

**RUPALI DATTA**

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**A) ACADEMIC TRAINING:**

**August 1992 - April 1997:** Graduate Studies for Ph.D. in the School of Life Sciences, University of Hyderabad, India. [Ph.D. awarded: April, 1997; Concentration: Biochemistry]

**June 1990 - May 1992:** Graduate Studies for M.Phil., School of Life Sciences, Sciences, University of Hyderabad, India. [M.Phil. (Biochemistry) Degree awarded: June'92]

**June 1987 - May 1989:** Graduate Studies for M.S. in the School of Life Sciences, Sciences, University of Hyderabad, India. [M.Sc. (Life Sciences) Degree awarded: June'89]

**June 1984 - May 1987:** Bachelor of Science Program at Osmania University, India. [Major: Biology and Chemistry; B.Sc. Degree awarded: June'87]

**B) WORK EXPERIENCE:**

- I. **Associate Professor**, Department of Biological Sciences, Michigan Technological University (MTU), Dec 2008 - present
- II. **Assistant Professor**, Earth and Environmental Science Department, University of Texas at San Antonio (UTSA), Aug 2004 – Dec 2008
- III. **Research Assistant Professor and Senior Lecturer**, Earth and Environmental Science Department, University of Texas at San Antonio, Jul 2003 – Aug 2004
- IV. **Post-doctoral Fellow and Lecturer-I**, Earth and Environmental Science Department, University of Texas at San Antonio, Mar 2002 – Jun 2003
- V. **Post-doctoral Associate**, Plant Pathology Department, University of Florida, Gainesville, Florida, Nov 1998 - Feb 2002
- VI. **Visiting Research Fellow**, Japanese Society for Promotion of Science Fellowship) Niigata University, Niigata, Japan, Nov 1997 – Oct 1998
- VII. **Research scientist**, University of Hyderabad, Hyderabad, India, Apr 1997 –Oct 1997

**Teaching:**

**MTU:**

1. **Biochemistry II** (BL 4020)
2. **Plant-Microbe interactions\*** Lecture and Lab (BL 4145/5145)
3. **Environmental Remediation and Toxicology\*** Lecture and Lab (BL 4120)
4. **Senior Capstone Experience** (BL4510)
5. **Advanced Biochemistry** (BMB6010)
6. **Environmental Microbiology** (BL3310)

\* New courses developed consisting of Lecture and Lab (2+2 contact hours)

**UTSA:**

1. **Environmental Phytoremediation\*** (EES 6763)
2. **Plant Microbe Interactions\*** (EES 5743)
3. **Microbial Ecology\*** (ES 5263, cross-listed with BIO 5263)
4. **Survey of Environmental Science\*** (EES 5013)

## R.D. Curriculum Vitae

5. **Environmental Chemistry\*** (ES 3024)
6. **Environmental Chemistry and Toxicology\*** (ES 4003)
7. **Environmental Remediation\*** (ES 3054)

\* New courses developed consisting of Lecture and Lab (2+2 contact hours)

Also taught:

**Environmental Quality Colloquium** (EES 6941)

**Environmental Remediation Colloquium** (EES 6941)

Developed syllabus and outline for 4 undergraduate courses for the Environmental Science BS program:

1. **Introduction to Environmental Systems I** (ES 2013)
2. **Introduction to Environmental Systems I Lab** (ES 2021)
3. **Introduction to Environmental Systems II** (ES 2023)
4. **Introduction to Environmental Systems II Lab** (ES 2031)

### Research interests:

- Use of plant-microbe interactions to remediate emerging contaminants (antibiotics, pharmaceuticals)
- Use of metal tolerant bacterial interactions with plant roots to remediate heavy metals in mine-impacted soils.
- Systems biology: Effect of metal stress on plants – proteomic and metabolomics studies
- Development of cold tolerant high biomass plants
- Use of plant-microbe interactions to enhance biomass of oilseed crops Camelina and Pennycress
- Phytoremediation of energetic compounds TNT and RDX
- Speciation, bioavailability, plant uptake of arsenic, lead and cadmium in environmental and biomedical media
- Water quality, sediment geochemistry of lakes: Nutrients and Heavy metals, effect on aquatic biota
- Remediation of chromium, perchlorate and hydrocarbons.

### Service:

**Internal: MTU**

#### University Committees:

Strategic Faculty Hiring Initiative (SFHI) on Health Screening Committee: 2009

Strategic Faculty Hiring Initiative (SFHI) on Health Cognate reviewer: 2010

Strategic Faculty Hiring Initiative (SFHI) on water Cognate Reviewer: 2011

Senate Alternate: 2011-2013

Senate Fringe benefits committee 2012-Present

Graduate Faculty: 2009-Present

#### Inter-Departmental Committees

Search committee member for Tenure-track Assistant Professor in Forest and Wetland Soil 2011-2012

Senate Alternate representative 2011-2013

Biochemistry Molecular Biology Ph.D. program Steering Committee 2012 - Present

Member, Biotechnology Research Center (BRC) travel grant committee, 2010- 2011

Chair, BRC travel grant committee, 2012

R.D. Curriculum Vitae

Departmental Committees

Search committee member for Tenure-track Assistant Professor in Genetics 2010  
Co-Chair of search committee for Tenure-track Assistant Professor in Mammalian Physiology 2011-2012  
Search committee chair for Tenure-track Assistant Professor in Environmental and Health-related Microbiology (2 positions)-2012-2013  
Member, Graduate Committee 2010-Present  
Member, Curriculum committee 2011-2015  
Member, Grievance Committee 2011-2012  
Member, Greenhouse Committee 2012 – Present  
Member, Tenure, Promotion and Reappointment Committee (2013 – Present)  
Graduate Program Director (2014 - Present)  
Biology Representative to the Center for Water and Society Advisory Committee

Other Services:

Judge, BRC graduate poster forum, 2009 onwards  
Reviewer, Summer Undergraduate Research Fellowship grants, 2010  
Judge, Graduate Research Colloquium, 2012 onwards  
Judge, World water day presentations

**Undergraduates advised:**

**2009:** Stephanie Smith (won a SURF award), Xiaowen Xu  
**2010:** Stephanie Smith  
**2011:** Tomothy Veverica  
**2012:** Diane Nelson, Kate Waring, Olivia Olsen, Alexandria Schwalbe  
**2013:** Larry Douglas, Benjamin Klimczyk, Amber Ranski, Rocehlle Spencer, Jennifer Connors, Helena Keller, Alyssa Sipes  
**2014:** Benjamin Klimczyk, Amber Ranski, Alyssa Sipe, Taija Hahka, Travis Wakeham, Olivia Olsen, Kailey Feuerstein  
**2015:** Cui Yi, Matthew Smiley, Randee Wlodek, Sarah Frederick, Spencer Olson, Ryan Bensen, Kailey Feuserstein.

**Transfer Scholar Advised:**

Jessica Karwoski (won SURF award)

**Visiting Scholar Advised:**

Mariana Allievi

**Member: Masters thesis committees** of the following students:

Stephanie Groves (Biological Sciences), Aparupa Sengupta (School of Forest Resources and Environmental Science - SFRES): completed 2009  
Jake Ladd (SFRES): completed 2010  
Paige Cox (SFRES), Deepak Kumar (Biological Sciences): completed 2011  
Betsy Tahtinen (SFRES): completed 2012  
Ashli Fueri (chemistry): Completed 2013  
Robert Brown (Chemistry): Completed 2014  
Alida Mau (SFRES): Completed 2015  
James Klapperich (SFRES): In progress

**Member: Ph.D. Dissertation committee** of the following students:

Steve Johnson (chemistry): completed 2010

## R.D. Curriculum Vitae

Surendar Dhadi, Kefeng Li (Biological Sciences): completed 2012  
Rafi Sheik, Stephanie Groves, Srinivas Sripathi (Biological Sciences), Mimi Yang (Chemistry):  
Kevyn Juneau (SFRES), Completed 2013  
Adam Coble (SFRES): Completed 2015  
Sasha Teymorian (Chemistry): In progress  
Melanie Talaga (Chemistry): In progress  
Akwas Duah-Gyamfi (SFRES): In progress

### **Internal (UTSA):**

Graduate Advisor of Records, Environmental Science Masters Program, Jan. 2005-Sep. 2007  
Doctoral Studies Committee, Environmental Science & Engineering Doctoral Program, 2006-2007  
UTSA Graduate Council, 2006-2007  
Budget Advisory Committee, Department of EES, 2006-2007  
College of Science Intellectual Property Committee, 2004-2008  
College of Science Graduate Recruitment Committee, 2007-2008  
College of Science Dissertation Awards Committee, 2006-2007  
Faculty senate committee on Evaluation, Merit, Rewards, Workload, 2005-2007  
Graduate Retention Task Force, 2006-2008  
Graduate Council Committee on Graduate Programs and Courses, 2006-2007  
BA/BS in Public Health, Proposal committee, 2006-2008  
Institutional Review Board, UTSA, 2006-2007  
Graduate Faculty, UTSA, 2002 – 2008  
Graduate Studies Committee, Environmental Science, 2004 – 2008  
Environmental Toxicology search committee, Environmental Science, 2004  
Curriculum Committee, Environmental Science, 2004 – 2008

### **Masters Thesis Advisor:**

Mario Quispe (graduated 2006- UTSA)  
Jaime Kosiba (graduated 2008-UTSA)  
Andrea Coleman (graduated 2008-UTSA, Summer Barber (Co-Advised with Dr. Sarkar, graduated 2008)  
Jenny Wells (graduated 2008)  
Claire Doskey (jointly advised with Dr. R. Wusirika, graduated 2012, MTU)

### **Ph.D. Dissertation Advisor:**

Syam Sundar Andra - (Completed in 2008)  
Chacharee Therapong - Completed in 2007 (Co-Advised with Dr. Sarkar)  
Pidatala Venkata Ramana Reddy - Completed in Spring 2015  
Aparupa Sengupta – Completed in Fall 2013 (Co-Advised with Dr. S. Bagley  
Emily Geiger (expected graduation Fall 2015)

### **Post-Doctoral Supervisor:**

Dr. Devanand Pachanoor  
Dr. Mandakini Patel  
Dr. Hussein Mohamed (jointly with Dr. D. Sarkar)  
Dr. Sumathi Saminathan (jointly with Dr. D. Sarkar)

### **Member: Masters thesis committees** of the following students:

Abraham Frias, John Branom, Neal Simpson, Christopher Amy, Vandana Vandanapu, Alpana Khairom, Tracey Johnston, Misti Thueson, Michael Hardy (UTSA)

**Member: Ph.D. Dissertation committee** of the following students:

Shahida Quazi, Rachana Nagar (UTSA)

Pravin Punamiya (Montclair State University): Completed 2013

Padmini Das ( Montclair State University): Completed 2014

Virinder Siddhu, Abhishek Roychowdhury, Saumik Panja (Montclair State University): In progress

**External:**

**Member-at-Large** of the Research Grants Committee, Geological Society of America, 2008 - 2011

**Hydrogeology Committee** of the Division of Environmental Geosciences, American Association of Petroleum Geologists 2007-2009

**Environmental Panel of the National Shipbuilding Research Program** 2009 onwards

**Phytotechnologies Panel** of the Interstate Technology and Regulatory Council 2009 onwards

**American Society of Agronomy** Environmental Quality Research Award Committee 2010-2012

**Adjunct Research faculty**, College of Sciences and Mathematics, Montclair State University 2008 – Present.

**Session Chair:** American Association of Petroleum Geologists Annual Convention, 2008. Title: Integrated Approaches to Site Characterization and Remediation (Oral and Poster) **Symposium Chair:** Annual Meeting of Geological Society of America. *November 2004*. Title: Current Perspectives in Environmental Biogeochemistry (*Oral-I; Oral-II; and Poster*).

**Symposium Chair:** Annual meeting of the Agronomy/Crop Science/Soil Science Society of America in November 2005. Titled “Trace Elements in Soils and Plants”

**Symposium Chair:** Arsenic in the Environment, MEDGEO 2013 (5<sup>th</sup> International conference on Medical Geology) to be held: Aug. 25-29, Arlington, VA.

- **Editor:** Book titled “An Integrated Approach to Environmental Management” along with Drs. Dibyendu Sarkar, Robyn Hannigan and Avinandan Mukherjee – Wiley and Sons (to be published in Fall 2015)
- **Editor :** Book titled “Concepts and Applications in Environmental Geochemistry” along with Dr. Dibyendu Sarkar and Robyn Hannigan Elsevier 2007. ISBN 978-0-08-046522-7
- **Associate Editor**, International Journal of Environmental Science and Technology (JEST), published by Springer.
- **Associate Editor** for Current Pollution Reports, published by Springer
- **Invited Reviewer** for the following Journals: Environmental Science and Technology, PLoS One, Journal of Environmental Quality, Environmental Geosciences, Human and Ecological Risk Assessment, Sexual Plant Reproduction, Water Research, Journal of Hazardous Materials, Chemosphere, Environmental Technology, Clean – Soil, Water, Air, Acta Physiologiae Plantarum, Journal of Environmental Management, Scientia Horticulturae.
- **Panel Reviewer** for grants: NSF (2010, 2013), NIH (2011, 2013, 2014) and National Shipbuilding Research Program, environmental Panel (2009-present).

**Member** of the following **professional societies:**

International Phytotechnology Society (IPS), Soil Science Society of America (SSSA),

American Society of Agronomy (ASA), American Chemical Society (ACS), The Society of Environmental Toxicology and Chemistry (SETAC), American Association of Petroleum Geologists (AAPG),

Geological Society of America (GSA), American Geophysical Union (AGU)

## C) REFEREED BIBLIOGRAPHY

### I. Book

1. Sarkar D, **Datta R.** and Hannigan R. Concepts and Applications in Environmental Geochemistry. Elsevier, Amsterdam, Netherlands, 2007 (ISBN# 978-0-08-046522-7)
2. Sarkar D, Datta R, Mukherjee A and Hannigan R (2016) An Integrated Approach to Environmental Management, Wiley. ISBN: 978-1-118-74435-2, John Wiley & Sons, Hoboken, NJ.

### II. Book Chapters

1. Vally KJM, **Datta R** and Sharma R (1992) Interaction between chloroplast development and photoregulation of starch degrading enzymes in monocot leaves. *In* "Research in Photosynthesis", Ed. N. Murata, Kluwer Acad Publishers, Netherlands, 3: 7221-724.
2. Vally KJM, **Datta R** and Sharma R (1997) Starch degrading enzymes in green leaves: Regulation and role in mobilization of transitory starch. *Agro's Annual Review of Plant Physiology III* Ed. S. Purohit. Agro Botanical Publishers, India. pp. 139-175.
3. Sarkar D, **Datta R**, and Davani A (2004) Remediation of contaminated soils. *In* Encyclopedia of Water **Vol. 5**, Ground Water. Ed. J. Lehr, John Wiley and Sons, New York, NY, pp. 432-436.
4. **Datta R** and Sarkar D (2004) Phytoremediation of Selenium-laden Soils. *In* "Encyclopedia of Water" Ed. J. Lehr, John Wiley and Sons, New York, NY, pp. 397-401.
5. **Datta R** and Sarkar D. Phytoextraction of Zn and Cd from Soils Using Hyper-accumulator Plants. *In* Encyclopedia of Water **Vol. 5**, Ground Water. Ed. J. Lehr, John Wiley and Sons, New York, NY, pp. 369-374.
6. Sarkar D, Vandanapu V and **Datta R** (2005) Soil nitrogen management impact on quality of surface and subsurface water. *In* J. Lehr (ed) Encyclopedia of Water **Vol. 3**, Surface and Agricultural Water. John Wiley and Sons, New York, NY, pp. 694-701.
7. **Datta R** and Sarkar D (2005) Genetics of metal tolerance and accumulation in higher plants. *In* J. Lehr (ed) Encyclopedia of Water. **Vol. 5**, Ground Water. John Wiley and Sons, New York, NY, pp. 284-290.
8. **Datta R**, Sarkar D, Khairom A and Therapong C (2005) Phytoremediation of constructed wetlands. *In* J. Lehr (ed) Encyclopedia of Water. **Vol. 3**, Surface and Agricultural Water. John Wiley and Sons, New York, NY, pp. 364-371.
9. Johnston T, **Datta R** and Sarkar D (2005) Phytoextraction and phytostabilization: Technical, economic and regulatory considerations of the soil-lead issue. *In* J. Lehr (ed) Encyclopedia of Water. **Vol. 5**, Ground Water. John Wiley and Sons, New York, NY, pp. 365-369.
10. Quazi S, Sarkar D and **Datta R** (2005) Lead: Health effects. *In* J. Lehr (ed) Encyclopedia of Water. **Vol. 2**, Water Quality and Resource Development. John Wiley and Sons, New York, NY, pp. 432-440.
11. Sarkar D and **Datta R**. Arsenic concentrations and bioavailability in soils as a function of soil properties: A Florida case study. *In* M.N.V. Prasad, R. Naidu, and K. Sajwan (ed) Trace Elements in the Environment. CRC Press, Boca Raton, FL, pp.77-93.
12. **Datta R**, Makris KC and Sarkar D. (2007) Effects of incubation time and initial load on arsenic bioaccessibility in three Florida soils amended with sodium arsenate. *In* D. Sarkar, R. Datta, and R. Hannigan (ed.) *In* D. Sarkar, R. Datta, and R. Hannigan (ed.) Concepts and Applications in Environmental Geochemistry. Elsevier, Amsterdam, The Netherlands, pp 327-343.
13. Quazi S, Sarkar D, **Datta R** and Sharma S. (2007) A greenhouse study on soil arsenic forms and their bioaccessibility in two chemically variant Florida soils amended with sodium arsenate pesticide: Preliminary results. *In* D. Sarkar, R. Datta, and R. Hannigan (ed.) Concepts and Applications in Environmental Geochemistry. Elsevier, Amsterdam, The Netherlands, pp 345-360
14. **Datta R**, Sarkar D, Mohamed H and Therapong C. (2007) Remediation of arsenical pesticide

applied soils using water treatment residuals: Preliminary greenhouse results. *In* D. Sarkar, R. Datta, and R. Hannigan (ed.) Concepts and Applications in Environmental Geochemistry. Elsevier, Amsterdam, The Netherlands, pp 543-559.

15. **Datta R**, Geiger E and Sarkar D (2013) Lead and Phytoremediation. *In* Encyclopedia of Metalloproteins. Kretsinger RH, Uversky, VN, Permyakov, EA (Eds) ISBN 978-1-4614-1534-3, pp. 1161-1166. Springer.
16. **Datta R**, Kinrade G and Sarkar D (2014) Non-traditional uses of maize: biofuels, remediation and pharmaceuticals. *In* Genetics, Genomics and Breeding of Maize. Wusirika R, Bohn M, Lai J and Kole C (Eds) ISBN 978-1-4822-2812-0, pp 236-255. CRC Press, Boca Raton, FL.

### III. Journal Articles/Conference Proceedings (PUBLISHED/ACCEPTED)

17. **Datta R**, Reddy KR and Vally KJM, Subbarao KV and Sharma R (1993) Developmental gradients and photoregulation of enzyme levels in monocot leaves. *In* Proceedings of DAE symposium on Photosynthesis and Plant Molecular biology, New Delhi, India. pp. 197-152.
18. **Datta R**, Selvi MT and Sharma R (1997) Developmental gradients and photoregulation of enzymes in cereal leaves. *In* Proceedings of National symposium on "Emerging trends in plant tissue culture and molecular biology", Dept. Genetics, Osmania Univ., India. pp. 9-12.
19. Subbarao KV, **Datta R** and Sharma R (1998) Synthesis and secretion of amylolytic enzymes from scutellum and aleurone layer of germinating maize (*Zea mays* L.) seeds. *Phytochemistry* 49, 657-66.
20. **Datta R**, Vally KJM and Sharma R (1999) Sugar mimics the light-mediated  $\alpha$ -amylase induction and distribution in maize and pearl millet leaves. *Journal of Plant Physiology* 154, 665-672.
21. **Datta R**, Selvi, MT, Seetharama N and Sharma R (1999) Stress mediated enhancement of  $\beta$ -amylase activity in pearl millet and maize leaves is dependent on light. *Journal of Plant Physiology* 154, 657-654.
22. **Datta R** and Kumar S (1999) Water and Salt stress mediated induction of  $\beta$ -amylase: Selection of species for arid and semi-arid areas plantation. *Journal of Arid Land Studies* 9(2), 135-142.
23. **Datta R** and Sharma R (1999) Temporal and Spatial regulation of NR and NiR in greening maize leaves. *Plant Science* 144, 77-83.
24. **Datta R**, Kumar S, Matsumoto T and Kojima T (1999) Identification of a novel  $\alpha$ -amylase isoform in maize chloroplasts. *Journal of arid land studies* 9(4), 285-290.
25. **Datta R** and Kumar S (1999) Increasing nitrate and carbohydrate metabolism under conditions of stress: a biotechnological solution for increased biomass production utilizing waste arid land. *In* Proceedings of World Renewable Energy Congress, Perth, Australia, Feb 1999, pp. 21-25.
26. **Datta R** and Kumar S (2000) Role of Chloroplastic  $\alpha$ -amylase in drought tolerance: Changing the Microclimate of Deserts. *Journal of Arid Land Studies* 10S, 65-68.
27. **Datta R** and Chourey PS (2001) Sugar-regulated control of  $\alpha$ -tubulin in maize cell-suspension culture. *Plant Cell Reports* 20, 262-266.
28. Kumar S, **Datta R**, Sinha S, Kojima T, Katoh S, Mohan M (2001) Carbon stock, afforestation and acidic deposition: an analysis with reference to arid areas. *Journal of Water, Air and Soil Pollution* 130, 1127-1132.
29. **Datta R**, Chourey PS, Pring DW and Tang, H (2001) Gene-expression analysis of sucrose-starch metabolism during pollen maturation in cytoplasmic male-sterile and fertile lines of Sorghum, *Sexual Plant Reproduction* 14, 127-134.
30. Kumar S, Mohan M and **Datta R** (2002) Passive diffusion sampling of sulfur dioxide in India: Impact assessment on arid areas. *Science in China Series D* 45S, 137-141.
31. Carlson SJ, Chourey PS, Heletjaris, T and **Datta R** (2002) Gene expression studies on developing

- kernels of maize Sucrose synthase (SuSy) mutants show evidence for a third SuSy gene. *Plant Molecular Biology* 49, 15-29.
32. **Datta R**, Chamusco K and Chourey PS (2002) Starch biosynthesis during pollen maturation is associated with altered patterns of gene expression in maize. *Plant Physiology* 130, 1645-1656.
  33. **Datta R** and Sarkar D (2003) Total and bioavailable arsenic in three ecological zones in Florida. *In Nat. Assoc. Environ. Prof. Proc. V. 28*, pp. 26.
  34. Sarkar D, **Datta R** and Frias A (2003) Biogeochemistry of arsenic in pesticide-applied soils: Preliminary results from an incubation study. *In Nat. Assoc. Environ. Prof. Proc. V. 28*, pp. 26
  35. Sarkar D and **Datta R** (2003) A modified in-vitro method to assess bioavailable arsenic in pesticide-applied soils. *Environmental Pollution* 126, 363-366.
  36. Sarkar D and **Datta R** (2004) Arsenic fate and bioavailability in two soils contaminated with sodium arsenate pesticide. *Bulletin of Environmental Contamination and Toxicology* 72(2), 240-247.
  37. **Datta R** and Sarkar D (2004) Arsenic geochemistry in three soils contaminated with sodium arsenite pesticide: An incubation study. *Environ. Geosci* 11(2), 85-95.
  38. **Datta R** and Sarkar D (2004) Effective integration of soil chemistry and plant molecular biology in phytoremediation of metals: An overview. *Environ. Geosci.* 11(2), 53-63.
  39. **Datta R** and Sarkar D (2004) Biotechnology in Phytoremediation of Metal-Contaminated Soils. *Proc. Indian Natl Sci Acad B* 70 (1), 101-111. **(INVITED ARTICLE)**.
  40. **Datta R** and Sarkar D (2004) Consideration of Soil Properties in Assessment of Human Health Risk from Exposure to Arsenic-Enriched Soils. *J. Appl. Environ. Sci. Publ. Health* 1(1), 55-59 **(INVITED ARTICLE)**.
  41. Sarkar D, Parra-Noonan M and **Datta R** (2004) Distribution of arsenic in cattle-dip vat site soils. *Bull. Environ. Contamin. Toxicol* 73, 838-845.
  42. Sarkar D. and **Datta R** (2004) Health Risk from Soil Arsenic: Does one size fit all? *Archives Environ. Health* 59(7), 337-341.
  43. Sarkar D, Ferguson, MC, **Datta, R** and Birnbaum S (2005) Bioremediation of petroleum hydrocarbons in contaminated soils: Comparison of biosolids addition, carbon supplementation, and monitored natural attenuation. *Environ. Polln.* 136, 187-195.
  44. Sarkar D, **Datta R** and Sharma S (2005) Fate and bioavailability of arsenic in organo-arsenical pesticide applied soils. Part-I. Incubation Study *Chemosphere* 60: 188-195.
  45. **Datta R** and Sarkar D. (2005) Consideration of soil properties in assessment of human health risk from exposure to arsenical pesticide applied soils. *Integr. Environ. Assess. Mgmt.* 1(1), 55-59.
  46. Makris KC, Sarkar D and **Datta R** (2006) Aluminum-Based Drinking-Water Treatment Residuals: A Novel Sorbent for Perchlorate Removal. *Environ Pollution.* 140, 9-12.
  47. Nagar R, Sarkar D and **Datta R** (2006) Effect of sewage sludge addition on soil quality in terms of metal concentrations. *Bull Environ. Contamin. Toxicol.*, 76(5), 823-830.
  48. Simpson N, Sarkar D, **Datta R** and Sharma S (2006) Effects of Sewage Sludge Disposal on Metal Contents in the Sediments and Water of Mitchell Lake, San Antonio, TX. *Bull Environ. Contamin. Toxicol.* 77(1), 104 – 111.
  49. Makris KC, Sarkar D and **Datta R** (2006) Evaluating a drinking water waste by-product as a novel sorbent for arsenic. *Chemosphere* 64(5), 730 – 741.
  50. Sarkar D, Makris KC, **Datta R** and Khairom A (2006) Effect of remedial treatment on phosphorus availability in an arsenical pesticide contaminated soil. *Bull Environ. Contamin. Toxicol.* 77(1), 297 - 304.
  51. Israr M, Sahi S, **Datta R** and Sarkar D (2006) Bioaccumulation and physiological effects of mercury in *Sesbania drummondii* *Chemosphere* 65, 591-598.
  52. Andra SS, Sarkar D, **Datta R** and Saminathan SK (2006) Lead in soils in paint-contaminated residential sites at San antonio, Texas and Baltimore, Maryland. *Bull Environ. Contamin. Toxicol.*,



- 77, 643 - 650.
53. Sarkar D, **Datta R**, Sharma S, and Sand K (2006) Arsenic biogeochemistry and human health risk assessment in organo-arsenical pesticide applied acidic and alkaline soils-Incubation study. *Sci. Total Environ.* 372, 39 - 48.
  54. Makris KC, Sarkar D, **Datta R**, Ravikovitch P and Neimark AV (2006) Using nitrogen and carbon dioxide molecules to probe arsenic(V) bioaccessibility in soils. *Environ. Sci. Technol.* 40, 7732 - 7738.
  55. Makris KC, Shakya KM, **Datta R**, Sarkar D and Pachanoor D (2007) High uptake of 2,4,6 trinitrotoluene by vetiver grass-potential for phytoremediation? *Environ. Pollution* 146, 1 – 4.
  56. Sarkar D, Makris KC, Vandanapu V and **Datta R** (2007) Arsenic immobilization in soils amended with drinking water treatment residuals. *Environ. Pollution* 146, 414 - 419.
  57. Sarkar D, Makris KC, **Datta R** and Parra-Noonan M (2007) Effect of soil properties on arsenic fractionation and bioaccessibility in cattle and sheep dipping vat site soils. *Environ. International* 33, 164 -169.
  58. **Datta R**, Makris KC and Sarkar D (2007) Arsenic fractionation and bioaccessibility in two alkaline Texas soils incubated with sodium arsenate. *Arch. Environ. Contamin. Toxicol.* 52, 475 - 482.
  59. Sarkar D, Quazi S, Makris KC, **Datta R** and Khairom A (2007) Arsenic bioaccessibility in a soil amended with drinking water treatment residuals in the presence of phosphate fertilizer. *Arch. Environ. Contamin. Toxicol.* 53, 329-336.
  60. Makris KC, Sarkar D, Parsons JG, **Datta R** and Gardea-Torresdey J (2007) Surface arsenic speciation of a drinking water treatment residual using X-Ray absorption spectroscopy. *J. Coll. Interf. Sci.* 311, 544-550.
  61. Makris KC, Shakya KM, **Datta R**, Sarkar D and Pachanoor D (2007) Chaotropic effects on uptake of 2,4,6 trinitrotoluene by wheat grass (*Triticum aestivum*). *Plant and Soil* 295, 229-237.
  62. **Datta R**, Sarkar D, Punamiya P, and Nagar R (2007) Response to Letter to the editor re: Datta et al., 2006 (Boyce et al.). *Sci. Total Environ.* 388 (2007)376-378.
  63. Makris KC, Salazar J, Quazi S, Andra S, Sarkar D, Bach SBH and **Datta R** (2008) Controlling the fate of roxarsone and inorganic arsenic in poultry litter. *J Environ Qual.* 37, 963-971.
  64. Makris KC, Quazi S, Punamiya P Sarkar D and **Datta R** (2008) Fate of arsenic in swine waste from concentrated animal feeding operations. *J Environ Qual.* 37, 1626-1633.
  65. Makris KC, Punamiya P, Sarkar D and **Datta R** (2008) Novel colorimetric method overcoming phosphorus interference during trace arsenic analysis in soil solution. *The Analyst* 133, 191-196.
  66. Makris KC, Quazi S, Nagar R, Sarkar D, **Datta R** and Sylvia VL (2008) In-vitro model improves prediction of soil arsenic bioavailability: worst-case scenario. *Environ. Sci. Technol.* 42, 6278-6284.
  67. Andra SS, Saminathan SK, Sarkar D and **Datta R** (2008) Chelant-aided enhancement of lead mobilization in residential soils. *Environ. Pollut.* 148, 1139-1148.
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#### **D) PAPER PRESENTATIONS AT PROFESSIONAL MEETINGS**

1. **Datta R** and Sharma R (1994) Interaction between developmental gradients and photoregulation of amylases in maize leaves. **Poster presentation** at *16th IUBMB Congress, New Delhi, India.*
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4. **Datta R** and Kumar S (1999) Increasing nitrate and carbohydrate metabolism in stress conditions: a biotechnological solution for increased biomass production utilizing waste arid land. **Oral presentation** at the *World Renewable Energy Congress, Perth, Australia.*
5. **Datta R** and Kumar S (1999) Role of Chloroplatic  $\alpha$ -amylase in drought tolerance: Changing the Microclimate of Deserts. **Oral presentation** at *Desert Technology V, Nevada, USA.*
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13. **Datta R** and Sarkar D (2003) Total and bioavailable arsenic in soils of three ecological zones of Florida. **Poster Presentation** in *National Association of Environmental Professionals Annual Meeting, San Antonio, Jun 23-25, 2003.*
14. **Datta R** and Sarkar D (2003) Should Soil Properties be Considered In Assessing Human Health Risk Resulting from Exposure to Arsenic-enriched Soils? **Oral Presentation** in the symposium: New Technologies and Geologic Insights in the Practice of Environmental Geosciences in the *Midcontinent section meeting of AAPG, Tulsa, OK, Oct 12-14, 2003.*
15. Sarkar D, **Datta R**, and Ferguson M (2003) Biodegradation of Petroleum Hydrocarbons in Soils: Effects of Biosolids Addition and Role of Carbon. **Poster Presentation** in the *Midcontinent section meeting of AAPG, Tulsa, OK, Oct 12-14, 2003.*
16. Sarkar D, **Datta R** and Schwandes L (2003) Soil Nutrients in Three Ecological Zones of Florida. **Poster presentation** in the session, "Management zones and spatial variability" in the *Annual Meetings of Soil Science Society of America (SSSA), Denver, Colorado, Nov. 2 - 6, 2003.*
17. **Datta R**, Sarkar D and Therapong C (2003) Evaluation of Arsenic Stress on Grass Seedlings. **Oral**

- presentation** in the symposium, "Sources, behavior and phytoavailability of soil arsenic" in the *Annual Meetings of Soil Science Society of America (SSSA), Denver, Colorado, Nov. 2 - 6, 2003*.
18. **Datta R** and Sarkar D (2003) Influence of Soil Properties on Arsenic Bioavailability in Soils Contaminated with Arsenical Pesticides. **Oral presentation** in symposium, "Sources, behavior and phytoavailability of soil arsenic" in the *Annual Meetings of Soil Science Society of America (SSSA), Denver, Colorado, Nov. 2 - 6, 2003*.
  19. Therapong C, **Datta R** and Sarkar D (2003) Arsenic Stress Response in Monocot Seedlings. **Poster presentation** in the session, "Bioavailability and contaminant toxicology" in the *Annual Meeting of Soil Science Society of America (SSSA), Denver, Colorado, Nov. 2- 6, 2003*.
  20. Parra-Noonan M, Sarkar D, and **Datta R** (2004) Geochemical fate of arsenic in cattle-dip vat site soils from Australia. **Oral Presentation** in the Symposium: Environmental Geology in the *Geological Society of America-SC Meeting, College Station, TX, Mar. 14-16, 2003*.
  21. Khairom A, Sarkar D. and **Datta R** (2004) Preliminary studies on arsenic and phosphorus bioavailability in chemically amended soils. **Oral Presentation** in the Symposium: Environmental Geology in the *Geological Society of America-SC Meeting, College Station, TX, Mar. 14-16, 2003*.
  22. Sharma S, **Datta R** and Sarkar, D. (2004) Arsenic geochemistry in soils contaminated with organo-arsenical pesticide. **Oral Presentation** in the Symposium: Environmental Geology in the *Geological Society of America-SC Meeting, College Station, TX, Mar. 14-16, 2003*.
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  24. Branom JR, **Datta R** and Sarkar D (2004) Geochemical Forms of Phosphorus in Sediments of a Sludge Disposal Lake. **Poster Presentation** in the session: Environmental Technology: Case Studies in the *American Association of Petroleum Geologists Annual Meeting, Dallas, TX, Apr. 18-21, 2003*.
  25. Therapong C, **Datta R**, and Sarkar D (2004) Comparative Arsenic Stress Response in Monocot Seedlings. **Poster Presentation** in the session: Environmental Geology and Geochemistry in the *American Association of Petroleum Geologists Annual Meeting, Dallas, TX, Apr. 18-21, 2003*.
  26. **Datta R** and Sarkar D (2004) Effect of Soil-Aging on Geochemical Fate of Arsenic in Pesticide-Contaminated Soils. **Poster Presentation** in the session: Environmental Geology and Geochemistry in the *American Association of Petroleum Geologists Annual Meeting, Dallas, TX, Apr. 18-21, 2003*.
  27. **Datta R** and Sarkar D (2004) Human health risk from exposure to soil arsenic: Does one size fit all? **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-I in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004*.
  28. Vandanapu V, Sarkar D, **Datta R** and Sharma S (2004) Arsenic adsorption and desorption by water treatment residuals: Preliminary results. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-I in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004*.
  29. Khairom A, Sarkar D and **Datta R** (2004) Bioavailability of arsenic and phosphorus in a sandy soil amended with water treatment residuals. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-I in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004*.
  30. Simpson NW, Sarkar D, Sharma S and **Datta R** (2004) Heavy metal geochemistry in sludge-affected sediments of Mitchell Lake, Texas. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-I in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004*.
  31. Frias AR, Sarkar D and **Datta R** (2004) Geochemical forms and bioavailability of arsenic in pesticide-applied cotton soils of Texas: An incubation study. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-II in the

- Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
32. Therapong C, **Datta R** and Sarkar D (2004) Arsenic stress response in rice: Comparison between organic and inorganic pesticides. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-II in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  33. Quazi S, Sarkar D, **Datta R** and Sharma S (2004) Greenhouse study on arsenic speciation and bioavailability in two pesticide-contaminated soils of Florida: Preliminary results. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-II in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  34. Nagar R, Sarkar D, **Datta R**, Khairom A, Vandanapu V and Quazi S (2004) Effect of sewage sludge addition on heavy metal concentrations in agricultural soils. **Poster Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  35. Sarkar D, Parra-Noonan M and **Datta R** (2004) Bioavailability of arsenic in cattle dipping vat site soils as a function of soil chemistry. **Poster Presentation** in the Symposium: Current Perspective in Environmental Biogeochemistry in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  36. Amy CD, Sarkar D and **Datta R** (2004) In-situ stabilization of arsenic in soils amended with water treatment residuals. **Poster Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  37. Sharma S, **Datta R** and Sarkar D (2004) Effect of equilibration time on arsenic bioavailability in two Florida soils contaminated with arsenical pesticide. **Poster Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  38. Birnbaum SJ, Sarkar D, **Datta R** and Ferguson MC (2004) Treat it or leave it? A bench-scale view comparing monitored natural attenuation with two forms of biostimulation. **Oral Presentation** in the Symposium: Current Perspectives in Environmental Biogeochemistry-I in the *Geological Society of America Annual Meeting, Denver, CO, Nov. 6-10, 2004.*
  39. Quispe MA, Therapong C, **Datta R** and Sarkar D (2005) Arsenic Remediation Potential of Vetiver Grass. **Oral Presentation** in the Symposium: Environmental Geoscience and Hydrogeology in the 39th Annual Meeting of the South Central Section of *Geological Society of America, San Antonio TX, April 1-2, 2005.*
  40. Quazi S, Sarkar D, **Datta R** and Sharma S (2005) Consideration of Arsenic Bioavailability in Human Health Risk Assessment: Preliminary Greenhouse Results. **Oral Presentation** in the Symposium: Environmental Geoscience and Hydrogeology in the 39th Annual Meeting of the South Central Section of *Geological Society of America, San Antonio, TX, April 1-2, 2005.*
  41. Khairom A, Sarkar D and **Datta R** (2005) Bioavailability of Arsenic and Phosphorus in a Florida Soil Amended with Water Treatment Residuals: Effect of Equilibration Time. **Oral Presentation** in the Symposium: Environmental Geoscience and Hydrogeology in the *39th Annual Meeting of the South Central Section of Geological Society of America, San Antonio, TX, April 1-2, 2005.*
  42. Barber SJ, Simpson NW, Sharma S, Sarkar D and **Datta R** (2005) Bioavailability of Heavy Metals in Sediments of a Sludge Disposal Lake. **Oral Presentation** in the Symposium: Environmental Geoscience and Hydrogeology in the *39th Annual Meeting of the South Central Section of Geological Society of America, San Antonio, TX, April 1-2, 2005.*
  43. Nagar R, Sarkar D, Sharma S and **Datta R** (2005) Potential Phytoavailability of Heavy Metals as a Function of Soil Properties in Biosolids-Amended Soils. **Oral Presentation** in the Symposium: Environmental Geoscience and Hydrogeology in the *39th Annual Meeting of the South Central Section of Geological Society of America, San Antonio, TX, April 1-2, 2005.*
  44. Nagar R, Sarkar D, **Datta R** and Sharma R (2005) Effect of Solution Properties on Arsenic Adsorp-



- tion by Drinking Water Treatment Residuals. **Poster Presentation** in the Symposium: Biogeochemistry of Metals and Arsenic in Environmental Systems - II in the *2005 Joint Assembly of the AGU, SEG, NABS and SPD/AAS, New Orleans, LA, May 23-27, 2005*.
45. Vandanapu V, Sarkar D, **Datta R** and Makris KC (2005) Arsenic Adsorption and Desorption by Drinking Water Treatment Residuals: Incubation Studies. **Poster Presentation** in the Symposium Biogeochemistry of Metals and Arsenic in Environmental Systems - II in the *2005 Joint Assembly of the AGU, SEG, NABS and SPD/AAS, New Orleans, LA, May 23-27, 2005*.
  46. Makris KC, Sarkar D and **Datta R** (2005) Arsenite Sorption by Drinking Water Treatment Residuals: Redox Effects. **Oral Presentation** in the Symposium: Biogeochemistry of Metals and Arsenic in Environmental Systems - I in the *2005 Joint Assembly of the AGU, SEG, NABS and SPD/AAS, New Orleans, LA, May 23-27, 2005*.
  47. Quazi S, Sarkar D, Khairam A, **Datta R** and Sharma S (2005) Bioavailability of Arsenic In Arsenical Pesticide-Amended Soils: Preliminary Greenhouse Study. **Oral Presentation** in the Symposium: Biogeochemistry of Metals and Arsenic in Environmental Systems - I in the *2005 Joint Assembly of the AGU, SEG, NABS and SPD/AAS, New Orleans, LA, May 23-27, 2005*.
  48. Sharma S, Sarkar D and **Datta R** (2005) Effect of Soil Properties on the Geochemical Speciation of Arsenic in Contaminated Soils: A Greenhouse Study. **Poster Presentation** in the Symposium: Biogeochemistry of Metals and Arsenic in Environmental Systems - II in the *2005 Joint Assembly of the AGU, SEG, NABS and SPD/AAS, New Orleans, LA, May 23-27, 2005*.
  49. Mohamed H, Therapong C, Andra S, **Datta R** and Sarkar D (2005). Phytoavailability of Arsenic in pesticide-Applied Soils: Effect of Chemical Remediation. **Oral Presentation** in the Symposium: Pollutants in Lotic Systems - III in the *2005 Joint Assembly of the AGU, SEG, NABS and SPD/AAS, New Orleans, LA, May 23-27, 2005*.
  50. Sharma S, Sarkar D and **Datta R** (2005) Soil Arsenic Phases in Two Texas Soils with Variable Chemistry: Effects of WTR Amendment. **Oral Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  51. Quazi S, Sarkar D, Khairam A and **Datta R** (2005) Arsenic Bioavailability in a Soil Amended with Water Treatment Residuals in the Presence of Phosphorus: Effect of Amendment Rates. **Oral Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  52. Nagar R, Sarkar D, Makris K and **Datta R** (2005) Arsenic Sorption by Water Treatment Residuals as a Function of pH in the Presence of Competing Ligands. **Oral Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  53. **Datta R** and Sarkar D (2005) Geochemistry of Arsenic in Pesticide-Applied Soils: from Laboratory to Greenhouse. **Oral Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  54. Makris K, Sarkar D and **Datta R** (2005) A Novel Sorbent for Perchlorate: Preliminary Results. **Oral Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  55. Pachanoor DS, **Datta R**, Sarkar D and Therapong C (2005) Antioxidant Responses of Monocot Seedlings to Arsenical Pesticides. **Poster Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  56. Sarkar D, Makris K and **Datta R** (2005) Arsenic (III) and Phosphorus Fractionation in the Arsenical Pesticide-Applied State Soil of Texas Amended with WTRs: an Incubation Study. **Poster Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
  57. Vandanapu V, Sarkar D, Makris K and **Datta R** (2005) Arsenic Adsorption and Desorption by Drinking-Water Treatment Residuals: an Isotherm Study. **Poster Presentation** in Symposium: Arsenic in the Environment at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT,*

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58. Barber SJ, Sarkar D, Simpson N, Sharma S and **Datta R** (2005) Heavy Metals Release in Mitchell Lake as a Function of Sediment Properties. **Poster Presentation** in Symposium: Trace Elements in Soils and Plants at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
59. Andra SSP, **Datta R**, Sarkar D and Mohamed H (2005) Characterization of Lead-Contaminated Residential Soils: An Appraisal for Phytoremediation. **Poster Presentation** in Symposium: Trace Elements in Soils and Plants at the *ASA-CSSA-SSSA International Meeting, Salt Lake City, UT, Nov 6-10, 2005*
60. Andra SP, **Datta R**, Sarkar D and Saminathan SK (2006) A Greenhouse Study on Lead Uptake and Antioxidant Enzyme Activities in Vetiver Grass (*Vetiveria zizanioides*) as a Function of Lead Concentration and Soil Physico-Chemical Properties. **Oral Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
61. Quazi S, Sarkar D, Sylvia V and **Datta R** (2006) Correlation Between An In-vitro Method and An In-vivo Method In Assessing Bioavailable Arsenic In Two Pesticide-Amended Soils. *Eos Trans. Oral Presentation* in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
62. Pachanoor DS, Andra SP, **Datta R** and Sarkar D (2006) Lead phytoremediation potential of Vetiver grass: a hydroponic study. **Poster Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
63. Saminathan SK, Sarkar D, **Datta R** and Andra SP (2006) Geochemistry of Lead in Contaminated Soils: Effects of Soil Physico-Chemical Properties. **Poster Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
64. Therapong C, **Datta R**, Sarkar D and Pachanoor DS (2006) Arsenic Accumulation by *Pteris vittata* L. in Two Chemically Variant Soils Treated with Arsenical Pesticides - Greenhouse Study. **Poster Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
65. Quispe MA, **Datta R**, Sarkar D and Sharma S (2006) A greenhouse study on arsenic remediation potential of Vetiver grass (*Vetiveria Zizanioides*) as a function of soil physico-chemical properties. **Poster Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
66. Shakya KM, Sarkar D, **Datta R**, Makris KC and Pachanoor DS (2006) Uptake of 2,4,6-Trinitrotoluene (TNT) by Vetiver grass (*Vetiviera ziznioides* L.) - Preliminary results from a hydroponic study. **Poster Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM Baltimore, MD, May 23-26, 2006*.
67. Nagar R, Sarkar D, **Datta R** and Makris KC (2006) Solution pH effects on arsenic removal by drinking water treatment residuals in presence of metals and ligands. **Oral Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*
68. Salazar J, Sarkar D, **Datta R** and Sharma S (2006) Adsorption of Roxarsone onto Drinking Water Treatment Residuals: Preliminary Studies. **Poster Presentation** in the *2006 Joint Assembly of the AGU, GS, MAS, MSA, SEG and UGM, Baltimore, MD, May 23-26, 2006*.
69. Ravikovitch PI, Neimark AV, Makris KC, Sarkar D and **Datta R** (2006) Using nitrogen and carbon-di-oxide adsorption to estimate arsenic (V) bioaccessibility in soils. **Oral presentation** in the *American Institute of Chemical Engineers Annual Meeting, San Francisco, November 12-17, 2006*.
70. Sharma S, **Datta R**, Sarkar D and Nagar R (2006) Geochemical Speciation and Bioavailability of Arsenic in Chemically Variant Soils Amended with Sodium Arsenite: A Greenhouse Study. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10-14, 2006*.

71. **Datta R**, Makris KC, Sarkar D, Ravikovitch PI and Neimark AV (2006) Microporosity effects on arsenic (V) bioaccessibility in soils. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
72. Nagar R, Sarkar D, Makris KC and **Datta R** (2006) Effects of Solution Properties on Arsenic Immobilization in Drinking Water Treatment Residuals-Amended Soils: Incubation Study. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
73. Sarkar D, Nagar R, **Datta R** and Makris KC (2006) Surface complexation of arsenate onto drinking water treatment residuals. **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
74. Quazi S, Sarkar D, Makris KC and **Datta R** (2006) Fate and Stability of soil-borne arsenic in the human stomach. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
75. Therapong C, **Datta R**, Sarkar D and Pachanoor D (2006) Biochemical Stress Responses in Arsenic Hyperaccumulator Fern *Pteris vittata*: A Comparative Greenhouse Study Using Organic and Inorganic Arsenical Pesticides. **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
76. Saminathan KPMS, Sarkar D, **Datta R** and Andra SS (2006) Role of Chelating Agents in Enhancing Lead Uptake by Vetiver Grass (*Vetiveria zizanioides* L.) from Lead Based-Paint Contaminated Residential Soils. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
77. Andra SS, **Datta R**, Sarkar D and Pachanoor D (2006) Involvement of Phytochelatins in Lead Accumulation and Tolerance in Vetiver Grass. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
78. Shakya KM, Makris KC, **Datta R**, Pachanoor D, Sarkar D and Das P (2006) Uptake and Biotransformation of 2,4,6-Trinitrotoluene (TNT) by Wheat (*Triticum aestivum*). **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
79. Pachanoor D, Therapong C, **Datta R**, Sarkar D and Punamiya P (2006) Effect of Arsenical Pesticides on antioxidant Enzymes in Rice: A comparative Greenhouse Study using Organic and Inorganic Arsenical Pesticides. **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
80. Barber S, **Datta R** and Sarkar D (2006) The Effects of an Endomycorrhizal Fungus *Glomus mosseae* on the Uptake of Lead by Vetiver Grass. **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Indianapolis, November 10 – 14, 2006*.
81. Bach SBH, Andra SS, **Datta R**, Sarkar D and Mullens CP (2007) Identification, characterization and quantification of lead-binding proteins in a Hyper-accumulator Using HPLC-ES-MS. **Poster Presentation** in the *American Society of Mass Spectrometry Annual Meeting, Indianapolis, June 3-7, 2007*.
82. Nagar R, Sarkar D, **Datta R**, Makris KC and Quazi S (2007) Long-Term Effectiveness of Drinking-Water Treatment Residuals In Reducing Soil Arsenic Bioaccessibility: A Greenhouse Study.

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83. Das P, **Datta R**, Sarkar D, Makris KC, Ovuegbe A and Punamiya P (2007) Chemically-Catalyzed Uptake of 2,4,6-Trinitrotoluene By Vetiver Grass *Vetiveria Zizanioides* in Soil. **Poster Presentation** in the *Geological Society of America Annual Meeting, Denver, October 28-31, 2007.*
84. Andra SS, **Datta R**, Sarkar D and Saminathan SKPM (2007) Effects of Chelating Agents on Phyto-extraction of Lead by Vetiver Grass from Lead Contaminated Soils. **Poster Presentation** in the *Geological Society of America Annual Meeting, Denver, October 28-31, 2007.*
85. Nagar R, Sarkar D, Makris KC, **Datta R** and Sylvia VL (2007) WTRs as a Remedial Agent For Arsenic-Contaminated Soils: In-Vitro and In-vivo studies. **Oral Presentation** in the Joint Annual International Meeting of the *American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
86. Quazi S, Makris KC, Sarkar D, Datta R and Patel M (2007) Effects of a Common Gastric Bacterium on Soil Arsenic Bioaccessibility and Speciation in the Human Stomach. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
87. Andra SS, **Datta R**, Sarkar D, Mullens C, and Bach S. B.H. (2007) Induction of Phytochelatins and Low Molecular Weight Thiols in *Vetiveria zizanioides* in Response to Lead. **Oral Presentation** in *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
88. Patel M, **Datta R**, Punamiya P, Sarkar D, Israr M and Sahi S (2007) Arsenic Distribution and Localization in the Fronds of the Hyperaccumulator Fern *Pteris vittata*. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
89. Punamiya P, Makris KC, **Datta R**, and Sarkar D (2007) Low-Level Colorimetric Determination of Arsenic in the Presence of Phosphorus in Soil Solutions. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
90. Hardy M, Makris KC, Sarkar D and **Datta R** (2007) A Packed Bed Reactor System to Treat Chromium-Contaminated Shipyard Stormwater. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
91. Makris KC, Andra SS, Quazi S, Sarkar D, Bach S and **Datta R** (2007) Probing Roxarsone Degradation in Animal Waste with the Aid of Electrospray Mass Spectrometry. **Oral Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
92. Sarkar D, Nagar R, Makris KC and **Datta R** (2007) Modeling Arsenate Adsorption by Water Treatment Residuals. **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
93. **Datta R**, Makris KC, Salazar J, Quazi S and Sarkar D (2007) Novel Chemical Amendment to Reduce Arsenic Availability in Poultry Litter. **Poster Presentation** in the *Joint Annual International Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, New Orleans, November 4-8, 2007.*
94. Quazi S, Makris K, Sarkar D, **Datta R**, Punamiya P (2007) Geochemical fate of arsenic in swine litter. **Poster Presentation** in the *Fall meeting of the American Geophysical Union, San Francisco, December 10-14, 2007.*
95. Andra S, **Datta R**, Sarkar D, Saminathan S (2007) Enhancing Potentially Plant-Available Lead Concentrations in Contaminated Residential Soils Using a Biodegradable Chelating Agent. **Poster Presentation** in the *Fall meeting of the American Geophysical Union, San Francisco, December*

10-14, 2007.

96. Punamiya, P, M. J. Patel, R. Datta, D. Sarkar (2008) Phytoextraction of Lead in Soil Using Lead-Accumulating Grass (*Vetiveria Zizanioides*) in the Presence of Beneficial Arbuscular Mycorrhizal Fungi. **Poster Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
97. Das P, Makris KC, **Datta R**, Sarkar D, Punamiya PA (2008) Urea-Catalyzed Extractability of 2,4,6-Trinitrotoluene from Contaminated Soils: Preliminary Results. **Poster Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
98. Patel MJ, Barber S, **Datta R**, Sarkar D (2008) Effect of *Glomus Mosseae* on Lead Uptake by the *Vetiveria Zizanioides*. **Poster Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
99. Andra, SP, **Datta R**, Sarkar D, Saminathan SM (2008) Soil Properties Governing Potentially Plant-Available Lead in Contaminated Residential Sites. **Oral Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
100. Nagar R, Sarkar D, Makris KC, **Datta R** (2008) Long-Term Monitoring of Organoarsenical Degradation in Drinking- Water Treatment Residual-Amended Soils. **Poster Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
101. Hardy M, Sarkar D, Makris K, **Datta R** (2008) Using a Waste By-Product to Remove Metals from Contaminated Shipyard Stormwater. **Poster Presentation** in the *American Asso. of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
102. Quazi S, Sarkar D, **Datta R** (2008) Effect of Soil Ageing on Arsenic Bioaccessibility and Geochemical Speciation: A Greenhouse Study. **Poster Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
103. Makris KC, Andra SS, Sarkar D, **Datta R**, Bach SBH, Mullens C (2008) Nitrous Oxide Solubility in Animal Waste Suspensions. **Oral Presentation** in the *American Association of Petroleum Geologists Annual Meeting, San Antonio, April 20-23*.
104. **Datta R**, Sarkar D, Andra SP, Bach SBH (2008) Role of lead speciation in soil and plant in phytoremediation of contaminated soils using vetiver grass. **Oral Presentation** at the *American Chemical Society National Meeting, New Orleans, April 6-10*.
105. Sarkar D, **Datta R**, Makris KC, Nagar R, Quazi S (2008) Immobilization of soil arsenic using water treatment residuals: Potential to develop into a cost-effective remediation method? **Oral Presentation** at the *American Chemical Society National Meeting, New Orleans, April 6-10*.
106. Andra SS, **Datta R**, Sarkar D, Saminathan SKM (2008) Chelate-Assisted Phytoextraction Potential of Vetiver Grass in Reducing Human Bioaccessibility of Soil Lead. **Poster Presentation** at the *American Society of Agronomy Southern Branch Meeting, Dallas, February 3-5*.
107. Das P, Makris KC, Sarkar D, **Datta R**, Punamiya P (2008) TNT Adsorption in Chemically Variant Soils: Preliminary Studies. **Oral Presentation** at the *American Society of Agronomy Southern Branch Meeting, Dallas, February 3-5*.
108. Punamiya P, **Datta R**, Patel M, Sarkar D, Das P (2008) Effect of Arbuscular Mycorrhizal Fungi on Cadmium Uptake by Brassica juncea: An Incubation Study. **Oral Presentation** at the *American Society of Agronomy Southern Branch Meeting, Dallas, February 3-5*.
109. Patel MJ, **Datta R**, Punamiya P, Sarkar D, Sahi S (2008) Antioxidative Responses and Arsenic Localization in the Arsenic-Hyperaccumulator Chinese Brake Fern (*Pteris vittata* L.). **Oral Presentation** at the *American Society of Agronomy Southern Branch Meeting, Dallas, February 3-5*.
110. Andra SS, **Datta R**, Sarkar D, Saminathan SKPM (2008) A Chemically Catalyzed Phytoremediation Model for Lead-Paint Contaminated Residential Soils: Greenhouse Study. **Oral Presentation** at the *Joint Annual Meeting of GSA-SSSA-ASA-CSSA, Houston, October 5-9*.
111. Punamiya P, **Datta R**, Sarkar D, Barber S, Patel MJ, Das P (2008) Symbiotic Role of

- Glomus Mosseae* in Lead Phytoextraction Using Vetiver Grass. **Oral Presentation** at the *Joint Annual Meeting of GSA-SSSA-ASA-CSSA, Houston, Oct 5-9.*
112. Nagar R, Sarkar D, **Datta R**, Makris KC (2008). Bioaccessibility and Speciation of An Organoarsenical in Drinking-Water Treatment Residual Amended Soil: A Long Term Greenhouse Study. **Poster Presentation** at the *Joint Annual Meeting of GSA-SSSA-ASA-CSSA, Houston, October 5-9.*
113. Hardy MA, Sarkar D, **Datta R** (2008) Water Treatment Residuals Remove Copper, Lead, and Zinc from Acidic Wastewater. **Poster Presentation** at the *Joint Annual Meeting of GSA-SSSA-ASA-CSSA, Houston, October 5-9.*
114. Quazi S, Sarkar D, **Datta R** (2008) Effects of Inorganic and Organic Arsenical Pesticides on Rice Growth and Development: A Comparative Greenhouse Study. **Poster Presentation** at the *Joint Annual Meeting of GSA-SSSA-ASA-CSSA, Houston, Oct 5-9.*
115. Punamiya P, **Datta R**, Sarkar D, Das P (2008) Effect of Cadmium on Antioxidant Enzymes in the Presence of Beneficial Arbuscular Mycorrhizal Fungi: An Incubation Study Using *Brassica Juncea* (Indian mustard). **Poster Presentation** at the *Joint Annual Meeting of GSA-SSSA-ASA-CSSA, Houston, October 5-9.*
116. Punamiya P, Sarkar D, **Datta R**, Makris K. (2009), Rapid and inexpensive arsenic determination method in water and soil extracts in the presence of phosphorus. **Oral Presentation** at the New Jersey Water and Environment Association (NWJEA), meeting Atlantic City, NJ. May 11-15.
117. Das P, **Datta R**, Sarkar D, Makris K, Shakya, K, Pachanoor D. (2009) Urea catalyzed phyto-remediation of 2,4,6 dinitrotoluene contaminated water by vetiver grass (*Vetiveria zizanioides*) and wheat (*Triticum aestivum*). **Oral Presentation** at the New Jersey Water and Environment Association (NWJEA) meeting, Atlantic City, NJ. May 11-15.
118. Das P, **Datta R**, Sarkar D, Punamiya P, Makris K (2009) Chemically enhanced phyto-extraction of 2,4,6 trinitrotoluene by vetiver grass from a low organic matter containing soil. **Poster Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC) New York. April 23 - 24.
119. Punamiya P, **Datta R**, Barber S, Das P, Sarkar D (2009) Phytoextraction of lead using a metal accumulating grass (*Vetiveria zizanioides*) in the presence of arbuscular mycorrhizal fungus *Glomus mosseae* **Poster Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC) New York. April 23 - 24.
120. Hardy M, Sarkar D, **Datta R** (2009) Removal of metals from shipyard stormwater using residues of drinking water treatment **Poster Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC) New York. April 23 - 24.
121. Das P, Punamiya P, **Datta R**, Sarkar D, Makris KC (2009) Enhanced Uptake and Biotransformation of 2, 4, 6-Trinitrotoluene (TNT) by Vetiver Grass (*Vetiveria zizanioides* L.) from Soil. **Oral Presentation** at the Joint Annual International Meeting of the American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, Pittsburgh, PA Nov 1-5, 2009.
122. Punamiya P, Agyin-Birikorang S, Sarkar D, Das P and **Datta R** (2009) Oxytetracycline Adsorption and Desorption by Drinking Water Treatment Residuals: Preliminary Results. **Oral Presentation** at the Joint Annual International Meeting of the American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, Pittsburgh, PA Nov 1-5, 2009
123. Coleman A, **Datta R**, Sarkar D, Simpson TR (2009) Effect of Heavy Metals On Fresh Water Turtles of a Sludge-Amended Lake in South Texas. **Oral Presentation** at the Joint Annual International Meeting of the American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, Pittsburgh, PA Nov 1-5, 2009.
124. Hardy M, Sarkar D, **Datta R** (2009) A Green, Cost-Effective Soil Amendment for Mine Site Reclamation. **Oral Presentation** at the Joint Annual International Meeting of the

- American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, Pittsburg, PA Nov 1-5, 2009.
125. **Datta R**, Das P, Sarkar D, Andra S (2009) A Phytoremediation Model for Lead and TNT contaminated soils. **Poster Presentation** at the Annual SERDP-ESTCP Conference, Department of Defense, Washington DC. Dec 1 - 3, 2009.
  126. Punamiya P, Sarkar D, **Datta R** (2010) Interaction and effect of solution chemistry on sorption of oxytetracycline on Fe-based drinking-water treatment residuals. **Oral Presentation** at the 26<sup>th</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC) Stockton, NJ. April 21 – 22, 2010.
  127. **Datta R**, Smith S, Das P, Punamiya P, Ramanathan D, Sarkar D (2010) Uptake of Tetracycline from Hydroponic Systems by Vetiver Grass. **Oral Presentation** at the 26<sup>th</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC) Stockton, NJ. April 21 – 22, 2010 (INVITED)
  128. Sarkar D, Hardy M, **Datta R** (2010) Beneficial reuse of a municipal waste byproduct for reclamation of abandoned mine sites. **Poster Presentation** at the 27<sup>th</sup> Joint 2010 Mining Reclamation Conference, Pittsburgh, PA. June 5 - 10, 2010.
  129. Rakshit S, Punamiya P, **Datta R**, Sarkar D (2010) Sorption of oxytetracycline on magnetite-water interface. **Oral Presentation** at Conference on Goldschmidt 2010 - Earth, Energy, and the Environment, Knoxville, TN.
  130. Punamiya P, Sarkar D, **Datta R** (2011) Aluminum-based drinking-water treatment residuals a “green” sorbent for tetracyclines. **Poster presentation** at the Geological Society of America Meeting, Oct. 9-12, Minneapolis, Minnesota.
  131. Attinti R, Sarkar D, **Datta R** (2011) Adsorption of arsenic (v) from aqueous solutions by goethite-coated silica nanoparticles. **Poster presentation** at the Geological Society of America Meeting, Oct. 9-12, Minneapolis, Minnesota.
  132. Sarkar D, **Datta R** (2011) Amendment with water treatment residuals lower human health risk from exposure to arsenical pesticide-applied soils. **Oral presentation** at the Geological Society of America Meeting, Oct. 9-12, Minneapolis, Minnesota.
  133. Rakshit S, Sarkar D, Elzinga E, Punamiya P, **Datta R** (2011) Ciprofloxacin adsorption on magnetite-water interface. **Poster presentation** at the Geological Society of America Meeting, Oct. 9-12, Minneapolis, Minnesota.
  134. Das P, **Datta R**, Punamiya P, Sarkar D (2011) Phytoremediation potential of vetiver grass (*Chrysopogon zizanioides* L.) For 2,4,6-trinitrotoluene (TNT) from soil: urea-catalyzed uptake and nitroreductase enzyme mediated transformation. **Poster presentation** at the Geological Society of America Meeting, Oct. 9-12, Minneapolis, Minnesota.
  135. Doskey C, Sarkar D, **Datta R** (2011) Phytoremediation of hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) using *Chrysopogon zizanioides*. **Poster presentation** at the Geological Society of America Meeting, Oct. 9-12, Minneapolis, Minnesota.
  136. Sengupta A, Kennedy A, **Datta R**, Bagley S (2012) Degradation of Antibiotics in Wastewater using Rhizospheric Bacteria Recovered from an In-vitro Hydroponic Phytoremediation System. **Poster presentation** at the Society of Industrial Microbiology and Biotechnology (SIMB) Annual Meeting, Aug. 12-16, Washington, DC.
  137. Isaacson J, Sengupta A, Anthony Z, **Datta R**, Bagley S (2012) Isolation of Tetracycline Resistant Bacteria from Vetiver Grass Root and Contaminated Water. **Poster presentation** at the American Society for Microbiology-MI Chapter.
  138. Sengupta A, Kennedy A, **Datta R**, Bagley ST (2012) Degradation of Antibiotics in Wastewater Using Rhizospheric Bacteria Recovered from an *In vitro* Hydroponic Phytoremediation System. **Poster Presentation** at Society of Industrial Microbiology and Biotechnology Annual Meeting, August
  139. **Datta R** and Sarkar D (2012) The legacy of war: Using plants to remove lead, TNT, and RDX

- from soil. **Oral Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC), Montclair, New Jersey, April 26 - 27.
140. Punamiya P, Sarkar D, **Datta R** (2012) Drinking water treatment residuals as a "green" sorbent for veterinary antibiotics: Results from an incubation study. **Oral Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC), Montclair, New Jersey, April 26 - 27.
141. Das P, Sarkar D, **Datta R** (2012) A chemically catalyzed phytoremediation model for TNT-contaminated soils. **Oral Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC), Montclair, New Jersey, April 26 - 27.
142. Rakshit S, Sarkar D, **Datta R** (2012) Antibiotics removal by iron oxide nanoparticles. **Oral Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC), Montclair, New Jersey, April 26 - 27.
143. Attinti R, Sarkar D, Roychowdhury A, **Datta R** (2012) Increase in plant-available lead in paint-contaminated residential soils using a biodegradable chelating agent. **Poster Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC), Montclair, New Jersey, April 26 - 27.
144. Pidatala VR, Sarkar D, **Datta R** (2012) Metabolite profiling of vetiver grass (*Chrysopogon zizanioides*) under lead stress. **Poster Presentation** at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
145. Sengupta A, **Datta R**, Bagley S, Ramanathan D, Sarkar D (2012) Uptake and transformation of tetracycline by vetiver grass (*Chrysopogon zizanioides*). **Oral Presentation** in the session "General Soils and Environmental Quality" at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
146. Das P, **Datta R**, Sarkar D (2012) Nitroreductase enzyme mediated phytodegradation of 2,4,6-Trinitrotoluene by vetiver grass. **Poster Presentation** at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
147. Attinti R, Sarkar D, **Datta R** (2012) Ethylenediaminedisuccinic acid (EDDS) enhances phytoextraction of lead by vetiver grass from paint contaminated residential soils: A field study. **Poster Presentation** at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
148. Sidhu V, Sarkar D, Fonti V, Punamiya P, Das P, **Datta R** (2012) Field pennycress (*Thlaspi arvense*) and camelina (*Camelina sativa*) have potential for sustainable stabilization of copper contaminated soils: A greenhouse feasibility study. **Poster Presentation** at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
149. Punamiya P, Sarkar D, **Datta R** (2012) Using drinking water treatment residuals to immobilize tetracyclines in manures and manure-amended Soils: Greenhouse study. **Poster Presentation** at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
150. Rakshit R, Elzinga EJ, **Datta R**, Sarkar D (2012) Molecular mechanisms of oxytetracycline and ciprofloxacin sorption on nano-magnetite. **Oral Presentation** in the session "The Solid-Solution Interface Chemistry: Oxides, Sulfides, et al." at the Joint Annual Meeting of the American Society of Agronomy, Soil Science Society of America and Crop Science Society of America, Cincinnati, OH, Oct 21-24.
151. Das P, Sarkar D, **Datta R** (2013) Optimization of Kinetic Factors Influencing the Nitroreductase Enzyme Mediated Phyto-transformation of 2,4,6-Trinitrotoluene (TNT) by Vetiver Grass. **Poster Presentation** at the Society of Environmental Toxicology and Chemistry - Hudson Delaware



- Chapter (HD-SETAC) Annual spring Meeting, USEPA Region 2 Offices, Edison, New Jersey, May 2.
152. Punamiya P, Sarkar D, **Datta R** (2013) Al-based Drinking Water Treatments Residuals as a Novel Green Sorbent for Tetracycline and Oxytetracycline: Results from Greenhouse Study. **Poster Presentation at the Society of Environmental Toxicology and Chemistry - Hudson Delaware Chapter (HD-SETAC) Annual spring Meeting, USEPA Region 2 Offices, Edison, New Jersey, May 2.**
153. Pidatala VR, Sarkar D, **Datta R** (2013) Metabolomic and Proteomic Profiling of Vetiver Grass (*Chrysopogon Zizanioides*) Under Lead stress. **Poster Presentation at the 10th International Phytotechnologies Conference, Syracuse, NY, October 1-4.**
154. Das P, Pidatala VR, Sarkar D, **Datta R** (2013) Proteomic profiling of Vetiver grass (*Chrysopogon zizanioides*) under 2,4,6 Trinitrotoluene (TNT) stress. **Oral Presentation at the 10th International Phytotechnologies Conference, Syracuse, NY, October 1-4.**
155. Pidatala VR, Sarkar D, **Datta R** (2013) Comparative Metabolomic Profiling of Vetiver Grass (*Chrysopogon zizanioides*) and *Zea mays* under Lead stress. **Oral Presentation ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
156. Das P, Sengupta A, Nelson D, Sarkar D, **Datta R** (2013) Phytoextraction of RDX-contaminated aqueous media by Vetiver grass (*Chrysopogon zizanioides*). **Poster Presentation at the ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
157. Sidhu V, Sarkar D, Rakshit S, **Datta R** (2013) Effects of biosolids addition on geochemical forms of copper and phosphorus in contaminated stamp sands of Torch Lake, MI. **Poster Presentation at the ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
158. Attinti R, Sarkar D, **Datta R** (2013) Effect of EDTA on leaching of lead from paint contaminated residential soils during Hurricane Sandy. **Poster Presentation at the ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
159. Punamiya P, Sarkar D, **Datta R** (2013) Remediation of Tetracyclines in manure and manure amended soils: A long-term greenhouse column study. **Poster Presentation at the ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
160. Rakshit S, Sarkar D, Elzinga EJ, Datta R (2013) Molecular Mechanisms of Oxytetracycline Sorption on Goethite, Hematite, and Magnetite: In Situ ATR-FTIR Study. **Poster Presentation at the ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
161. Sarkar D, Datta R (2013) Urban Sprawl and "Green" Remediation of Residential Soils: A Case Study with Arsenic. . **Oral Presentation ASA-CSSA-SSSA International Annual conference, Tampa Florida, Nov. 3-6.**
162. Panja S, Das P, Sarkar D, Deng Y, **Datta R** (2014) Potential of vetiver grass to remove oxytetracycline and ciprofloxacin from aquatic media: Preliminary results from a hydroponic study. **Poster Presentation GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.**
163. Roychowdhury A, Sarkar D, Deng Y, **Datta R** (2014) Using an industrial byproduct to treat acid mine drainage impacted water: Preliminary results. Geological Society of America Abstracts with Program. **Poster Presentation GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.**
164. Roychowdhury A, Sarkar D, Attinti R, **Datta R** (2014) Evaluation of Mehlich-3 test for prediction of total and bioaccessible lead concentrations in paint-contaminated residential soils. Geological Society of America Abstracts with Program. **Poster Presentation GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.**
165. Kiiskila J, Feuerstein K, Sarkar D, **Datta R** (2014) Passive remediation of acid mine drainage by vetiver grass (*Chrysopogon zizanioides* L.) under greenhouse hydroponic conditions. Geological Society of America Abstracts with Program. **Poster Presentation GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.**
166. Dhawi F, Tarasoff C, **Datta R**, Wusirika R (2014) using big bluestem (*Andropogon gerardii*) for restoration of metal contaminated stamp sands in Upper Peninsula, Michigan. Geological

- Society of America Abstracts with Program. **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
167. Pidatala V, Kiiskila J, Sarkar D, **Datta R** (2014) proteomic analysis of lead stress-induced changes in hydroponically grown vetiver grass (*Chrysopogon zizanioides* L.). Geological Society of America Abstracts with Program. **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
  168. Punamiya P, Sarkar D, **Datta R** (2014) remediation of tetracyclines in manure amended soils: a long-term greenhouse study. Geological Society of America Abstracts with Program. **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
  169. Geiger E, Sarkar D, **Datta R** (2014) multitasking *Miscanthus giganteus*: Phytoremediation/phytomining of marginal, metal-contaminated land coupled with bioethanol production. Geological Society of America Abstracts with Program. **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
  170. Sidhu V, Sarkar D, **Datta R** (2014) Effects of biosolids and compost amendment on geochemical forms of copper and phosphorus in the contaminated stamp sands of torch lake, Michigan: an incubation study. Geological Society of America Abstracts with Program **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
  171. Rakshit S, Sarkar D, **Datta R** (2014) effect of humic acids on adsorption and release of tungsten on goethite-water interface. Geological Society of America Abstracts with Program. **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
  172. Datta R, Sarkar D, **Attinti R** (2014) Using vetiver grass to remove lead from residential soils of San Antonio, Texas: a simulated field study. Geological Society of America Abstracts with Program. **Poster Presentation** GSA Annual Meeting in Vancouver, British Columbia. Oct. 19-22.
  173. Richard J, Zheng L, Punamiya P, Das P, **Datta R**, Sarkar D (2015) Characterization of aluminum-based drinking water treatment residuals collected from various parts of the United States. **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  174. Geiger E, Bensen R, Sidhu V, Sarkar D, **Datta R** (2015) Utilization of copper contaminated marginal land: Vetiver performs phytostabilization and can be harvested as a second-generation bioethanol feedstock. **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  175. Panja S, Das P, **Datta R**, Sarkar D (2015) Preliminary studies on removal of tetracycline and ciprofloxacin from secondary wastewater effluent by vetiver grass. **Poster Presentation** at GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  176. Jamil N, Punamiya P, **Datta R**, Sarkar D (2015) Antimony removal from aqueous solutions: potential for aluminum-based drinking water treatment residuals as a "green" sorbent. **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  177. Kiiskila J, Frederick S, Sarkar D, **Datta R** (2015) Phytotoxicity of amd on hydroponic vetiver grass (*Chrysopogon zizanioides* L.). **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  178. Roychowdhury A, Sarkar D, **Datta R** (2015) A field-scale filter development for "green" remediation of amd-impacted water. **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  179. Roychowdhury A, Sarkar D, **Datta R** (2015) Green remediation of amd- impacted soil using an industrial byproduct and vetiver grass: incubation and greenhouse studies. **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.
  180. Sidhu V, Sarkar D, **Datta R** (2015) Effects of compost addition and plant cover on the fate and distribution of copper in contaminated stamp sands of torch lake, Michigan. **Poster Presentation** GSA Annual Meeting in Baltimore, Maryland. Nov. 1-4.

## **E) HONORS AND AWARDS**

- i. **National Hindi Scholarship**, Government of India, 1985-1987
- ii. **Junior Research Fellowship**, University Grants Commission, Government of India, 1990-1992.
- iii. **American Society for Plant Physiologists (ASPP) fellowship** for Plant Biochemistry course in University of California San Diego, 1992.
- iv. **Senior Research Fellowship**, University Grants Commission, Government of India, 199-1992-1995
- v. **Young scientist fellowship** by 16th International Union of Biochemistry and Plant Molecular Biology Congress, 1994.
- vi. **Senior Research fellowship** in project funded by Department of Science and Technology (Govt. of India) 1996-1997.
- vii. **Post-Doctoral Fellowship** by the Japanese Society for Promotion of Science, in Niigata University, Japan, 1997-1998.
- viii. **Outstanding Young Scientist Award** (2005) from the Association of Agricultural Scientists of Indian Origin (AASIO). AASIO is a member organization of the tri-societies (ASA-CSSA-SSSA), which is the largest agricultural society in the world with more than 21,000 members.
- ix. **Faculty Research Award** (2005) from University of Texas at San Antonio
- x. **Early Career Award in Research** (2008) Southern Branch of the American Society of Agronomy

**F) FUNDED GRANTS (PI/Co-PI):**

**Japanese Society for Promotion of Science Research Grant, 1997, \$30,000/2y** (Direct): Isolation of novel  $\alpha$ -amylase isozymes from germinating rice seeds **(PI)**

**United States Environmental Protection Agency, 2002, \$391,473/2y** (Total): Biogeochemistry of arsenic in contaminated soils of Superfund sites (Proposal ranked 1st nationally in the Hazardous Substances Research program) **(Co-PI)**

**National Institutes of Health - SCORE, 2004-07, \$414,550** (Direct): Novel Remediation Methods to Lower Human Health Risk from Exposure to Arsenic-Enriched Soils **(Co-PI)**

**San Antonio Life Sciences Institute - REF, 2004-05, \$199,990** (Direct): A multi-disciplinary approach to reduce human bioavailability and carcinogenicity of soil arsenic **(Co-PI)**

**Department of Housing and Urban Development - Lead Technical Studies Program, 2004 - 2006, \$372,767** (Total): A novel phytoremediation method using vetiver grass to cleanup lead-based paint-contaminated soils **(Joint-PI)**

**Department of Defense – Small Business Innovative Research, Phase-I, 2006-2007, \$100,000** (Total): A new method to clean up chromium and metal enriched stormwater in Naval shipyards **(Principal)**

**Department of Defense – Small Business Innovative Research, Phase-II, 2008-2011, \$750,000** (Total): A new method to clean up chromium and metal enriched stormwater in Naval shipyards **(Principal)**

**Research Excellence Funds, 2009. \$16,496.** Biochemical and Molecular Mechanisms behind Lead Accumulation in Vetiver Grass **(PI)**

**Housing and Urban Development – Lead Technical Studies, 2011-2013, \$499,694** (Total): A Novel Phytoremediation Method using Vetiver Grass to Cleanup Lead-Based Paint Contaminated Soils:

Phase II – Field Study **(PI)**

**Century II Campaign Endowed Equipment Fund (C2E2) 2011 \$5,000.** Ion Chromatography System for the Determination of Cation and Anion Concentrations in Water. **(PI)** [Marcarelli, Amy M (Co-PI), Green, Sarah A (Co-PI)]

**Research Excellence Fund – Infrastructure Enhancement, 2012 \$20,000.** Reinstallation of ICP-Mass Spectrometer, Equipment for Great Lakes Research Center. [Kerfoot, WC (PI), Datta, R, Urban, N, Green S and Gretz, M (Co-PIs)]

**UTC- Center for Materials in Sustainable Transportation Infrastructure (MiSTI) 2011. \$25,000.** Leaching of toxic heavy metals from additives in concrete **(PI)** [Sutter, Lawrence L (Co-PI)]

**Office of Surface Mining, Dept. of Interior 2012. \$199,945.** Low cost green technology to improve water quality in mining-impacted ecosystems: Phase I – Model development and optimization. [Ma, X and Sarkar D (PIs) Datta R and Deng Y (Co-PIs)]

**Michigan Dept of Environmental Quality 2014. \$224,816.** Huron Creek Watershed Improvements Phase 1: Reducing Copper Loads from Stamp Sand Deposits in the Keweenaw Peninsula with Permeable Reactive Barriers. [Mayer A (PI) Datta R, Chimner R and Sarkar D (Co-PIs)].

**NSF-SBIR 2014. \$39,953.** Antimicrobial Plastic Masterbatch Pellets Sponsored by Qtek LLC. Datta R (PI).