

XIAO GUANG MENG

Professor, Ph.D., P.E.

Center for Environmental Systems
Department of Civil, Environmental and Ocean Engineering
Stevens Institute of Technology
Hoboken, NJ 07030, USA
Phone: (201) 216-8014
E-mail: xmeng@stevens.edu
Faculty profile

Education

Ph.D. 1993, Civil Engineering, *Syracuse University, Syracuse, USA*

M.S. 1985, Marine Chemistry, *Ocean University of China*

B.S. 1982, Marine Chemistry, *Ocean University of China*

Professional Experience

Professor, January 2007 – present, *Stevens Institute of Technology*

Associate Professor, January 2000 – December 2006

Research Associate Professor, January 1999 – December 1999

Research Assistant Professor, August 1997 - December 1998

Research Engineer, January 1994 - July 1997

Postdoctoral Research Associate, January 1993 - December 1993

Expertise

Dr. Meng's research is focused on environmental chemistry and development of technologies for treatment of contaminants in water and soil. He has published 123 papers in peer reviewed journals, obtained six U.S. patents, and edited a book. His publications have been cited for more than 9200 times. He developed an effective household filtration process and successfully demonstrated it in nearly 700 families in Bangladesh between 1999 and 2005. He developed a nanocrystalline titanium dioxide adsorbent which was patented in 2005. The patented material is commonly used in industrial and household filters for treatment of arsenic, lead and other heavy metals in the U.S. His arsenic speciation cartridges have been used by scientists and analytical laboratories in more than 30 countries.

Book

"Advances in Arsenic Research: Integration of Experimental and Observational Studies and Implications for Mitigation" ACS Symposium Series Vol. 915, American Chemical Society, (2005) Editors: Peggy A. O'Day, Dimitrios Vlassopoulos, Xiaoguang Meng, Liane G. Benning; Oxford University Press, P 448.

Patents

1. Process for preparation of granular material. Xiaoguang Meng. US Patent: 10,562,791 (2020).
2. Methods of preparing a surface-activated titanium oxide product and of using same in water treatment processes. Xiaoguang Meng, Mike Dadachov, George P. Korfiatis, and Christos Chritodoulatos, David J. Moll, Geoffrey Paul Onifer, Daniel B. Rice, Robert E. Reim,

Fredrick W. Vance, Harlan Robert Goltz, Chan Han, William I. Harris. US Patent: 7,497,952 (2009).

3. Methods of preparing a surface-activated titanium oxide product and of using same in water treatment processes. Xiaoguang Meng, Mike Dadachov, George P. Korfiatis, and Christos Chritodoulatos, David J. Moll, Geoffrey Paul Onifer, Daniel B. Rice, Robert E. Reim, Fredrick W. Vance, Harlan Robert Goltz, Chan Han, William I. Harris. US Patent: 7,473,369 (2009).
4. Method of treatment, stabilization and heave control for chromite ore processing residues (COPR) and chromium contaminated soils. Mahmoud Wazne, Dimitris Dermatas, Dilhan M. Kalyon, Xiaoguang Meng, Maria Kaouris, John J. Morris. US Patent: 7,452,163 (2008).
5. Method of Preparing a Surface-Activated Titanium Oxide Product and of Using the Same in Water Treatment Processes. Xiaoguang Meng, Mike Dadachov, George P. Korfiatis, and Christos Chritodoulatos. US Patent: 6,919,029 (2005).
6. Iron powder and sand filtration process for treatment of water contaminated with heavy metals and organic compounds. Xiaoguang Meng and George P. Korfiatis. US Patent: 6,942,807 (2005).

Publications in Peer-Reviewed Journals

1. Shi, Q. T., Zhang, S. J., Xie, M., Christos Christodoulatos, C., and Meng, X. G. (2022) "Competitive adsorption of nitrate, phosphate, and sulfate on amine-modified wheat straw: In-situ infrared spectroscopic and density functional theory study". *Environ. Res.*, 215, 114368-114375. DOI: <https://doi.org/10.1016/j.envres.2022.114368>.
2. Liu, Z., Tao, Q., Bao, Y., Meng, X. G., Meng, W. N. (2022) "Arsenate removal using titanium dioxide-doped cementitious composites: Mixture design, mechanisms, and simulated sewer application" *Sci. Total Environ.*, In press
3. Huang, M. T.; Ding, G. Y.; Yan, X. H.; Rao, P. H.; Wang, X. R.; Meng, X. G.; Shi, Q. T. (2022) "Factors Affecting the Detection of Hexavalent Chromium in Cr-Contaminated Soil" *Int. J. Environ. Res. Public Health*, 19(15), 9721-9733.
4. Song, F. H.; Li, T. T.; Hur, J.; Wu F. C.; Meng, X. G. (2022) "Eco-Colloidal Layer of Micro/Nanoplastics Increases Complexity and Uncertainty of Their Biototoxicity in Aquatic Environments" *Environ. Sci. Technol.* 56 (15), 10547-10549.
5. Terracciano, A.; Ge, J.; Koutsospyros, A.; Meng*, X. G.; Smolinski, B.; Arienti, P. (2022) "Oxidative degradation of nitroguanidine (NQ) by UV-C and oxidants: Hydrogen peroxide, persulfate and peroxymonosulfate" *Chemosphere*, 292, 133357-133366.
6. Zhang, J. F., Wei, S. C., Liu, Z. X., Tang, H., Meng, X. G., Zhu, W. H. (2022) "Release of Pb adsorbed on graphene oxide surfaces under conditions of *Shewanella putrefaciens* metabolism" *J. Environ. Sci.*, 118, 67-75.
7. Krishnani, K. K.; Choudhary, K.; Moon, D. H.; Meng, X. (2021) "Heavy metals biosorption mechanism of partially delignified products derived from mango (*Mangifera indica*) and guava (*Psidium guajava*) barks" *Environ. Sci. Pollut. Res.* 28(25), 32891-32904.
8. Zhang, J. F.; Xiong, C.; Li, Y.; Tang, H.; Meng, X.; Zhu, W. (2021) "The critical contribution of oxidation debris on the acidic properties of graphene oxide in an aqueous solution" *J. Hazard. Mater.*, 402, 123552.
9. Wei, J. S.; Duan, J.; Hoffmann, E.; Song, Y.; Meng*, X. G. (2021) "Lead removal from water using organic acrylic amine fiber (AAF) and inorganic-organic P-AAF, fixed bed filtration and surface-induced precipitation" *J. Environ. Sci.*, 101, 135-144.

10. Wei, J. S.; Shen, D.; Ye, G.; Wen, X. H.; Song, Y. H.; Wang J.; Meng, X. G. (2021) "Selenium and arsenic removal from water using amine sorbent, competitive adsorption and regeneration" *Environ. Pollut.*, 274, 115866-115876.
11. Zhang, S.J.; Shi, Q.T.; Chou, T. M; Christodoulatos, C.; Korfiatis, G.K.; Meng*, X.G. (2020) "Mechanistic study of Pb(II) removal by TiO₂ and effect of PO₄" *Langmuir*, 36, 13818-13927.
12. Ye, L; Meng, X.; Jing, C. (2020) "Influence of sulfur on the mobility of arsenic and antimony during oxic-anoxic cycles: Differences and competition" *Geochim. Cosmochim. Acta*, 288, 51-67.
13. Wang, X.; Yan, L.; Meng, X.; Chen, Y. (2020) "Processes of chromium (VI) migration and transformation in chromate production site: A case study from the middle of China" *Chemosphere*, 257, 127282.
14. Shi, Q.; Sterbinsky, G. E.; Zhang, S.; Christodoulatos, C.; Korfiatis, G. P.; Meng*, X. (2020) "Formation of Fe(iii)-As(v) complexes: effect on the solubility of ferric hydroxide precipitates and molecular structural identification" *Environ. Sci. Nano.* 7, 1388-1398.
15. Ge, J.; Guha, B.; Lippincott, L.; Cach, S.; Wei, J.; Su, T.-L.; Meng*, X. (2020) "Challenges of arsenic removal from municipal wastewater by coagulation with ferric chloride and alum" *Sci. Total Environ.*, 725, 138351-138360.
16. Shi, Q.; Zhang, S.; Ge, J.; Wei, J.; Christodoulatos, C.; Korfiatis, G. P.; Meng*, X. (2020) "Lead immobilization by phosphate in the presence of iron oxides: Adsorption versus precipitation" *Wat. Res.*, 179, 115853 -115864.
17. Shi, Q.; Zhang, S.; Korfiatis, G. P.; Christodoulatos, C.; Meng*, X. (2020) "Identifying the existence and molecular structure of the dissolved HCO₃-Ca-As(V) complex in water" *Sci. Total Environ.*, 724, 138216.
18. Wei, J.; Meng*, X.; Song, Y.; Shi, Q.; Wen, X.; Korfiatis, G. (2020) "Surface mole-ratio method to distinguish surface precipitation and adsorption on solid-liquid interface" *J. Hazard. Mater.*, 397, 122781.
19. Zhang, S.J.; Shi, Q.T.; Christodoulatos, C.; Korfiatis, G.K.; Wang, H.J.; Meng*, X.G. (2020) "Chromate removal by electrospun PVA/PEI nanofibers: Adsorption, reduction, and effects of co-existing ions" *Chem. Eng. J.* 387, 124179.
20. Shi, Q.; Meng, X.; Prigiobbe*, V. (2020) "Mechanistic Study of Radium Adsorption onto Goethite" *J. Phys. Chem. C*, 124, 805-814.
21. Zhang, J. F.; Zhang, Z. Q.; Zhu, W. H.; Meng*, X. G. (2020) "Boosted photocatalytic degradation of Rhodamine B pollutants with Z-scheme CdS/AgBr-rGO nanocomposite" *Appl. Surf. Sci.*, 502, 1444275.
22. Zhang*, R.; Hu, Z.; Wei, H.; Zhang, S.; Meng*, X., (2020) "Adsorption of perfluorooctane sulfonate on carbonized poly-melamine-formaldehyde sponge" *Sci. Total Environ.*, 727, 138626.
23. Zhang*, J. F.; Xie, X. D.; Meng, X. G.; Li, Y.; Zhu, W. H. (2020) "The critical role of oxidative debris in the adsorption and desorption of Pb(II) to graphene oxides under alkaline groundwater conditions" *Sci. Total Environ.*, 704, 135254.
24. Wei, J. S.; Meng*, X. G.; Wen, X. H.; Song, Y. H. (2020) "Adsorption and recovery of phosphate from water by amine fiber, effects of co-existing ions and column filtration" *J. Environ. Sci.*, 87, 123-132.
25. Zhang, S. J.; Shi, Q. T.; Christodoulatos, C.; Meng*, X. G. (2019) "Lead and cadmium adsorption by electrospun PVA/PAA nanofibers: Batch, spectroscopic, and modeling study" *Chemosphere*, 233, 405-413. Citations without self-citations: 2
26. Zhang, S. J.; Shi, Q. T.; Christodoulatos, C.; Korfiatis, G.; Meng*, X. G. (2019) "Adsorptive filtration of lead by electrospun PVA/PAA nanofiber membranes in a fixed-bed column" *Chem. Eng. J.*, 370, 1262-1273. Citations without self-citations: 6
27. Zhang*, J. F.; Xie, X. D.; Meng, X. G.; Li, Y.; Zhu, W. H. (2019), Release transport of Pb(II) adsorbed on graphene oxide under alkaline conditions in a saturated sand column. *J. Hazard. Mater.*, 377, 357-364. Citations without self-citations: 0

28. Zhang*, J. F.; Xie, X. D.; Liang, C.; Zhu, W. H.; Meng, X. G., (2019), Characteristics and mechanism of Pb(II) adsorption/desorption on GO/r-GO under sulfide-reducing conditions. *J. Ind. Eng. Chem.*, 73, 233-240. Citations without self-citations: 5
29. Zhang*, J. F.; Li, Y.; Xie, X. D.; Zhu, W. H.; Meng, X. G. (2019), Fate of adsorbed Pb(II) on graphene oxide under variable redox potential controlled by electrochemical method. *J. Hazard. Mater.*, 367, 152-159. Citations without self-citations:1
30. Su, H. L.; Christodoulatos, C.; Smolinski, B.; Arienti, P.; O'Connor, G.; Meng*, X. G. (2019) "Advanced Oxidation Process for DNAN Using UV/H₂O₂" *Engr.*, 5, 849-854. Citations without self-citations:0
31. Wei, J.; Ge, J.; Rouff, A. A.; Wen, X.; Meng, X.; Song, Y. (2019) "Phosphorus recovery from wastewater using light calcined magnesite, effects of alkalinity and organic acids" *J. Environ. Chem. Eng.*, 7, 103334.
32. Zhang, J.; Xie, X.; Meng, X.; Li, Y.; Zhu, W. (2019) "Release and transport of Pb(II) adsorbed on graphene oxide under alkaline conditions in a saturated sand column" *J. Hazard. Mater.*, 377, 357-364.
33. Shi, Q. T.; Terracciano, A.; Zhao, Y.; Wei, C. Y.; Christodoulatos, C.; Meng*, X. G. (2019), Evaluation of metal oxides and activated carbon for lead removal: Kinetics, isotherms, column tests, and the role of co-existing ions. *Sci. Total Environ.*, 648, 176-183. Citations without self-citations:12
34. Wang, H.; Zhao, X. L.; Han, X. J.; Tang, Z.; Song, F. H.; Zhang, S. Y.; Zhu, Y. R.; Guo, W. J.; He, Z. Q.; Guo, Q. W.; Wu, F. C.; Meng, X. G.; Giesy, J. P. (2018) "Colloidal stability of Fe₃O₄ magnetic nanoparticles differentially impacted by dissolved organic matter and cations in synthetic and naturally-occurred environmental waters" *Environ. Pollut.*, 241, 912-921. Citations without self-citations:10
35. Terracciano, A.; Ge, J.; Koutsospyros, A.; Meng, X. G.; Smolinski, B.; Arienti, P. (2018) "Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) reduction by granular zero-valent iron in continuous flow reactor" *Environ. Sci. Pollut. Res.*, 25, 28489-28499. Citations without self-citations:2
36. Terracciano, A.; Christodoulatos, C.; Koutsospyros, A.; Zheng, Z. Y.; Su, T. L.; Smolinski, B.; Arienti, P.; Meng, X. G. (2018) "Degradation of 3-nitro-1,2,4-triazole-5-one (NTO) in wastewater with UV/H₂O₂ oxidation" *Chem. Eng. J.*, 354, 481-491. Citations without self-citations:2
37. Shi, Q. T.; Sterbinsky, G. E.; Prigiobbe, V.; Meng, X. G. (2018) "Mechanistic Study of Lead Adsorption on Activated Carbon" *Langmuir*, 34, 13565-13573. Citations without self-citations:3
38. Shi, Q. T.; Jing, C. Y.; Meng, X. G. (2018) "Competing Interactions of As Adsorption and Fe(III) Polymerization during Ferric Coprecipitation Treatment" *Environ. Sci. Technol.*, 52, 7343-7350. Citations without self-citations:11
39. Li, R.; Jiang, Y.; Xi, B. D.; Li, M. X.; Meng, X. G.; Feng, C. P.; Mao, X. H.; Liu, H. L.; Jiang, Y. H. (2018), Raw hematite based Fe(III) bio-reduction process for humified landfill leachate treatment. *J. Hazard. Mater.*, 355, 10-16. Citations without self-citations:1
40. Ge, J.; Meng, X. G.; Song, Y. H.; Terracciano, A. (2018) "Effect of phosphate releasing in activated sludge on phosphorus removal from municipal wastewater" *J. Environ. Sci.*, 67, 216-223. Citations without self-citations:11
41. Zhang, J. F.; Brutus, T. E.; Cheng, J. M.; Meng, X. G. (2017) "Fluoride removal by Al, Ti, and Fe hydroxides and coexisting ion effect" *J. Environ. Sci.*, 57, 190-195. Citations without self-citations:12
42. Wang, H.; Zhao, X. L.; Han, X. J.; Tang, Z.; Liu, S. S.; Guo, W. J.; Deng, C. B.; Guo, Q. W.; Wang, H. H.; Wu, F. C.; Meng, X. G.; Giesy, J. P. (2017), Effects of monovalent and divalent metal cations on the aggregation and suspension of Fe₃O₄ magnetic nanoparticles in aqueous solution. *Sci. Total Environ.*, 586, 817-826. Citations without self-citations:12
43. Terracciano, A.; Zhang, J. F.; Christodoulatos, C.; Wu, F. C.; Meng, X. G. (2017) "Adsorption of Ca²⁺ on single layer graphene oxide" *J. Environ. Sci.*, 57, 8-14. Citations without self-citations:10
44. Peng, X.; Xi, B. D.; Zhao, Y.; Shi, Q. T.; Meng, X. G.; Mao, X. H.; Jiang, Y. H.; Ma, Z. F.; Tan, W. B.; Liu, H. L.; Gong, B. (2017) "Effect of Arsenic on the Formation and Adsorption Property of

- Ferric Hydroxide Precipitates in ZVI Treatment” *Environ. Sci. Technol.*, *51*, 10100-10108. Citations without self-citations:28
45. Li, X. G.; Zhao, Y.; Xi, B. D.; Meng, X. G.; Gong, B.; Li, R.; Peng, X.; Liu, H. L. (2017), Decolorization of Methyl Orange by a new clay-supported nanoscale zero-valent iron: Synergetic effect, efficiency optimization and mechanism. *J. Environ. Sci.*, *52*, 8-17.
 46. Hao Wang, H., Zhao, X. L., Han, X. J., Tang, Z., Shasha Liu, S. S., Guo, W. J., Wang, H. H., Wu, F. C., Meng, X. G., John P. Giesy, J. P. (2017) “Effects of monovalent and divalent metal cations in aggregation and suspending of Fe₃O₄ magnetic nanoparticles in aqueous solution, *Sci. Total Environ.* *586*, 817-826.
 47. Hao, J. M.; Meng, X. G. (2017) “Recent advances in SERS detection of perchlorate” *Front. Chem. Sci. Eng.*, *11*, 448-464. Citations without self-citations:16
 48. Xu, Z. H.; Meng, X. G.; Zhang, Y. J.; Li, F. S. (2016) “Effects and mechanisms of water matrix on surface-enhanced Raman scattering analysis of arsenite on silver nanofilm” *Colloids Surf. a-Physicochem. Eng. Asp.*, *497*, 117-125. Citations without self-citations:6
 49. Liu, X. Y.; Xu, Z. H.; Peng, J. F.; Song, Y. H.; Meng, X. G. (2016), Phosphate recovery from anaerobic digester effluents using CaMg(OH)(4). *J. Environ. Sci.*, *44*, 260-268. Citations without self-citations:5
 50. Wei, J.; Song, Y. H.; Meng, X. G.; Pic, J. S. (2015) “Combination of Fenton oxidation and sequencing batch membrane bioreactor for treatment of dry-spun acrylic fiber wastewater” *Environ. Earth Sci.*, *73*, 4911-4921. Citations without self-citations:9
 51. Wei, J.; Song, Y. H.; Meng, X. G.; Pic, J. S. (2015) “Optimization and analysis of homogenous Fenton process for the treatment of dry-spun acrylic fiber manufacturing wastewater” *Desalin. Wat. Treat.*, *56*, 3036-3043. Citations without self-citations:4
 52. Shi, C.; Xu, Z. H.; Smolinski, B. L.; Arienti, P. M.; O'Connor, G.; Meng, X. G. (2015), Spectrophotometric analyses of hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) in water. *J. Environ. Sci.*, *33*, 39-44. Citations without self-citations:0
 53. Liu, X. Y.; Xiang, L. C.; Song, Y. H.; Qian, F.; Meng, X. G. (2015) “The effects and mechanism of alkalinity on the phosphate recovery from anaerobic digester effluent using dolomite lime” *Environ. Earth Sci.*, *73*, 5067-5073. Citations without self-citations:8
 54. Liu, L.; Bai, L. P.; Man, C. G.; Liang, W. H.; Li, F. S.; Meng, X. G. (2015) “DDT Vertical Migration and Formation of Accumulation Layer in Pesticide-Producing Sites” *Environ. Sci. Technol.*, *49*, 9084-9091. Citations without self-citations:11
 55. Krishnani, K. K.; Boddu, V. M.; Moon, D. H.; Ghadge, S. V.; Sarkar, B.; Brahmane, M. P.; Choudhary, K.; Kathiravan, V.; Meng, X. G. (2015) “Metals Bioaccumulation Mechanism in Neem Bark” *B. Environ. Contam. Tox.*, *95*, 414-419. Citations without self-citations:0
 56. Hao, J. M.; Han, M. J.; Meng, X. G.; Weimer, W.; Wang, Q. W. K. (2015) “Surface-enhanced Raman scattering of perchlorate on cationic-modified silver nanofilms - Effect of inorganic anions” *Spectrochim Acta A.*, *136*, 1593-1599. Citations without self-citations:5
 57. Hao, J. M.; Han, M. J.; Han, S. M.; Meng, X. G.; Su, T. L.; Wang, Q. W. K. (2015) “SERS detection of arsenic in water: A review” *J. Environ. Sci.*, *36*, 152-162. Citations without self-citations:36
 58. Terracciano, A.; Ge, J.; Meng, X. G. (2015), A comprehensive study of treatment of arsenic in water combining oxidation, coagulation, and filtration. *J. Environ. Sci.*, *36*, 178-180. Citations without self-citations:7
 59. Zhang, J. F.; Terracciano, A.; Meng, X. G. (2014) “Comment on "Colloidal Properties and Stability of Graphene Oxide Nanomaterials in the Aquatic Environment"” *Environ. Sci. Technol.*, *48*, 1359-1359. Citations without self-citations:3
 60. Wei, J.; Song, Y. H.; Meng, X. G.; Tu, X.; Pic, J. S. (2014) “Transformation characteristics of organic pollutants in Fered-Fenton process for dry-spun acrylic fiber wastewater treatment” *Wat. Sci. Technol.*, *70*, 1976-1982. Citations without self-citations:3

61. Sun, Y. K.; Guan, X. H.; Wang, J. M.; Meng, X. G.; Xu, C. H.; Zhou, G. M. (2014) "Effect of Weak Magnetic Field on Arsenate and Arsenite Removal from Water by Zerovalent Iron: An XAFS Investigation" *Environ. Sci. Technol.*, 48, 6850-6858. Citations without self-citations:86
62. Meng, X. Y.; Vaccari, D. A.; Zhang, J. F.; Fiume, A.; Meng, X. G. (2014) "Bioregeneration of Spent Anion Exchange Resin for Treatment of Nitrate in Water" *Environ. Sci. Technol.*, 48, 1541-1548. Citations without self-citations:19
63. Guo, X. J.; Wu, Z. J.; He, M. C.; Meng, X. G.; Jin, X.; Qiu, N.; Zhang, J. (2014), Adsorption of antimony onto iron oxyhydroxides: Adsorption behavior and surface structure. *J. Environ. Sci.*, 276, 339-345. Citations without self-citations:114
64. Cheng, J. M.; Meng, X. G.; Jing, C. Y.; Hao, J. M. (2014), La³⁺-modified activated alumina for fluoride removal from water. *J. Environ. Sci.*, 278, 343-349. Citations without self-citations:54
65. Chen, C. F.; Hao, J. M.; Zhu, L. Y.; Yao, Y. Q.; Meng, X. G.; Weimer, W. N.; Wang, Q. W. K. (2013), Direct two-phase interfacial self-assembly of aligned silver nanowire films for surface enhanced Raman scattering applications. *J. Mater. Chem. A*, 1, 13496-13501. Citations without self-citations:20
66. Xu, Z. H.; Meng, X. G. (2012) "Detection of 3-nitro-1,2,4-triazol-3-one (NTO) by surface-enhanced Raman spectroscopy" *Vib. Spectrosc.*, 63, 390-395. Citations without self-citations:12
67. Xu, Z. H.; Jing, C. Y.; Hao, J. M.; Christodoulatos, C.; Korfiatis, G. P.; Li, F. S.; Meng, X. G. (2012) "Effect of Bonding Interactions between Arsenate and Silver Nanofilm on Surface-Enhanced Raman Scattering Sensitivity" *J. Phys. Chem. C*, 116, 325-329. Citations without self-citations:11
68. Shi, Y.; Du, X. M.; Li, H. Y.; Xu, Z.; Wang, Q. H.; Meng, X. G.; Li, F. S. (2012), Effects of soil temperature and agitation on the removal of 1,2-dichloroethane from contaminated soil. *Sci. Total Environ.*, 423, 185-189. Citations without self-citations:7
69. Hao, J. M.; Han, M. J.; Li, J. W.; Meng, X. G., (2012) "Surface modification of silver nanofilms for improved perchlorate detection by surface-enhanced Raman scattering" *J. Colloid Interf. Sci.*, 377, 51-57. Citations without self-citations:19
70. Guan, X. H.; Du, J. S.; Meng, X. G.; Sun, Y. K.; Sun, B.; Hu, Q. H. (2012) "Application of titanium dioxide in arsenic removal from water: A review" *J. Hazard. Mater.*, 215, 1-16. Citations without self-citations:186
71. Xu, Z. H.; Hao, J. M.; Braida, W.; Strickland, D.; Li, F. S.; Meng, X. G. (2011) "Surface-Enhanced Raman Scattering Spectroscopy of Explosive 2,4-Dinitroanisole using Modified Silver Nanoparticles" *Langmuir*, 27, 13773-13779. Citations without self-citations:26
72. Han, M. J.; Hao, J. M.; Xu, Z. H.; Meng, X. G. (2011) "Surface-enhanced Raman scattering for arsenate detection on multilayer silver nanofilms" *Analytica Chimica Acta*, 692, 96-102. Citations without self-citations:19
73. Bang, S.; Pena, M. E.; Patel, M.; Lippincott, L.; Meng, X.; Kim, K. W. (2011) "Removal of arsenate from water by adsorbents: a comparative case study" *Environ. Geochem. Health*, 33, 133-141. Citations without self-citations:14
74. Baidas, S.; Gao, B. Y.; Meng, X. G. (2011) "Perchlorate removal by quaternary amine modified reed" *J. Hazard. Mater.*, 189, 54-61. Citations without self-citations:61
75. Hao, J. M., Xu, Z. H., Han, M. J., Xu, S. Y., Meng, X. G. (2010) "Surface-enhanced Raman scattering analysis of perchlorate using silver nanofilms deposited on copper foils" *Colloids Surf. A: Physicochem. Eng. Asp.*, 366, 163-169.
76. Xu, Z. H., Hao, J. M., Li, F. S., Meng, X. G. (2010) "Surface-enhanced Raman Spectroscopy of As(V) and As(III) Using Ag Nanofilm Prepared by Modified Mirror Reaction" *J. Colloid Interf. Sci.* 347, 90-95.
77. Wang, C., Huang, Z. D., Lippincott, L., Meng, X. M. (2010) "Rapid Ti(III) reduction of perchlorate in the presence of β -alanine: Kinetics, pH effect, complex formation, and β -alanine effect" *J. Hazard. Mater.* 175, 159-164.

78. Hao, J. M., Han, M. J., Wang, C., Meng, X. G. (2009) "Enhanced removal of arsenite from water by a mesoporous hybrid material – thiol functionalized silica coated activated alumina" *Micropor. Mesopor. Mat.*, 124, 1-7.
79. Xu, Z. H., Meng, X. G. (2009) "Size effects of nanocrystalline TiO₂ on As(V) and As(III) adsorption and As(III) photooxidation" *J. Hazard. Mater.* 168, 747-752.
80. Jing, C. Y., Meng, X. M., Edwin Calvache, E., Jiang, G. B. (2009) "Remediation of organic and inorganic arsenic contaminated groundwater using a nanocrystalline TiO₂-based adsorbent" *Environ Pollut.*, 157, 2514-9.
81. Hao, J., Han, M. J., Meng, X. G. (2009) "Preparation and characterization of thiol-functionalized activated alumina for arsenite removal from water" *J. Hazard. Mater.* 167, 1215-1221.
82. Krishnani, K., Meng, X. G., Dupont, L. (2009) "Metal Ions binding onto lignocellulosic biosorbent" *J. Environ. Sci. Health, Part A*, A44(7).
83. Wang, C., Lippincott, L., Yoon, I. H., Meng, X. G. (2009) "Modeling, Rate-Limiting Step Investigation, and Enhancement of the Direct Bio-Regeneration of Perchlorate Laden Anion-Exchange Resin" *Wat. Res.* 43, 127-136.
84. Yoon, I. H., Meng, X. G., Wang, C., Bang, S. B., Choe, E. Y., Lippincott, L., Kim, K. W. (2009) "Perchlorate adsorption and desorption on activated carbon and anion exchange resin" *J. Hazard. Mater.* 164, 87-94.
85. Wang, C., Lippincott, L., Meng, X. G. (2008) "Feasibility and kinetics study on the direct bio-regeneration of perchlorate laden anion-exchange resin" *Wat. Res.* 42, 4619-4628.
86. Liu, S. Q., Jing, C. Y., Meng, X. M. (2008) "Arsenic Remobilization in Water Treatment Adsorbents under Reducing Conditions: Part II. XAS and Modeling Study" *Sci. Total Environ.* 392, 137-144.
87. Xu, Z. H., Jing, C. Y., Li, F. S., Meng, X. G. (2008) "Mechanisms of Photocatalytical Degradation of Monomethylarsonic and Dimethylarsenic Acid using Nanocrystalline Titanium Dioxide" *Environ. Sci. Technol.*, 42, 2349-2354.
88. Chin Choy, C., Wazne, M., Meng, X. G. (2008) "Application of an empirical transport model to simulate retention of nanocrystalline titanium dioxide in sand columns" *Chemosphere*, 71, 1794-1801.
89. Jing, C. Y., Liu, S. Q., Meng, X. M. (2008) "Arsenic Remobilization in Water Treatment Adsorbents under Reducing Conditions: Part I. Incubation Study" *Sci. Total Environ.*, 389, 188-194.
90. Krishnani, K., Meng, X. G., Christodoulatos, C., Buddu, V. M. (2008) "Biosorption Mechanisms of Nine Different Heavy Metals onto Biomatrix from Rice Husk" *J. Hazard. Mater.*, 153, 1222-1234.
91. Hao, J. M., Han, M. J., Guo, K. P., Zhao, Y. X., Qiu, L., Shen, Y. Q. and Meng, X. G. (2008) "A Novel NLO Axothiothene-based Chromophore: Synthesis, Characterization, Thermal Stability and Optical Nonlinearity" *Mater. Lett.*, 62, 973-976.
92. Wang, C., Lippincott, L., Meng, X. G. (2008) "Kinetics of Biological Perchlorate Reduction and pH Effect" *J. Hazard. Mater.*, 153, 663-669.
93. Tu, Z. G., Hao, J. M., Kharidia, R., Meng, X. G., Liang, J. F. (2007) "Improved Stability and Selectivity of Lytic Peptides through Self-assembly" *Biochemical Biophysical Research Communications*, 361, 712-717.
94. Han, M. J., Meng, X. G., Lippincott, L. (2007) "Determination of Configuration of Arsenite-Glutathione Complexes Using ECSTM" *Toxicology Letters*, 175, 57-63.
95. Han, M. J., Hao, J. J., Christodoulatos, C., George P. Korfiatis, G. P., Wan, L. J. and Meng, X. G. (2007) "Direct Evidence of Arsenic(III)-Carbonate Complexes Obtained Using ECSTM" *Anal. Chem.*, 79, 3615-3622.
96. Hao, J. M., Han, M. J., Yang, Y. F., Shen, Y. Q., Qiu, L., Meng, X. M., Shen, Y. Q., Cao, Z. Q. (2006) "A Device-Quality Thermosetting Polyurethane with Improved Processability and High Thermal Stability of Dipole Alignment for Electro-Optic Applications" *Reactive & Functional Polymers*, 66(8), 832-839.
97. Krishnani, K., Parimala, V., Gupta, B. P., Azad, I. S., Meng, X. G., Abraham, M. (2006) "Bagasse-Assisted Bioremediation of Ammonia from Shrimp Farm Wastewater" *Wat. Environ. Res.*, 78, 938-950.

98. Jing, C. Y., Liu, S., Korfiatis, G. P., Meng, X. G. (2006) "Leaching Behavior of Cr(III) in Stabilized/Solidified Soil" *Chemosphere*, 64, 379-385.
99. Chin Choy, C., Korfiatis, G. P., Meng, X. G. (2006) "Removal of Depleted Uranium from Contaminated Soils" *J. Hazard. Mater.*, 136, 53-60.
100. Wazne, M., Meng, X. G., Korfiatis, G. P., Christodoulatos, C. (2006) "Carbonate Effects on Hexavalent Uranium Removal from Water by Nanocrystalline Titanium Dioxide" *J. Hazard. Mater.*, 136, 47-52.
101. Pena, M. E., Meng, X. G., Korfiatis, G. P., Jing, C. Y. (2006) "Adsorption Mechanism of Arsenic on Nanocrystalline Titanium Dioxide" *Environ. Sci. Technol.*, 40, 1257-1262.
102. Jing, C. Y., Meng, X. G., Liu, S., Baidas, S., Patraju, R., Christodoulatos, C., Korfiatis, G. K. (2005) "Surface Complexation of Organic Arsenic on Nanocrystalline Titanium Oxide" *J. Colloid Interface Sci.*, 290, 14-21.
103. Jing, C. Y., Liu, S. Q., Patel, M., Meng, X. G. (2005) "Arsenic Leachability in Water Treatment Adsorbents" *Environ. Sci. Technol.*, 39, 5481-5487.
104. Pena, M. E., Korfiatis, G. P., Patel, M., Lippincott, L. and Meng, X. G. (2005) "Adsorption of As(V) and As(III) by Nanocrystalline Titanium Dioxide" *Wat. Res.*, 39, 2327-2337.
105. Bang, S. B., Patel, M., Lippincott, L., Meng, X. G. (2005) "Removal of Arsenic from Groundwater by Granular Titanium Dioxide Adsorbent" *Chemosphere*, 60, 389-397.
106. Bang, S. B., Korfiatis, G. P., Meng, X. G. (2005) "Removal of Arsenic from Water by Zero-Valent Iron" *J. Hazard. Mater.*, 121, 61-67.
107. Bang, S. B., Johnson, M. D., Korfiatis, G. P., Meng, X. G. (2005) "Chemical Reactions between Arsenic and Zero-Valent Iron in Water" *Wat. Res.*, 39, 763-770.
108. Jing, C. Y., Liu, S., Meng, X. G. (2005) "Arsenic Leachability and Speciation in Cement Immobilized Water Treatment Sludge" *Chemosphere*, 59, 1241-1247.
109. Cheng, Z., van Geen, A., Jing, C. Y., Meng, X. G., Seddique, A., Ahmed, K. M. (2004) "Performance of a Household-Level Arsenic Removal System during 4-Month Developments in Bangladesh" *Environ. Sci. Technol.*, 38, 3442-3448.
110. Jing, C. Y., Meng, X. G., Korfiatis, G. P. (2004) "Lead Leachability in Stabilized/Solidified Soil Samples Evaluated with Different Leaching Tests" *J. Hazard. Mater.*, 114, 101-110.
111. Krishnani, K. K., Parimala, V., Meng, X. G. (2004) "Detoxification of Chromium(VI) in Coastal Water Using Lignocellulosic Agricultural Waste" *Water SA*, 30(4), 541-545.
112. Dermatas, D., Moon, D. H., Menounou, N., Meng, X. G., Hires, R. (2004) "An Evaluation of Arsenic Release from Monolithic Solids Using a Modified Semi-Dynamic Leaching Test" *J. Hazard. Mater.*, 116, 25-38.
113. Bang, S. B. and Meng, X. G. (2004) "A Review of Arsenic Interactions with Anions and Iron Hydroxides" *Environ. Eng. Res.*, 9(4), 184-192.
114. Jing, C. Y., Korfiatis, G. P., Meng, X. G., (2003) "Immobilization Mechanisms of Arsenate in Iron Hydroxide Sludge Stabilized with Cement" *Environ. Sci. Technol.*, 37, 5050-5056.
115. Wazne, M., Korfiatis, G. P., Meng, X. G. (2003) "Carbonate Effects on Hexavalent Uranium Adsorption by Iron Oxyhydroxide" *Environ. Sci. Technol.*, 37, 3619-3624.
116. Bang, S. B., Meng, X. G. and Bang, K. W. (2003) "A Study of Dissolved Oxygen and pH Effects on Arsenate Removal Using Zero-Valent Iron" *J. Korean Soc. Environ. Eng.*, 25(11), 1337-1474.
117. Dermatas, D. and Meng, X. G. (2003) "Utilization of Fly Ash for Stabilization/Solidification of Heavy Metals" *Engineering Geology*, 2189, 1-18.
118. Dermatas, D., Dadachov, M., Mirabito, M. and Meng, X. G. (2003) "Strength Development of Solidified/Stabilized Organic Waste and Optimum Treatment Design" *J. Air & Waste Manage. Assoc.*, 53, 1363-1472.
119. Meng, X. G., Korfiatis, G. P., Bang, S. B. and Bang, K. W. (2002) "Combined Effects of Anions on Arsenic Removal by Iron Hydroxides" *Toxicology Letters*, 133, 103-111.
120. Meng, X. G., Bang, S. B. and Korfiatis, G. P. (2002) "Removal of Selenocyanate from Water Using Elemental Iron" *Wat. Res.*, 36, 3867-3873.

121. Bang, K. W., Meng, X. M., Bang, S. B. and Lee, J. H. (2002) "Effect of Dissolved Oxygen and pH on Arsenic Removal in Water by Electrochemical Process" *J. Korean Soc. Urban Environ.*, 2(1), 25-35.
122. Meng, X. G., Korfiatis, G. P., Jing, C. Y., Christodoulatos, C. (2001) "Redox Transformations of Arsenic and Iron in Water Treatment Sludge during Aging and TCLP Extraction" *Environ. Sci. Technol.*, 35, 3476-3481.
123. Meng, X. G., Korfiatis, G. P., Christodoulatos, C. and Bang, S. B. (2001) "Treatment of Arsenic in Bangladesh Well Water Using a Household Co-precipitation and Filtration System" *Wat. Res.*, 35, 2805-2710.
124. Meng, X. G., Bang, S. B. and Korfiatis, G. P. (2000) "Effect of Silicate, Sulfate and Carbonate on Arsenic Removal by Ferric Hydroxide", *Wat. Res.*, 34, 1255-1261.
125. Meng, X. G., Hua, Z., Dermatas, D. and Wang, W. (1998) "Immobilization of Mercury(II) in Contaminated Soil with Used Tire Rubber", *Journal of Hazardous Materials*, 57, 231-241.
126. Meng, X.G. and Letterman, R.D. (1996) "Modeling Cadmium and Sulfate Adsorption by $\text{Fe}(\text{OH})_3/\text{SiO}_2$ Mixed Oxides", *Wat. Res.*, 30, 2148-2154.
127. Dermatas, D. Meng, X. G. Leachability Study of Chromium Contaminated Soils to Assess the Long-Term Effectiveness of a Remediation Technology, *Geotechnical Special Publication. n 46/1 1995. ASCE, New York, NY, USA. p 449-462.*
128. Meng, X.G. and Letterman, R.D. (1993). "Modeling Ion Adsorption on Aluminum Hydroxide Modified Silica", *Environ. Sci. Technol.*, 27, 1924-1929.
129. Meng, X.G. and Letterman, R.D. (1993). "Effect of Component Oxide Interaction on the Adsorption Properties of Mixed Oxides", *Environ. Sci. Technol.*, 27, 970-975.
130. Meng, X.G. and Letterman, R.D. (1991). "Immobilization of Cadmium in Sediment by Treatment with Aluminum Salt and Freeze-Thaw Dehydration", *Colloids Surf.*, 54, 219-33.

Awards

1. The Tech Museum Awards, Intel Environmental Award, 2001
(<http://www.techawards.org/laureates/stories/index.php?id=15>)
2. The Davis Memorial Award for Research, Stevens Institute of Technology, 2002
3. American Water Works Association, New Jersey Section, Research Award, 2004
4. Thomas Alva Edison Award, New Jersey Research and Development Council, for the most important patent contribution from a scientist in industry in New Jersey, 2006
5. Inventor of the Year 2009 Award, the New Jersey Inventors Hall of Fame, October 22, 2009

Affiliation

American Chemical Society
 American Water Works Association
 International Association on Water Quality