **April 5, 2013, UTEP.**
120. **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.**
121. **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.**

122. **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.**
123. **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).**
124. **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).**
125. **Gardea-Torresdey, J.L. 2012.** Mechanisms of interaction and traslocation on Nanoparticles in Plants. **107th Congress of the Italian Botanical Society, September 18-20, 2012, Benevento, Italy. (Invited Speaker).**
126. **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).**
127. **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).**
128. **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).**
129. **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).**
130. **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).**

131. **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).
132. **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).
133. **Gardea-Torresdey, J.L. 2012.** Environmental Nanotechnology: Impact of Metal Nanoparticles in Plants. *Enviromin 2012*, March, 11-15, 2012, Loskop, South Africa. (Invited Speaker).
134. **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).
135. **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).
136. **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).
137. 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.
138. 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.
139. 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.
140. 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.***

141. 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.***
142. 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.***
143. 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.***
144. 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.***
145. 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.***
146. 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.***
147. 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.***
148. 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.*

149. 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.*
150. 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.*
151. **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).*
152. **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).
153. **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).
154. 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.*
155. 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.*
156. **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).*
157. 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.*

158. **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).*
159. **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).*
160. 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).*
161. 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.*
162. 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.*
163. 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.*
164. **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).**
165. **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).**

166. **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).**
167. **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).**
168. **Gardea-Torresdey, J.L. 2011.** How to get published. Presentation at **Shanxi Agricultural University, Taigu, China June 9, 2011 (Invited talk).**
169. **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).**
170. **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).**
171. **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).**
172. 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.**
173. 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.**
174. **Gardea-Torresdey, J.L. 2011.** Environmental nanotechnology: Impact of metal nanoparticles in Plants. **Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijin, China, April 14, 2011 (Invited talk).**
175. **Gardea-Torresdey, J.L. 2011.** How to get published in scientific journals. **UTEP seminar, April 1, 2011.**
176. **Gardea-Torresdey, J. 2011.** “Our phytoremediation journey: From gold to chromium. **Freeport McMoRan, Tucson, AZ, March 24, 2011 (Invited talk).**

177. **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).**
178. **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).**
179. 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.**
180. **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).**
181. **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).**
182. **Gardea-Torresdey, J.L.,** López-Moreno, M.L., de la Rosa, G., Hernández-Viezas, 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).**
183. **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).**
184. **Gardea-Torresdey, J.L.,** López-Moreno, M.L., de la Rosa, G., Hernández-Viezas, 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).**
185. 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.**

186. **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.**
187. 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.**
188. **Gardea-Torresdey, J.L.** 2010. How to get published, workshop 4th, **Chania, Crete, Greece, October 8, 2010.**
189. 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.**
190. **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).**
191. **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.**
192. 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.**
193. **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.**
194. 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.**

195. 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 espectroscopia de absorpcion de rayos X. VII Encuentro Participacion de la Mujer en la Ciencia, **Leon Guanajuato, Mexico, 26-28 de Mayo 2010.**
196. 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.**
197. Montes, M.O, Peralta-Videa, J.R., Jose-Yacaman, 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**
198. 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.**
199. 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.**
200. **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.**
201. 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.**
202. **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.**
203. **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.**
204. **Gardea-Torresdey, J.L. 2010.** Toxicity and biotransformation of Ni(OH)₂ nanoparticles. University of Florida, Gainesville, FL, **March 12 2010, invited seminar speaker.**

205. **Gardea-Torresdey, J.L. 2010.** Impacto ambiental de nanopartículas metálicas en plantas terrestres. Potencia Universidad Católica de Puerto Rico, Colegio de Ciencias, Programa PR-LSAMP, **Ponce, PR, February 26, 2010, Distinguished 2010 Spring Seminar speaker.**
206. **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.**
207. **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**
208. **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.**
209. 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.**
210. 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**
211. Montes, I, Castillo-Michel, H., Alvarez, M., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2009.** DNA assessment of soybean roots exposed to ZnO and CeO₂ nanoparticles by RAPD. Annual Biomedical Research Conference for Minority Students (ABRCMS). **Phoenix, AZ, November 4-7, 2009 (2009 ABRCMS First Place Presentation Award)**
212. **Gardea-Torresdey, J.L.,** de la Rosa, G., Lopez, M.L., Hernandez, J.A., Castillo-Michel H. Peralta-Videa, J.R., **2009.** CeO₂ and ZnO nanoparticles undergo differential biological transformations in soybean plants. ACS Southeaster regional meeting, **San Juan Puerto Rico, October 21-24, 2009 (Invited speaker).**
213. Gonzalez, C. M., Hernandez, J.E., Parsons, J.G., **Gardea-Torresdey, J.L. 2009.** Sorption of selenite (SeO₃²⁻) and selenate (SeO₄²⁻) to engineered nano-Jacobsite. 2009 National Society for the Advancement of Chicanos and Native Americans in Science. **Dallas, TX October 15-18, 2009.**

214. 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.**
215. 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 CeO_2 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.**
216. 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.**
217. 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.**
218. 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 CeO_2 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.**
219. 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.**
220. **Gardea-Torresdey, J.L. 2009.** How to get published in Chemistry. Department of Chemistry Workshop, **UTEP Chemistry Department, October, 2, 2009.**
221. 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**
222. 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.**

223. 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.**
224. de la Rosa, G., López-Moreno, M.L., Hernández-Viezcas, J.A., Castillo-Michel, H., Peralta-Videa J.R., **Gardea-Torresdey, 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.**
225. **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.**
226. 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).**
227. **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).**
228. **Gardea-Torresdey, J.L. 2009.** World synchrotrons. University of Puerto Rico, Mayaguez campus **August 5, 2009 (Invited talk).**
229. **Gardea-Torresdey, J.L. 2009.** How to get published in Chemistry. University of Puerto Rico, Mayaguez campus workshop, **August 4, 2009.**
230. 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.**
231. 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.**
232. 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.**
 233. **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.
 234. 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.**
 235. 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.**
 236. 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.**
 237. 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.**
 238. **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.**
 239. **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**

240. **Gardea-Torresdey, J.L. 2009.** How to get published. Invited Seminar Speaker, **Taiwan National Central University, Taiwan February 26, 2009.**
241. **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.**
242. **Gardea-Torresdey, J.L. 2009.** How to get published. Invited Seminar Speaker, **National Chung Hsing University, Taiwan, February 25, 2009.**
243. **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.**
244. **Gardea-Torresdey, J.L. 2009.** How to get published. Invited Seminar Speaker, **National Cheng Kung University, Taiwan February 24, 2009.**
245. **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.**
246. **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**
247. **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.**
248. 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.**
249. **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.**
250. **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.**

251. 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**
252. 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.**
253. 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.**
254. Haque, N., Peralta-Videa, J.R., **Gardea-Torresdey, J.L. 2008.** Differential influence of metal on 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.**
255. **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.**
256. 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**).
257. 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.
258. 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.
259. **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.
 260. **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.**
 261. **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.**
 262. **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.**
 263. 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.**
 264. **Gardea-Torresdey, J.L. 2008**. Absorción de metales, bioreducción y formación de nanopartículas en plantas, UAQ, **Queretaro, Mexico, April 11, 2008.**
 265. **Gardea-Torresdey, J.L. 2008**. Absorción de Metales, Bioreducción y Formación de Nanopartículas en Plantas, CIDETEQ, **Queretaro, Mexico, April 11, 2008.**
 266. **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.**
 267. **Gardea-Torresdey, J.L. 2008**. Metal uptake, reduction, and nanoparticle formation by plants. Presentation at McNeese State University **Lake Charles, Louisiana, March 20, 2008.**
 268. **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.**

269. **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.**
270. 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.**
271. **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.**
272. 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.**
273. 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.**
274. Cabrera, LT., Dokken, KM., Lopez, ML., Peralta-Videa, JR., **Gardea-Torresdey, JL. 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.**
275. 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**)
276. 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.**

277. 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.**
278. 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.
279. 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.**
280. Mokgalaka-Matlala NS, Flores-Taviz n 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.
281. Mokgalaka-Matlala NS, Flores-Taviz n 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.
282. **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.
283. **Gardea-Torresdey, J.L. 2007.** Euroanalysis XIV (**Invited session chair**), Antwerp, Belgium, September 9-14, 2007.
284. **Gardea-Torresdey, J.L. (2007).** Absorción de Metales, Bioeducación y Formación de Nanopartículas en Plantas. (Orador invitado). Universidad Autonoma de San Luis Potosi, Agosto 22, 2007
285. **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.

286. **Gardea-Torresdey, J.L. (2007).** Metal Phytoremediation and Nanoparticle Formation by Plants. Invited seminar speaker, facultad de Quimica, Universidad de Guanajuato, June 1, 2007.
287. **Gardea-Torresdey, J.L. (2007).** Absorción de Metales, Bioreducción y Formación de Nanopartículas en Plantas. (Orador invitado) Instituto Tecnológico de Toluca, mayo 5, 2007
288. **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.
289. **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.
290. 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**).
291. 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.
292. 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.
293. 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.
294. 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.

295. 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.
296. 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.
297. 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.
298. 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.
299. 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.
300. 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.
301. 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.
302. 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.
303. 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.
304. 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.

305. 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.
306. **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.
307. **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.
308. 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**.
309. 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**.
310. 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.
311. 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.

312. 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.
313. 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.
314. 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.
315. Castillo-Michel, H, Zuverza-Mena, N, Parsons, JG, Peralta-Videa, JR, **Gardea-Torresdey, JL. 2006.** Effect of arsenic uptake on macro and micronutrient absorption and total amylolytic activity in peas. 2006 SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference, Tampa, FL, October 26-29, 2006.
316. **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.
317. **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.
318. Haque, N, Mokgalaka, NS **Gardea-Torresdey, JL. 2006.** Hyperaccumulation of Arsenic by Sorghum Biomass in soil medium. 232nd ACS National Meeting, San Francisco, CA September 10-14, 2006.
319. **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.
320. 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.
321. 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.**
 322. 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.
 323. 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.
 324. 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.
 325. 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.**
 326. 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* (Deseet willow). 2006 South Central Regional SETAC Meeting, Denton, TX May 18-20, 2006.
 327. 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.
 328. 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 Ingeniería Química. Ixtapa, Mexico May 2-5, 2006.

329. M. L. Lopez, **Gardea-Torresdey, J.L. 2006.** Nanoparticulas en Plantas
Presentation at the Universidad Autonoma de Ciudad Juarez; Ciencia en la Frontera Symposium, April 29, 2006 (**Invited Seminar Speaker**).
330. **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**).
331. 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.
332. 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
333. 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
334. 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**.
335. **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**).
336. 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**.
337. 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

338. 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
339. 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
340. 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.
341. **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**).
342. **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**).
343. **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**).
344. **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**).
345. **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**).
346. 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.

347. 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.
348. 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.
349. 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.
350. 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.
351. **Gardea-Torresdey, J.L. 2005.** Absorción de Metales, Biorreducción 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**).
352. Cruz Jiménez G, **Gardea-Torresdey J.L.** , Peralta Videa JR., de la Rosa Alvarez G, Rodríguez Rodríguez, E. **2005.** Aplicación de la espectroscopia de absorción de rayos-X en la especiación de selenio en especies vegetales del desierto de Chihuahua. XIX Congreso Nacional de Química Analítica, Guadalajara, Mexico October 11-13, 2005.
353. **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**).
354. **Gardea-Torresdey, J.L. 2005.** Metal uptake, reduction, and nanoparticle formation by plants. Presentation at the University of Puerto Rico, Recinto de Río Piedras, San Juan, Puerto Rico. September 12, 2005. (**Invited Seminar Speaker in the Chemistry Department**).
355. 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.**

356. 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.
357. 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.
358. 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.
359. 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.
360. 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). **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.
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362. 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.

363. 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.
364. 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.
365. Cruz Jiménez G, Díaz Jiménez DF., **Gardea-Torresdey J.L.** , 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.
366. 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.
367. 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.
368. 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.
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370. 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.

371. 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.
372. 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.
373. 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.
374. 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.
375. 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.
376. Mather Sawalha, Jose R. Peralta- Videa, 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.
377. 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.
378. **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)
379. 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.**

380. 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.**
381. 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.**
382. 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.
383. **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. Invitated presentation at Texas Tex University, Lubbock, Texas March 2, 2005. (**Invited Seminar Speaker in the Chemistry Department**)
384. 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**).
385. 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**
386. 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.**
387. 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.**
388. **J.L. Gardea-Torresdey**, M. Laura Lopez, J.R. Peralta-Videa, V. Armedariz, 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.**

389. Montes, J.R. Peralta-idea, G. de la Rosa, B. Corral-Diaz, and **J.L. Gardea-Torresdey**. *Convolvulus arvensis* L, a Potencial Phytoremediator for Chromium contaminated sites. **2nd Annual Rio Grande Science Conference**. El Paso, TX. November 20, **2004**.
390. 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**.
391. **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)**.
392. 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**.
393. 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 Cadium (II) Stress in Tumbleweed (*Salsola Kali*) A Potential Cadmium Hyperaccumulator. **SACNAS National Conference**, Austin TX, October 21-25, **2004**.
394. Arias, Jack, **Gardea-Torresdey, J.L.**, Cruz-Jimenez, G., Peralta-Videa, J., Rodriguez, E. Screening of Potential Plant Species form El Paso –Juarez Region for Selnium Removal. **SACNAS National Conference**, Austin TX, October 21-25, **2004**.
395. 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**.
396. 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**.

397. 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**.
398. 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**.
399. **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**.
400. 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)
401. **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**.
402. 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: Plationus 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**.
403. 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**.
404. 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**.
405. 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.**

406. 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.**

407. 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.**

408. 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.**

409. 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.**

410. 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.**

411. 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.**

412. 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.**

413. 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**.
414. 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**.
415. 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**.
416. 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**.
417. 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)
418. 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**.
419. **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**.
420. **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**.
421. 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**.
422. 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**.

423. 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**.
424. 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.
425. 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.
426. 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.
427. **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).
428. 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.
429. 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.
430. 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.
431. **Gardea-Torresdey, J.L.** Phytoremediation. UTEP Minority Institution for Excellence Seminar, El Paso, TX. Oct 29, 2003.
432. 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
433. 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)
 434. **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)
 435. 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.
 436. 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
 437. 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.
 438. 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.
 439. 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.
 440. 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.
 441. 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.
442. **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.
443. 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,
444. **Gardea-Torresdey, J.L.**, Fitoremediacion, 2003. Ciencia de Frontera, Instituto de Ingenieria y Tecnologia, September 20, Universidad Autonoma Ciudad Juarez, Mexico. (Invited Talk)
445. **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.
446. **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
447. **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.
448. 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.
449. **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.
450. 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.
451. Armendariz, V., **Gardea-Torresdey, J.**, Jose-Yacaman, 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.
 452. 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.
 453. 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.
 454. **J.L. Gardea-Torresdey**, E. Gomez, J.R. Peralta-Videa, K. J. Tiemann, J.G. Parsons, H. Troiani y M. Jose-Yacaman. Fitoremediación de metales pesados y formación de nanoparticulas usando plantas de alfalfa (*Medicago sativa* L.). IV Semana de Quimica de la Universidad de Juarez, April 1-4, 2003. (Invited Speaker).
 455. 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.
 456. 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.
 457. 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.
 458. 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.
 459. 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.

460. **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.
461. 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.
462. 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.
463. 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.
464. 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.
465. 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.
466. **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).
467. 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

468. 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.
469. 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).
470. 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.
471. 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.
472. 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.
473. 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.
474. 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.
475. 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.
476. 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.
 477. 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.
 478. 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.
 479. 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.
 480. 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.
 481. **Gardea-Torresdey, J. L.**, "Fundamental Studies of Bioproduced Nanomaterials and Applications," Annual Meeting of the Materials Corridor Council. El Paso, TX, May 1, 2002.
 482. **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.
 483. 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.

484. 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.
485. 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.
486. 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.
487. 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.
488. **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
489. 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
490. **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.
491. 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
492. 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
493. **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.

494. 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.
495. 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.
496. **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.
497. **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.
498. 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.
499. **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.
500. **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.
501. 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.

502. **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.
503. 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.
504. 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.
505. **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.
506. 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.
507. 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.
508. **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.
509. 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
510. 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.
511. 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.
512. 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
513. 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.
514. 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.
515. 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).
516. 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.
517. 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.

518. 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.
519. **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.
520. 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.
521. 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.
522. **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.
523. **Gardea-Torresdey, J.L. (2000)**. Environmental Science & Engineering Ph.D. Program. Presentation to the Texas Higher Education Coordinating Board. April 2, 2000.
524. 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.
525. 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.
526. 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.

527. 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.
528. 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.
529. 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.
530. 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.
531. 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.
532. 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.
533. 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).
534. 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).
535. 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.
536. 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.
537. 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).
538. 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.
539. 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.
540. 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.
541. 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.
542. 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.
543. 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.
 544. 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.
 545. **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.
 546. 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.
 547. **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.
 548. 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.
 549. 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.
 550. 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.

551. 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.
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555. 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.
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557. 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.
558. 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.
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- by Alfalfa Biomass. 1999 UTEP Student Research Exposition. October 14, 1999, El Paso, Texas.
560. 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.
 561. 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.
 562. 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.
 563. **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.
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 566. 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.
 567. 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.

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573. 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.
574. 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.
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576. 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.

577. 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.
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579. 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).
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582. **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.
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587. 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.
588. **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.
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 598. 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.
 599. 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.
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614. 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.
615. **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.
616. **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.
617. **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.
618. 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).
619. 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).
620. **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.
621. **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.
 622. **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.
 623. 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.
 624. 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.
 625. 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.
 626. 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.
 627. 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.
 628. **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.
 629. **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.

630. **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.
631. **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.
632. **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.
633. **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.
634. **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 Synechococcus PCC 7942 (Cyanobacteria). 1996 Border Student Research Expo, El Paso, TX, April 9-10.
635. **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.
636. **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.
637. **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.

638. 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.
639. 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.
640. 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.
641. **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.
642. **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.
643. **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.
644. **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.
645. **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.
646. **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.

647. **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.
648. **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.
649. **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.
650. **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.
651. 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.
652. **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.
653. 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.
654. 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.
655. 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.
656. 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.

657. 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.
658. **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.
659. Darnall, D. W., Greene, B., and **Gardea-Torresdey, J. (1987)**. Gold Binding to Algae. The International Symposium on Biohydrometallurgy, Warwick, England.
660. 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
661. **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:

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

Co-Organizer and Sesion 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 Sesion 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.

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 Sesion 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 Sesion 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**, X-rays reveal uptake of nanoparticles by soyabean, April 2013.
2. **Research Highlighted by the European Synchrotron Radiation Facility**, Uptake of titanium dioxide nanoparticles by cucumber plants probed by submicrometre X-ray Novemeber, 2012.
3. **Safety of nanoparticles in food crops is still unclear**, ACS News Service Weekly PressPac: Wed Jun 01 16:42:03 EDT 2011
4. **Research highlighted by the NIH's National Institute of General Medical Sciences in the 2005 Budget request to US Congress of 2 billion dollars.**
5. **Research highlighted by the NIH's National Institute of General Medical Sciences**, Fall 2003
6. **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.
7. **Mesquite: cleaner of the desert?** (Spectrum), Environment, Sept, 2003
8. **Mesquite May Clean Up in the Desert.** Technology Solutions, *Environmental Science and Technology*, June 2003. p. 215A, Article by Kellyn Betts
9. **Texas Professors Mine Plants for Gold.** *Hispanic Outlook*, January 2003
10. **Mining with Alfalfa.** *Special Science News of ABCNEWS.com*, September 2002. Article by Lee Dye.
11. **There's Gold in them there roots.** *New Scientist*, March 2002, p. 18. Article by Ian Sample.
12. **Harvesting Gold nanoparticles from sprouts.** *Chemical and Engineering News. Science Highlights*, Vol. 80, 12, March 2002, p. 38.
13. **Researchers spin straw into Gold.** *National Geographic*, August 2002. Article by Peter N, Spotts.
14. **Nanopartículas de oro cosechadas en brotes de Alfalfa.** *Notas Científicas-Notas Breves, Asociación Mexicana de Ciencias*, Junio del 2002. Article by Antinona Segura Peralta.
15. **Znanstvenici otkrili kako slamu pretvoriti u-zlato.** *Hina NewsLine*, July 2002.
16. **Naucnici otkiri kako slamu da pretvore u-zlato.** *Zurca System*, July 2002.
17. **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.
18. **Scientists use Alfalfa plants to Harvest nanoparticles of Gold.** *Science Daily*, August 2002
19. **No Fairy Tale: Researchers spin straw into Gold.** *The Christian Science monitor*, August 2002. Article by Peter N. Spotts.
20. **Making money grow on trees.** *Space Daily*, August 2002. Article by Tom Mead.
21. **Researchers looks at Harvesting Gold nanoparticles.** *The Alchemist News*, September 2002. Article by Jean Thilmany.

22. **Small is beautiful smaller is Golden.** *Popular Science*, November 2002. Article by Etienne Benson.
23. **Growing for Gold.** *Materials Today*, November 2002.
24. **Fields of Gold.** *Texas innovator* November 2002.
25. **Gold Nanoparticles.** *Research and Development Update, Chemical Engineering*, November 2002.
26. **No Fairy Tale: Researchers spin straw into Gold.** *AgFiber technology*, September 2002. Article by Peter N. Spotts.
27. **No Fairy Tale: Researchers spin straw into Gold.** *The Sacramento Bee*, August 2002. Article by Peter N. Spotts.
28. **Scientists use Alfalfa plants to Harvest nanoparticles of Gold.** *Stanford University News service*, August 2002
29. **Mining Gold with Alfalfa.** *Nano/Bio Convergence, BBCNews*. September 2002.
30. **Mit Pftanzen Goldpartiked ernten.** *Neues aus der Wissenschaft*, September 2002
31. **Alfalfa plants harvest gold nanoparticles.** Article by Liz Kalaugher. *Nanotechweb.org*, August 2002
32. **Zlato iz biljaka, SLOBODNA DALMACIJA**, August 2002. pp. 2-4. Article by Goran Basic.
33. **Campos de Oro.** *Texas Innovator*, November 2002
34. **Znanstvenici otkrili kako slamu pretvoriti u-zlato.** **VJESNIK ON LINE**, July 2002
35. **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 23 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-INTENSE 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 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. Principal 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 Manciu, 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).
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 01/31/2019.

Pending

NATIONAL SCIENCE FOUNDATION (Trophic transfer of engineered nanomaterials in terrestrial systems: Correlating physiological and molecular responses with contaminant burden). **Requested funds \$300, 000** for the funding period 05/01/2016- 04/30/2019 (Om Parkash PI) (Gardea-Torresdey, UTEP PI).

US DEPARTMENT OF AGRICULTURE (UPRM-CENTER FOR THE PROTECTION AND REUSE OF WATER FOR AGRICULTURE: TRAINING, EDUCATION AND RESEARCH (UPRM-CPR-WATER). Requested funds \$ 2,335,702.00 for the funding period 9/01/2016 to 12/31/2020 (PI Felix Roman, Gardea UTEP PI).

Others

NATIONAL SCIENCE FOUNDATION (Assessment of response of plants and associated microbes to chronic application of agriculture used copper-based nanoparticles: Focus on mycorrhizal-wheat and Rhizobium-bean). **Requested funds \$293,836** for the funding period 6/1/2015 to 5/31/2018 (PI) (not invited).

US DEPARTMENT OF AGRICULTURE (USDA Center for Profitable and Renewable Agricultural Water Management (CPRAWM). **Requested funds \$10,000,000.00** for the funding period 01/01/2016 to 12/31/2019 (PI Felix Roman) Gardea (UTEP Co-PI). Not funded

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

Postdoctoral Fellows/Visiting Scientists

1. Dr. Wenchao Du, 2015
2. Dr. Jose A. Hernandez-Viezcas
3. Dr. Jessica Trujillo Reyes, 2012- present
4. Dr. Lijuan Zhao, 2010- 2014
5. Dr. Guadalupe de la Rosa, 2009-2010
6. Dr. Hilario Lopez, 2008-2009

7. Dr. Martha Laura Lopez, 2007-2009
8. Dr. Edith Flores-Tavizon, 2006-2007
9. Dr. Ken Dokken, 2006-2008
10. Blanca Sanchez, 2005-2006
11. Dr. Sharon Mokgalaka, 2005-2006
12. Dr. Alejandro Martinez, 2003-2006
13. Dr. Jason G. Parsons, 2003, 2004-2008
14. Dr. Alberto Duarte, 2002-2003
15. Dr. Jose R. Peralta-Videa, 2002-2004
16. Dr. Kirk Tiemann, 1998 – 2001

Current Students

Doctoral Students

1. Regan Turley
2. Nimisha Thakur, PhD, Chemistry, Fall 2015
3. Ishaq Adisa, PhD, ES&E, Fall 2015
4. Nestor Bonilla, PhD, ES&E, Fall 2015
5. Chaoyi Deng, PhD, Chemistry, Fall 2015
6. Swati Rawat, PhD, ES&E, fall 2014
7. Pullagurala Venkata Laxma Reddy, PhD, ES&E, fall 2014
8. Wenjuan Tan, PhD, Chemistry Spring 2014
9. Carlos Tamez PhD, ES&E, spring 2014
10. Aidee Medina, PhD, Chemistry, spring 2014
11. Nubia Zuverza-Mena, PhD, MASE, fall 2013

Master Students

1. Loren Ochoa, Environ Sci., fall 2014, Evaluating the effects of the phytohormone indole-3-acetic acid in the response of green pea to nanoscaled CuO exposure.
2. Suzanne Apodaca, Environ. Sci., fall, 2014, Physiological and biochemical effects of kinetin on the plant uptake and translocation of *n*Cu in kidney beans (*Phaseolus vulgaris*)
3. Ana C. Barrios, Biochemistry, 2013, Toxicity assessment of cerium oxide nanoparticles on tomato (*Solanum lycopersicum* L.)
4. Ana Contreras (left the group on August 2015)

Undergraduate Students

Mariana Hernandez-Molina
Oswaldo Dominguez

Graduate Students-Completed

MS students (31)

1. Ana C. Barrios, **MSc**, Chemistry, Effects of citric acid coated and uncoated cerium oxide nanoparticles in tomato (*Solanum lycopersicum*) plants, May 3, 2016.
2. Vahid Jabbari, **MSc**, Chemistry, December 2014
3. Isabel Hernandez, **MSc**, Chemistry, Impact of CeO₂ nanoparticles on cilantro (*Coriandrum sativum*), May 2013.
4. Daniel Arriaga, **MSc**, Environmental Science, Microelement localization in leaves of Populus spp. and tolerance mechanisms to boron-salt toxicity, December 12, 2012.
5. Christina M. Gonzalez, **MSc** Chemistry, Iron and Manganese based nanomaterials for the removal of selenite and selenate from aqueous solution, August 2010.
6. Jeffrey Hernandez, **MSc** Chemistry, Chromium(III)/(VI) binding to magnetite (Fe₃O₄), Hausmannite (Mn₃O₄), and Jacobsite (MnFe₂O₄) nanomaterials, July 2010.
7. Jose A. Hernandez-Viezcas, **M.Sc.** Environmental Science, Toxicity of zinc oxide and cerium oxide nanoparticles on mesquite (*Prosopis juliflora-velutina*), December 15th 2009.
8. Tenoch Benitez, **M.Sc.** Chemistry, “*Salsola kali* (tumbleweed): A possible biomonitor device for the detection of airborne heavy metals”, December 11th 2009.
9. Carlos Acebedo, **M.Sc.** Chemistry, “Silica removal from brine by using ion exchange” December 10th, 2009.
10. Hiram Castillo-Michel, **MS**,
11. Estela Rascon, **M.Sc.** Chemistry, “Characterization of the heavy metal binding mechanisms in *Solanum eleaeagnifolium* biomass using FTIR, AAS, and XAS” December 2005.
12. Isaac Herrera, **M.Sc.** Chemistry, “Characterization of silver(I) binding by alfalfa biomass (*Medicago sativa*) through pH profile, time, temperature, and X-ray absorption spectroscopy studies” August 2005.

13. Veronica Armendariz **M.Sc.** Chemistry, “Bioreduction of gold(III) to gold(0) and nanoparticle formation by oat and wheat biomasses: the use of plants in nanobiotechnology” July 2005.
14. Carolina Contreras, **M.Sc.** Chemistry. “Ability of Immobilized Humin Biomass to Bind Heavy Metals under Flow Conditions: Batch and Column Interference Studies”, July 2003.
15. Martha Laura Lopez, **M.Sc.** Chemistry. “Study of Gold Binding and Characterization of Gold Nanoparticles Obtained from Aqueous Solutions Using Hop Biomass”, May 2003.
16. Guadalupe de la Rosa, **M.Sc.** Chemistry. “Use of ICP/OES and XAS to Determine Heavy Metal Binding to Humic Substances”, May 2003.
17. Eduardo Gomez, **M.Sc.** Chemistry. “ The Nanoparticle Formation and Uptake of Precious Metals by Living Alfalfa Plants”, July 2002.
18. Lucero Bess-Oberto, **M.Sc.** Chemistry. “Nobel Bioelectroanalytical Sensor to Determine Lead(II) and Copper(II) Concentrations and metal Binding Mechanisms to Alfalfa Biomass”, May 2002.
19. Kenneth Dokken, **M.Sc.** Chemistry. “Investigation of Chromium Adsorption by Biomaterials”, May, 2001.
20. Jason Parsons, **M.Sc.** Chemistry. Method Development and Trace Level Adsorption of Heavy Metal Ions onto Alfalfa Biomass by Using GFAAS May 2000.
21. Gerardo Gamez, **M.Sc.** Chemistry. “Characterization of the Bioreduction of Gold(III) by Alfalfa Biomass using Spectroscopic and Electrochemical techniques”, August 2000.
22. Tania Espino, **M.Sc.** 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).
23. Osvaldo Rodriquez, **M.Sc.** Chemistry. “Applications of Electroanalytical Techniques to Prove Metal Ion Binding: Biosensors”, May 1999.
24. Tabassum Baig, **M.Sc. Chemistry.** “Removal of Toxic Metal Ions from Aqueous Solution by *Solanum elaeagnifolium* and *Larrea tridentata* under flow conditions,” August 1999.
25. Judith Rios, **M.Sc.** Chemistry.” Study of Oat and Wheat Biomasses for Metal Removal and Optimization of Metal Ion Binding,” May 1999.
26. Sal Sias, **M.Sc.** Chemistry. “Evaluation of Northern Chihuahua Desert Plants for their Heavy Metal Phytoremediation Potential in Contaminated Soils,” December 1998.

27. Xiaoyan Li, **M.Sc.** Chemistry, “Toxic Metal Ion Adsorption by Base-modified and Unmodified Biomasses of Pine Sawdust and Sunflower Seed Hulls,” August 1997.
28. Lori Polette, **M.Sc.** Chemistry, “X-ray Spectroscopic Studies of Heavy Metal Up Take by *Larrea tridentata* (Creosote Bush),” December 1997.
29. Kirk Tiemann, **M.Sc.** Chemistry, “Investigation on the Binding of Metal Ions to Inactivated Cells of *Medicago sativa* (alfalfa) and Silica-Immobilized alfalfa,” December 1995.
30. Luocheng Tang, **M.Sc.** Chemistry, “Copper Adsorption by Sphagnum Peat Moss and Its Different Humic Fractions,” December 1995.
31. Angelica Hernandez

PhD students (33)

1. Nubia Zuverza-Mena, **PhD** Materials Science & Engineering, Bioavailability of metal/metal oxide nanomaterials and their effects on the physiology of plants, April 19, 2016.
2. Kevin Floyd (Co-chair) with Elizabeth Walsh, ES&E, 2015
3. Cyren M. Rico, **PhD** Chemistry, Effects of cerium oxide nanoparticles in cereals: Insights on toxicity mechanisms and macromolecular modifications, December 2014.
4. Sanghamitra Majumdar, **PhD** Chemistry, Nanoceria exposure to kidney beans (*Phaseolus vulgaris*): Implications on plant physiology, nutrition and their transfer to next trophic level, December 2014.
5. Jie Hong, **PhD** ES&E, 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.
6. Arnab Mukherjee, **PhD** ES&E, 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.
7. Alia Denis Servin, **PhD** Chemistry, Determination of the effects of TiO_2 nanoparticles in cucumber (*Cucumis sativus*), January 2014.

8. Jose A. Hernandez-Viezcas, **PhD** Chemistry, Determination of the effects of ZnO and CeO₂ nanoparticles in mesquite (*Prosopis juliflora*) and soybean (*Glycine max*): Synchrotron and spectroscopic approaches, December 7, 2013.
9. Susmita Bandyopadhyay, **PhD** Environmental Science and Engineering (ES&E), Interaction of CeO₂ and ZnO nanoparticles towards the symbiotic association of alfalfa (*Medicago sativa*) and *Sinorhizobium meliloti* in soil, November 27, 2013.
10. Marian Zappala (Viveros) (with Dr. Judt Ellzey), **PhD**, Environmental Science and Engineering (ES&E), Biological Effects of Copper on Screw bean Mesquite, October 3, 2012.
11. Hiram Castillo-Michel, **PhD**, ES&E Accumulation, speciation, and distribution of metal/(loids) in plants: Applications of synchrotron techniques in environmental sciences, February 2011
12. Yong Zhao, **PhD** Chemistry, Physical and biochemical assessment of Mexican Palo Verde response to chromium toxicity, August 2010.
13. Milka Montes, **PhD** Chemistry, A new green chemistry method based on plant extracts to synthesize gold nanoparticles, May 2010.
14. Jack Arias, **PhD** 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.
15. Nazmul Haque, **PhD** Environmental Science and Engineering (ES&E) PhD Program, Screening the phytoremediation potential of native plants growing on mine tailings in Arizona, USA, November, 2008.
16. Marcos Delgado Rios, **PhD**, 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.
17. Martha Laura Lopez, **PhD**, Environmental Science and Engineering PhD Program, Evaluation of the effect of EDTA and plant growth promoters on lead uptake, translocation, and oxidative stress response in *Medicago sativa*, July 2007.
18. Maather Sawalha, **PhD**. Environmental Science and Engineering PhD Program, Phytofiltration potential of saltbush (*Atriplex canescens*) to clean up heavy metal contaminated waters, May 2006
19. Elena Rodríguez, **Ph.D.**, Environmental Science and Engineering PhD Program, Gold bioabsorption and reduction by *Chilopsis linearis* (Desert Willow): An alternative for in-

situ gold extraction, May 2006.

20. Roberto Hurtado-Jimenez, **Ph.D.** 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.
21. Guadalupe de la Rosa, **Ph.D.** 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.
22. Gustavo Cruz-Jimenez, **Ph.D.** Environmental Science and Engineering PhD Program, “Toxicity and accumulation of selenium by plant species from the Chihuahuan Desert”, September 2004.
23. Jaime Romero-Gonzalez, **Ph.D.** (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.
24. Mary V. Aldrich, **Ph.D.** Environmental Science and Engineering PhD Program, “Toxicity and accumulation of chromium, lead, copper, and arsenic in mesquite (*Prosopis* spp.)”, June 2004.
25. Judith Rios, **Ph.D.** (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.
26. Jason Parsons, **Ph.D.** Environmental Science and Engineering PhD Program “Spectroscopic Investigations into the binding of Lanthanides and Actinides Elements to Alfalfa Biomass”, July 2003
27. Jose Peralta, **Ph.D.** 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.
28. Michael Hejazi, **Ph.D.** 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.
29. Francisco Estrada (with R. Quintana), **Ph.D.** Environmental Science and Engineering PhD Program “Optimization of a Green Chemistry Process for Waste Minimization,” 2000.
30. Socorro Arteaga, UTEP, **Ph.D.** Environmental Science and Engineering PhD Program,

“Metal Uptake by Creosote Bush Using Hydroponics: Spectroscopic Studies”. December 2000.

31. Irene Cano-Aguilera, **Ph.D.** Environmental Science and Engineering PhD Program, “Mucor rouxii: Morphological Alterations and Applications in Environmental Chemistry,” May 1998.
32. Kirk Tiemann, **Ph.D.** 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.
33. Gilbert Tellez, **Ph.D.** 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, 200
25. Alejandra Fernandez, 2009

26. Ivonne Gomez-2011
 27. Alyssa De La Rosa, 2009-2011

12. 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

**Dr. Ivonne
Santiago**

Georgette Webber

From: Georgette Webber
Sent: Friday, May 06, 2016 6:02 PM
To: 'Santiago, Ivonne'
Subject: RECEIVED: Application for PSB

Dr. Santiago:

Your application has been received by El Paso Water Utilities for the Environmental/Health position on the Public Service Board (PSB).

Thank you for your interest in serving on this Board. The PSB Selection Committee will review all applications and recommend three applicants to the El Paso City Council, which will then select one candidate. The process is expected to be completed in June 2016. Should you have any additional questions, feel free to contact me via phone at (915) 594-5501 or email at gwebber@epwu.org.

Sincerely,



Georgette M. Webber
Executive Secretary to President/CEO
El Paso Water Utilities
1154 Hawkins Boulevard, El Paso, Texas 79925
(O) 915-594-5501 | (F) 915-594-5666
gwebber@epwu.org | www.epwu.org

From: Santiago, Ivonne [<mailto:isantiago@utep.edu>]
Sent: Friday, May 06, 2016 4:25 PM
To: Georgette Webber
Subject: Application for PSB
Importance: High

Dear Ms. Webber,

I hope this e-mail finds you well. Attached please find my application for the upcoming vacancy on the Public Service Board.

Do not hesitate to contact me if you have any questions.

Thank You for the opportunity to be considered.

Regards,

-Ivonne

Ivonne Santiago, Ph.D., P.E.

Civil Engineering Department
University of Texas at El Paso
Office: 915-747-8478
Mobile: 915-203-9521
e-mail: isantiago@utep.edu

“To lead without a title is to derive your power within the organization not from your position but from your competence, effectiveness, relationships, excellence, innovation, and ethics”. M.J. Pallamary, PS



Department of Civil
Engineering

May 5, 2016

Georgette M. Webber
Executive Secretary to President/CEO
El Paso Water Utilities
1154 Hawkins Boulevard, El Paso, Texas 79925

Dear Ms. Webber:

I am submitting my application to be a member of the Public Service Board (PSB). EPWU, with its diverse and sustainable water supply and management portfolio for over thirty years has been at the forefront of water issues, not just in Texas but nationwide. I aspire to be a part of the board to contribute with my knowledge and experience to continue in the right path of technical innovation with fiscal prudence to deal with emerging water quality and quantity issues in our desert Southwest community.

I am qualified for this position for several reasons, namely, my educational background, my diversified academic experience, my professional engineering practice, my public service, and community involvement. Following are some highlights of these capabilities:

- **Educational background:** I have a Ph.D. Civil Engineering, Specialized in Environmental Engineering from New Mexico State University (1995), a Master's of Engineering in Environmental Systems Engineering from Clemson University (1988), and a B.S. in Civil Engineering from the University of Puerto Rico at Mayaguez (1986). As an Environmental Engineer, I have multidisciplinary knowledge in water and wastewater treatment, hydrology, hydraulics, biology, chemistry and other natural sciences.
- **Diversified Academic Experience:** I have over 15 years of experience in the educational field from the Elementary and High School levels through the University level including Graduate School. I have worked at the University of Puerto Rico at Mayaguez, at The University of Texas at El Paso, at the El Paso Community College, and at the High School and Elementary levels in a private school in El Paso. Having been an educator from beginning (PK3) to end (graduate school) has allowed me to develop my skills in dealing with a full spectrum of educational and cultural backgrounds and made me be particularly aware and sensitive to the different idiosyncrasies and expectations of people.
- **Professional Engineering Practice.** I am a licensed Professional Environmental Engineer in Texas (#112295), New Mexico (#19484) and Puerto Rico (#18193). As a professional Engineer I abide by the Codes of Ethics of the Texas Society of Professional Engineers (TSPE) and the American Society of Civil Engineers (ASCE). I am an active member of American Water Works Association, American Society of Civil Engineers, Society for Mining, Metallurgy and Exploration, Society of Women Engineers, American Society of Engineering Education, National Speleological Society, Society of STEM Women of Color, Society of Hispanic Professional Engineers, and the Latina Researchers Network. I worked as a Professional Engineering Consultant to the Comptroller of Puerto Rico in the Technical Evaluation of the ten (10) largest water and wastewater treatment plants in Puerto Rico. I was responsible and in charge of a multi-disciplinary team auditing these plants for operation, performance, and compliance with local and federal environmental regulations. My practical experience and knowledge in Water and Wastewater utility systems and regulations would be an asset to the Board.

Engineering Annex A-225
500 W. University Ave.
El Paso, Texas 79968
(915) 747-5464
FAX: (915) 747-8037

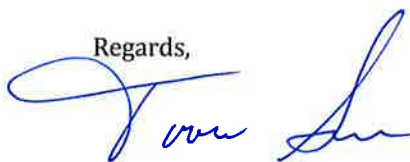
- Public Service. I was appointed Director of the Water Quality Area in the Puerto Rico Environmental Quality Board. I managed a budget of over \$21M in multidisciplinary projects involving surface and groundwater quality, compliance, permits (industrial and non-industrial), planning, and the State Revolving Fund, among others. Additionally, I was also appointed by the Governor of Puerto Rico to serve as an alternate member of the Board. As an alternate member I was always asked to participate in all meetings and provide technical assistance in issues related to water, solid waste, soil, air pollution, and environmental emergencies. I was a member of The Good Neighbor Environmental Board (GNEB) that advises the President and Congress of the United States on good neighbor practices along the U.S. border with Mexico. I am on my third term as a member of the Environmental Protection Agency National Advisory Committee (NAC). The NAC advises the Administrator of the EPA on environmental policy issues related to the implementation of the North American Agreement on Environmental Cooperation.
- Community Involvement. I was the principal investigator for an EPA-funded project where we installed and monitored a small drinking water treatment plant for an isolated community in Puerto Rico by a remote telemetry system. I worked closely with the community, arranging and conducting meetings, to make them aware of drinking water and public health issues. I was selected as the University of Puerto Rico Representative in a Vieques Technical Committee as a technical consultant and facilitator in the Outreach Subcommittee overseeing the removal of Unexploded Ordinance (UXOs) on the Puerto Rican key of Vieques. I had to give numerous presentations to the residents at public meetings, most of whom were fishermen. I am an active participant in an EPA-funded grant to use Point of Use (POU) water treatment systems in Colonias of the Paso del Norte Region. I have kept in contact with many colonia residents in El Paso County and Southern New Mexico through the Promotoras and Familias Triunfadoras and other state agencies to provide information and training in water quality and POU water treatment devices. I have successfully brought to the Paso Del Norte Region my perspective and previous experience with communities in Puerto Rico and I am contributing a new point of view to the environmental discussions along the border.

By no means, I am pretending to be an expert on issues such as climate change or financial or business management. However, I know that my background, skills, and experience would contribute to the diversity of the PSB that seeks to be a vehicle of change for the better in this community. Having the opportunity to work in the full spectrum of the educational process from beginning (PK3) to end (graduate school); the professional process as a consulting engineer; community advocate; and the regulatory process as a developer and enforcer of environmental regulations gives me a full understanding of where we come from and where we must go as a public organization and as a community.

Finally, I hold no known conflicts of interest such as real estate sales and management, land development, other water boards or other utilities (employment, elected or appointed) and I do not hold any political office. I hope you will consider my application favorably. I would be thrilled to be a vector of positive change for my community.

Do not hesitate to contact me in case you have any questions,

Regards,



Ivonne Santiago, Ph.D., P.E.

e-mail: isantiago@utep.edu

EDUCATION

Ph.D. Civil Engineering Specialized in Environmental Engineering, New Mexico State University, 1995. Dissertation Title: Removal of Hexavalent Chromium Using Natural Zeolite

M.E. Environmental Systems Engineering, Clemson University, 1988

Thesis Title: Transient Response of Toxic Shock Loads in Activated Sludge Systems

B.S. Civil Engineering, University of Puerto Rico, 1986.

LANGUAGES

Proficient in written and spoken English and Spanish

PROFESSIONAL LICENSES

Professional Environmental Engineer: Puerto Rico (#18193), New Mexico (#19484), and Texas (#112295)

WORK EXPERIENCE (chronological)

Clinical Professor, University of Texas at El Paso, College of Engineering, Department of Civil Engineering, September 2013-Present. **Lecturer**, August 2009 to August 2013.

Responsibilities include: Academic and professional advising of undergraduate students; teaching various undergraduate and graduate engineering courses and supervising undergraduate and graduate research in Environmental and Water Resources Engineering. Coordinator of: Hydraulics Laboratory, Undergraduate Assessment for Accreditation of ABET and SACS, Senior Design Capstone and Thermofluids courses, and Graduate Professional Master's Program in Water Resources Engineering Management.

Special Faculty Associate, Center for Excellence in Teaching and Learning, University of Texas at El Paso, January 2012 to May 2013

Responsibilities included assisting the Director in assessment, planning, training, and campus-wide activities related to pedagogical innovations in teaching and learning.

Instructor, El Paso Community College, Engineering Program, August 2006 to July 2007.

Responsibilities included teaching various undergraduate courses and serving as the district-wide coordinator for the pre-engineering program.

Professor, University of Puerto Rico, Department of Civil Engineering and Surveying, July 2004 to August 2006. **Associate Professor**, July 1999 to July 2004. **Assistant Professor**, July 1995 to July 1999

Responsibilities included teaching various undergraduate and graduate courses in Environmental Engineering, Water Resources, Water Chemistry, Water and Wastewater treatment, Water Quality, Biological Treatment of Wastewater, Physico-Chemical Treatment of Wastewater, Industrial Wastewater Treatment, Solid waste treatment and disposal, Groundwater hydrology, and groundwater remediation.

Associate Director, University of Puerto Rico, Department of Civil Engineering and Surveying, September 2002 to November 2003.

Responsible for all academic affairs including, but not limited to, supervising student advising, curriculum, and scheduling.

Director, Water Quality Area, Puerto Rico Environmental Quality Board, August 2001 to September 2002.

In charge of Compliance, Permit, and Planning Bureau, that included Industrial and Non-Industrial permits, Leaking Underground Storage Tanks (LUSTs), and watershed restoration activities in Puerto Rico. Responsible for establishing TMDL and Beach Monitoring Program. Managed a

budget over \$7 million, in addition to over \$30 Million of the State Revolving Fund for Wastewater Treatment Systems in Puerto Rico.

PROFESSIONAL ASSOCIATIONS

American Water Works Association, American Society of Civil Engineers, Society for Mining, Metallurgy and Exploration, Society of Women Engineers, American Society of Engineering Education, National Speleological Society, Society of STEM Women of Color, Society of Hispanic Professional Engineers, Latina Researchers Network

HONORS AND ACHIEVEMENTS

2014 The University of Texas System Regents' Outstanding Teaching Award for Contingent Faculty

2014 Giraffe Award presented by the Center for Excellence in Teaching and Learning (CETaL) to a faculty member who shows significant courage and commitment to teaching and learning by daring to stick out his/her neck to make radical changes and innovations to his/her teaching practices not knowing what the outcomes might be.

2014 College of Engineering Instruction Award for excellence in teaching

2012 NCEES Award for connecting Education and Engineering Practice with design of Fire Station

PROFESSIONAL AND SERVICE ACTIVITIES

Member, The Good Neighbor Environmental Board (GNEB). The GNEB advises the President and Congress of the United States on good neighbor practices along the U.S. border with Mexico (2013-2015)

Member, Environmental Protection Agency National Advisory Committee (NAC). The NAC advises the Administrator of the EPA on environmental policy issues related to the implementation of the North American Agreement on Environmental Cooperation. (2012-Present, renewed to 2017)

Director, Hydraulics Laboratory, Department of Civil Engineering, University of Texas at El Paso. February 2015-Present

National Science Foundation Panel Proposal Reviewer 2013, 2014.

Member, Women's Advisory Council for the President of UTEP, January 2016-Present

Member, UTEP Storm Water Management Committee for UTEP's MS4 Storm Water Permit

Reviewer, Journal of Hazardous Wastes, 2009-2010

Coordinator of Assessment, UTEP's Civil Engineering Department

Coordinator of Senior Design Projects, UTEP's Civil Engineering Department

Team Chair, Program Accreditation for the Council of Higher Education of Puerto Rico, 2002-2003

Alternate Member, Governing Board of the Puerto Rico Environmental Quality Board. March 2001 to October 2002.

Director, Environmental Engineering Laboratory, Department of Civil Engineering, University of Puerto Rico, Mayagüez. January 1998 to December 2000

CONSULTING AND RESEARCH GRANTS SUMMARY

Primary Consultant to Government of Puerto Rico, Office of the Comptroller

- Technical Audits of the Ten Largest Water/Waste Water Treatment Plants in Puerto Rico, PI (2004-2005)

Research

- **Funding Agency: UTEP's Office of Research and Sponsored Projects (ORSP) (\$20,000)**
 - Use of Natural Zeolite as soil amendment to control salinity and moisture control in sandy soil, PI (*Current*)
- **Funding Agency: Environmental Protection Agency (\$1,022,000)**
 - "Point of Use (POU) water treatment systems for improving sustainability and environmental justice in Colonias of the Paso del Norte region", Co-PI (*Current*)
 - Installation and Evaluation of Remote Telemetry Systems for Monitoring of a Small Community Water Drinking Plant, PI (2004-2006)

- Monitoring of Water Quality of Beaches for Public Safety, PI (2003)
- TMDL Development for the Rio Plata and Rio Cibuco In Puerto Rico, PI (2003)
- **Funding Agency: NSF (\$150,000)**
 - Developing Sustainable Technologies for Removing Contaminants from Water using Natural Zeolite, PI (*Current*)
 - Removal of Heavy Metals from Water using Zeolites (1996-1999)
- **Funding Agency: Department of Defense**, as part of a DOD-MURI Center for Development of Chemical Sensors for Explosives (\$100,000) (2003-2006)
 - Physical Modeling of Diffusion of Explosive Related Chemicals in Sub-Surface Environments, Co-PI
- **Funding Agency: US Corps of Engineers (\$30,000) (2005)**
 - Evaluation of Combined Sewer Overflow into McCook Reservoir Limestone Walls, PI

SELECTED PUBLICATIONS/PRESENTATIONS

Ecological Restoration along the U.S. - Mexico Border: Sixteenth Report of the Good Neighbor Environmental Board to the President and Congress of the United States.. NPR. EPA. (2015).

<http://www2.epa.gov/faca/good-neighbor-environmental-board-gneb-reports-president-united-states>.

Garcia L, Sobin C, Tomaka J, **Santiago I**, Palacio R, Walker S. (2015) A comparison of water-related perceptions and practices among west Texas and south New Mexico colonia residents using hauled-stored and private well water, *Journal of Environmental Health*, in press.

Santiago, I., “A case study of transformation of a capstone design course to embed measurable assessment instruments”. 2013 ABET Symposium, April 12-13, 201, Portland, Oregon

Fourzan, J. and **I. Santiago**, “Learning Outcomes and Rubrics: Performance Indicators and What they Teach us to Teach”, 2013 International Sun Conference, February 28-March 1, 2013, El Paso, Texas.

I. Campos-Flores, W.S. Walker, **I. Santiago**, J. Walton, J. Tomaka, R. Palacios. (2013 Feb 28) Selection and Evaluation of Point of Use Drinking Water Filtration for Colonias in the Paso del Norte Region, presented at the AMTA-AWWA Membrane Technology Conference, Session TH-2D, San Antonio, TX, Proceedings

Hernández, M.D., **I. Santiago**, and I. Padilla, “Macro-Sorption of 2,4-Dinitrotoluene onto Sandy and Clayey Soils,” Paper Number:6217-132, Proc. of SPIE on Detection and Remediation Technologies for Mines and Minelike Targets XI, SPIE Defense and Security Symposium, April 17-21 2006 in Orlando, FL, Vol. 6217, 621736, 1-8, 2006.

Padilla, A., I. Padilla, and **I. Santiago**, “Multiphase Extraction Sampling of Explosives in Unsaturated Soils,” Paper Number: 6217-139, Proc. of SPIE on Detection and Remediation Technologies for Mines and Minelike Targets XI, SPIE Defense and Security Symposium, April 17-21 2006 in Orlando, FL, Vol. 6217, 62173C 1-11, 2006.

Rodríguez, S., I. Padilla, and **I. Santiago**, “Development of a Multi-Scale Packing Methodology for Evaluating Fate and Transport Processes of Explosive-Related Chemicals in Soil Physical Models, Paper Number: 6217-77, Proc. of SPIE on Detection and Remediation Technologies for Mines and Minelike Targets XI, SPIE Defense and Security Symposium, April 17-21 2006 in Orlando, FL, Vol. 6217, 62171U 1-10, 2006.

Laboy, M.M. and **I. Santiago**, and G. López, “Computing Adsorption Isotherms for Benzene, Toluene, and p-Xylene in Heulandite Zeolite”, *Industrial and Engineering Chemistry Research*, Vol 38, No.12, 4938-4945, 1999.

Dr. Tom Davis

Georgette Webber

From: Georgette Webber
Sent: Tuesday, May 03, 2016 10:56 AM
To: 'Davis, Thomas A'
Subject: RECEIVED: My application for PSB

Importance: High

Dr. Davis:

Your application has been received by El Paso Water Utilities for the Environmental/Health position on the Public Service Board (PSB).

Thank you for your interest in serving on this Board. The PSB Selection Committee will review all applications and recommend three applicants to the El Paso City Council, which will then select one candidate. The process is expected to be completed in June 2016. Should you have any additional questions, feel free to contact me via phone at (915) 594-5501 or email at gwebber@epwu.org.

Sincerely,



Georgette M. Webber
Executive Secretary to President/CEO
El Paso Water Utilities
1154 Hawkins Boulevard, El Paso, Texas 79925
(O) 915-594-5501 | (F) 915-594-5666
gwebber@epwu.org | www.epwu.org

From: Davis, Thomas A [<mailto:tadavis2@utep.edu>]
Sent: Monday, May 02, 2016 4:22 PM
To: Georgette Webber
Subject: My application for PSB

Dear Georgette,
Would you please accept my attached application letter and resume.
Best regards,
Tom

Thomas A. Davis, PhD
Director, Center for Inland Desalination Systems
Professor, Civil Engineering
University of Texas at El Paso
Phone (915) 747-8453
email: tadavis2@utep.edu

Georgette Webber
Executive Secretary
El Paso Water Utilities
1154 Hawkins Boulevard
El Paso, Texas 79925

Dear Ms. Webber,

I hereby submit my application for the vacant position on the Public Service Board. Because of my professional training I am familiar with water utilities, and I could make a useful contribution to the activities of the PSB. My special capability is an understanding of desalination processes. However, I have a strong interest in preserving our environment. I was very much involved in environmental activities in my previous job at the University of South Carolina, and I would bring that knowledge and enthusiasm to my service on the PSB.

A potential area for Conflict of Interest lies in the fact that UTEP's Center for Inland Desalination Systems, of which I am Director, occasionally seeks funding from the PSB for research projects, and we often carry out research projects at the KBH desalination facility. Currently we are seeking funding for a demonstration project that utilizes Photovoltaic (PV) panels to provide power for desalination, and Mr. John Balliew has expressed his support for the demonstration to be conducted at the KBH facility. If the PBS has deliberations concerning dealings with our Center, I would have to recuse myself from the deliberations and voting on those matters.

Since I will be out of town during a portion of the time when the selection process will occur, I want to inform you of my travel schedule. May 27- June 3 I will be on a business trip to Washington, DC. June 16- July 6 I will be away on vacation. I can be available for an interview during the period June 6-15 if I am invited.

Sincerely,

Thomas A. Davis

Thomas A. Davis



THOMAS A. DAVIS, PhD

Center for Inland Desalination Systems
University of Texas at El Paso
El Paso, TX 79902

Phone: 915-747-8453
E-mail: tadavis2@utep.edu

EXPERIENCE:

Diverse research in membrane processes (electrodialysis, dialysis, electrodeionization, reverse osmosis, gas permeation, fuel cells), biomedical engineering (blood substitutes, hemoperfusion, artificial kidney, glucose sensor, body support), activated carbon, ion exchange, organic reaction kinetics, textile finishes, heavy residual oil, hydrogen production and storage, CO₂ and pollution control.

Director, Center for Inland Desalination Systems and Professor of Civil Engineering, University of Texas at El Paso, El Paso, TX, 2009-present
Organized a center of excellence for inland desalination science, engineering research, education, technology transfer and commercialization. Perform desalination research.

Research Professor University of South Carolina, Columbia, SC. 2001-2008
Served as PI for research projects on fuel cell applications, hydrogen production and storage, reverse osmosis and electrodialysis for desalination, and pollution control. Also participated in projects on supercritical CO₂ for PCB extraction and for sterilization and cleaning of medical devices. Responsible for fuel cell in Green Dorm, fuel cell bus and hydrogen fueling station.

Chief Technology Officer ZDD, Inc., Columbia, SC, 2007-present
Employed part-time for one year to serve as PI for NSF STTR Phase I project on improved ionomer membranes for fuel cells and electrolysis.

Independent Consultant Annandale, NJ, 1989-2000.
Provided guidance for more than 25 companies on application of membrane processes to industrial separations. Developed processes for recovering and recycling ionic components of waste streams. Provided in-house training course on electrodialysis. Served as technical representative for major Japanese membrane supplier. Served as expert witness in patent infringement lawsuits.

Director of Research and Development Graver Water Division of The Graver Company, Union, NJ, 1984-89.
Developed and acquired new water treatment processes. Trained staff and cultivated business in electrodialysis, bipolar membranes and diffusion dialysis. Negotiated license agreements with major Japanese companies.

Senior Staff Engineer Exxon Research and Engineering Company, Corporate Research Lab, Annandale, NJ, 1978-84.

Developed membranes for CO₂ recovery and artificial red cells (liquid membranes). Encapsulated activated carbon for oral uremia treatment. Studied heavy oil extraction and amine synthesis reaction kinetics.

Biomedical Engineering Section Head Southern Research Institute, Birmingham, AL, 1967-78.

Proposed and supervised commercial and government contracts on medical devices, water treatment and pollution control. Developed Electrodeionizer, DESEMO Seat, and Carbon Fiber Hemoperfusion Device from concept to clinical trials.

Jr. Chemical Engineer Deering Milliken Research Corp., Spartanburg, SC, 1963-64. Pilot plant synthesis of fabric finishes, machine design, plant trouble shooting.

PUBLICATIONS:

Books and Journal Articles: 30+; U.S. Patents issued: 15; Pending: 3.

EDUCATION:

Ph.D. Chemical Engineering. University of South Carolina, 1967. Dissertation: "Concentration of Uranyl Ions by an Ion Exchange Membrane Process."

B.S. Chemical Engineering. University of South Carolina, 1961.

PROFESSIONAL ASSOCIATIONS:

Member of American Institute of Chemical Engineers and North American Membrane Society. Lecturer on Electrodialysis at Center for Professional Advancement since 1971. International Advisory Board for Water Treatment. Referee for the Journal of Membrane Science, Industrial & Engineering Chemistry Research, Separation Science & Technology, Journal of Colloid & Interface Science, AIChE Journal, and Environmental Science & Technology.

PERSONAL:

Born 8/12/39, Married, 3 sons, Sing in choir, community chorus, barbershop quartet, Gilbert & Sullivan.

AWARDS:

2005 Environmental Stewardship Award, School of the Environment, University of South Carolina.

PUBLICATIONS:

(partial list)

"The Artificial Kidney", T. A. Davis, Southern Research Institute Bulletin, 23 (1):8, 1970.

"Use of the Donnan Equilibrium Principle to Concentrate Uranyl Ions by an Ion-

Exchange Membrane Process", T. A. Davis, J. S. Wu, B. L. Baker, A.I.Ch.E. Journal, 17 (4):1006, 1971. Paper with same title was presented to 63rd Annual Meeting of AIChE.

"Physicochemical Aspects of Electromembrane Processes", T. A. Davis and G. F. Brockman, Industrial Processing with Membranes, R. E. Lacey and S. Loeb (eds.) John Wiley & Sons, Inc., New York, 1972.

"Activated Carbon Fibers for Hemoperfusion", T. A. Davis, D. R. Cowsar, S. D. Harrison, Jr., and A. C. Tanquary, Transactions of the American Society for Artificial Internal Organs, 20:253, 1974.

"Utilization of Waste Kiln Dust from the Cement Industry", T. A. Davis and D. B. Hooks, In: Proceedings of the Fourth Mineral Waste Utilization Symposium, E. Aleshin (ed.) IIT Research Inst., Chicago, 1974.

"Disposal of Waste Dust from Cement Kilns", T. A. Davis, IEEE Transactions on Industry Applications, IA-11 (6):669, 1975.

"Activated Carbon Fibers in Hemoperfusion Devices", T. A. Davis, Kidney International, 7 (2) Supplement 3, 1975.

"Osmotic Propulsion of Icebergs", T. A. Davis, Proceedings of the First International Conference on Iceberg Utilization, A. A. Hussein (ed.), 1978.

"Sorption Forces and Equilibria", T. A. Davis, Sorbents and their Clinical Applications, C. Giordano (ed.), Academic Press, New York, 1980.

"Artificial Red Cells with Polyhemoglobin Membranes", T. A. Davis, W. J. Asher, and H. W. Wallace, Transactions of the American Society for Artificial Internal Organs, 28:404, 1982.

"Artificial Red Cells with Cross-linked Hemoglobin Membranes", T. A. Davis, W. J. Asher. and H. W. Wallace, Applied Biochemistry and Bio-technology, 10:123, 1984.

"On-Site Generation of Acid and Base with Bipolar Membranes: A New Alternative to Purchasing and Storing Regenerants", Proceedings of 48th International Water Conference, 1987.

"Recent Developments in Electrodialysis - Worldwide", Proceedings of the Sixth Annual Membrane Technology/Planning Conference, 1988.

"Electrodialysis", T. A. Davis, Handbook of Industrial Membrane Technology, M. C. Porter (ed.), Noyes, Park Ridge, NJ, 1990.

"Scale-up of ED/RO System for Waste Recovery" in Electrosynthesis: from Laboratory to Pilot, to Production, J. D. Genders and D. Pletcher (eds), The Electrosynthesis Company, E. Amherst, NY, 1990.

"The characteristics of diffusion dialysis membranes for the recovery of aluminum from sodium hydroxide solution", Byszewski C, Travino B, Barnett S, Davis T and Jaffari M, Proceedings of American Electroplaters and Surface Finishers/EPA Conference, Orlando F, 1994.

"Manufacture and Performance of Bipolar Membranes", T. A. Davis, Electrochemical Processing Technologies, International Forum, Electrolysis in the Chemical Industry, 11th, Clearwater Beach, Fla., Nov. 2-6, 349-361, 1997.

"Electrodialysis", T. A. Davis and D. A. Glassner, Handbook of Downstream Processing, E. Goldberg (ed.), Chapman & Hall, 1997.

"A First Course in Ion Permeable Membranes", T. A. Davis, J. D. Genders and D. Pletcher, The Electrochemical Consultancy, 1997.

"Metathesis of Magnesium and Sodium Salt Systems by Electrodialysis", C. Alheritiere, W. R. Ernst, and T. A. Davis. Desalination 115(2), 189-198, 1998.

"Effect of Metal Ions on Diffusion Dialysis of Inorganic Acids", S. J. Oh, S. H. Moon and T. A. Davis, Journal of Membrane Science 169, 95-105, 2000.

"Diffusion Dialysis", T. A. Davis, Encyclopedia of Separation Science, Ian D. Wilson (ed), Academic Press, 2000.

"Donnan Dialysis", T. A. Davis, Encyclopedia of Separation Science, Ian D. Wilson (ed), Academic Press, 2000.

"Electromembrane Processes", T. A. Davis, V. Grebenyuk, and O. Grebenyuk, Membrane Technology in the Chemical Industry, S. P. Nunes and K.-V. Peinemann (ed.), Wiley-VCH, 2001.

"Supercritical Fluid Process for Removal of PCBs from a DOE Job-Control Waste", J. Li, T. A. Davis, and M. A. Matthews, Environmental Progress 22(1), 7-13, 2003.

"Supercritical Fluid Extraction of 1,2,4-Trichlorobenzene from DOE Job-Control Waste", J. Li, T. A. Davis and M. A. Matthews, Separation Science and Technology 38(12 & 13), 2979-2993 , 2003.

"Sterilization using high pressure carbon dioxide – a review. J. Zhang, T.A. Davis, M.A. Matthews, M.D. Drews, M. LaBerge, and Y.H. An." J. Supercrit. Fluids 36(3), 354-372, 2006.

"Electromembrane Processes", T. A. Davis, V. Grebenyuk, and O. Grebenyuk, Membrane Technology in the Chemical Industry 2nd edition, S. P. Nunes and K.-V. Peinemann (ed.), Wiley-VCH, 259-304, 2006.

"Compatibility of Medical-Grade Polymers with Dense CO₂." K. Crocker, T.A. Davis, G.L. Thompson, A. Jiménez, M.A. Matthews, J. Lyons, and A. Trapotsis, J. Supercrit. Fluids 42, 366-372, 2007.

"Hydrolysis of sodium borohydride with Steam", E. Y. Marrero, J. R. Gray, M. A. Matthews and T. A. Davis, Int. J. Hydrogen Energy 32(18), 4717-4722, 2007.

“Minimizing Water Utilization in Hydrolysis of Sodium Borohydride”, E. Y. Marrero, J. R. Gray, M. A. Matthews and T. A. Davis, *Int. J. Hydrogen Energy* 32(18), 4723-4730, 2007.

“Hydrogen Generation from Chemical Hydrides”, E. Y. Marrero-Alfonso, A. M. Beaird, T. A. Davis, and M. A. Matthews, *Ind. Eng. Chem. Res.*, 2009, 48 (8), 3703-3712 • DOI: 10.1021/ie8016225 • Publication Date (Web): 20 March 2009.

“Zero liquid discharge desalination using reverse osmosis and electrodialysis”, R. G. Bond and T. A. Davis, *Water Science & Technology* (in press), 2010.

“Deliquescence in the Hydrolysis of Sodium Borohydride by Water Vapor”, A. M. Beaird, T. A. Davis, and M. A. Matthews, *Ind. Eng. Chem. Res.*, Article ASAP <http://pubs.acs.org/doi/abs/10.1021/ie100244v>, 2010.

“Zero liquid discharge desalination”, R. Bond, B. Klayman, K. Spencer, V. Veerapaneni, T. Davis and B. Batchelor, Final report to Water Research Foundation on Project #4163, 2011.

“Zero discharge desalination technology: A new twist on conventional desalination technologies”, Tom Davis and Brad Biagini, *AWWA Journal*, 104 (5) p 97, May 2012.

“Membrane technologies: A clear choice for water reuse”, Brad Biagini, Emily Gilbert, Bernie Mack, Malynda Cappelle and Thomas A. Davis, *AWWA Opflow*, February 2013.

“Ion-exchange membranes for water softening and high recovery desalination”, Malynda A. Cappelle and Thomas A. Davis, Emerging Membrane Technology for Sustainable Water Treatment and Supply. R.Sing and N. Hankins (eds) Elsevier (2016).

U. S. P A T E N T S

3,382,553 Apparatus to Compact Fabrics

4,032,452 Electrically Regenerated Ion Exchange System

4,252,653 Hemoperfusion Device for Specific Modification or Removal of Components of Whole Blood

4,327,046 Method for Producing a Rigid Shaped Mass Support System

4,376,059 Process for Preparing Artificial Red Cells

4,388,358 Adaptive Support System

4,390,521 Artificial Red Cells

4,536,283 Integrated Process for Deasphalting Heavy Oils using a Gaseous

Antisolvent (CO₂)

4,565,623 Method for Deasphalting Heavy Oils Using a Miscible Solvent at a Low Treat Ratio and a Carbon Dioxide Antisolvent

4,707,257 Air/Water Distributor Underdrain

4,880,513 Use of Bipolar Membranes to Split Salt into Regenerants for Ion Exchangers

5,049,233 Recovery of Sodium Hydroxide and Aluminum Hydroxide from Etching Waste

7,083,730 Production of Purified Water and High Value Chemicals from Salt Water

7,459,088 Water Desalination Process and Apparatus

8,323,614 Hydrolysis reactor for hydrogen production

9,278,315 Photovoltaic-Thermal (PV-T) System for Desalination

Pending Method For Increasing The Permeability of Polymer Film

Pending Recovery of Regenerant Electrolyte

Pending Hardness sensor

Pending Humidity sensor