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**Publications**

**a. Invited Refereed Book Chapters**

1. Jafvert, Chad T. and Janice Heath, "Reactions of Anionic Surfactants in Saturated Soils and Sediments: Precipitation and Micelle Formation," Chapter 26, Pages 167-176, in *Manipulation of Groundwater Colloids for Environmental Restoration*, Edited by John F. McCarthy and Frank J. Wobber, Lewis Publishers, Ann Arbor, 1993.
2. I.H. Suffet, Chad T. Jafvert, Jussi Kukkonen, Mark R. Servos, Anne Spacie, Lisa L. Williams, and James A. Noblet "Influences of Particulate and Dissolved Material on the Bioavailability of Organic Compounds," Chapter 3, Pages 93-108, in *Bioavailability: Physical, Chemical, and Biological Interactions*, Edited by Jerry L. Hamelink et al., Lewis Publishers, Ann Arbor, 1994.
3. Jafvert, Chad T., Wei Chu, and Patricia L. Van Hoof, "Chapter 3: A QSAR for Solubilization of Nonpolar Compounds by Nonionic Surfactant Micelles," in ACS Symposium Series entitled: *Surfactant-Enhanced Remediation of Subsurface Contamination: Emerging Technologies*, American Chemical Society, Washington, DC pp 25-37, 1995.
4. Jafvert, Chad T. and Timothy J. Strathmann, "Chapter 9: Innovative Surfactant/Cosolvent Technologies for Removal of NAPL and Sorbed Contaminants from Aquifers," in *Emerging Technologies in Hazardous Waste Management 8*, Kluwer Academic/Plenum Publishers, N.Y., pp. 93-108, 2000.
5. Nies, Loring, and Chad T. Jafvert, "Chapter 31: Biodegradation", in *The Handbook of Groundwater Engineering, 2<sup>nd</sup> Edition*, edited by Jacques W. Delleur, CRC Press, Boca Raton, FL, 2007.

**b. Articles in Refereed Archival Journal**

1. Goldsmith, J. C., C. T. Jafvert, P. Lollar, W. G. Owen, J. C. Hoak, "Prostacyclin Release from Cultured and *ex Vivo* Bovine Vascular Endothelium, Studies with Thrombin, Arachidonic Acid, and Ionophore A23187," *Laboratory Investigation*, 45 (2): 191-197, 1981.
2. Valentine, Richard, Kirk I. Brandt, and Chad T. Jafvert, "A Spectrophotometric Study of the Formation of an Unidentified Monochloramine Decomposition Product," *Water Research*, 20: 1067-1074, 1986.
3. Jafvert, Chad T. and Richard L. Valentine, "Dichloramine Decomposition in the Presence of Excess Ammonia," *Water Research*, 21: 967-973, 1987.
4. Jafvert, Chad T. and N. Lee Wolfe, "Degradation of Selected Halogenated Ethanes in Anoxic Sediment-Water Systems," *Environmental Toxicology & Chemistry*, 6: 827-837, 1987.
5. Valentine, Richard L. and Chad T. Jafvert, "General Acid Catalysis of Monochloramine Disproportionation," *Environmental Science & Technology*, 22: 691-696, 1988.
6. Valentine, Richard L., Chad T. Jafvert and Solomon Leung, "Evaluation of a Chloramine Decomposition Model Incorporating General Acid Catalysis," *Water Research*, 22: 1147-1153, 1988.
7. Jafvert, Chad T., John C. Westall, Erwin Grieder, and Rene P. Schwarzenbach, "Distribution of Hydrophobic Ionogenic Organic Compounds Between Octanol and Water: Organic Acids," *Environmental Science & Technology*, 24: 1795-1803, 1990.
8. Jafvert, Chad T. "Sorption of Organic Acid Compounds to Sediments: Initial Model Development," *Environmental Toxicology & Chemistry*, 9: 1259-1268, 1990.
9. Jafvert, Chad T. and Janice K. Heath, "Sediment and Saturated-Soil Associated Reactions Involving an Anionic Surfactant (Dodecylsulfate): I. Precipitation and Micelle Formation," *Environmental Science & Technology*, 25: 1031-1038, 1991.

10. Jafvert, Chad T. "Sediment and Saturated-Soil Associated Reactions Involving an Anionic Surfactant (Dodecylsulfate): II. The Partition of PAH Compounds Among Phases," *Environmental Science & Technology*, 25: 1039-1045, 1991.
11. Jafvert, Chad T. and Richard L. Valentine, "A Unified Chlorine-Ammonia Speciation and Fate Model," *Environmental Science & Technology*, 26: 557-586, 1992.
12. Jafvert, Chad T., Patricia L. Van Hoof, and Janice K. Heath, "Solubilization of Nonpolar Compounds by Nonionic Surfactant Micelles," *Water Research*, 28: 1009-1017, 1993.
13. Chu, Wei and Chad T. Jafvert, "Photodechlorination of Polychlorobenzene Congeners in Surfactant Micelle Solutions," *Environmental Science & Technology*, 28: 2415-2422, 1994.
14. Jafvert, Chad T., Patricia L. Van Hoof, and Wei Chu, "The Phase Distribution of Polychlorobiphenyl Congeners in Surfactant-Amended Sediment Slurries," *Water Research*, 29: 2387-2397, 1995.
15. Van Hoof, Patricia L. and Chad T. Jafvert, "Reductive Dechlorination of Chlorobenzenes in Surfactant-Amended Sediment Slurries," *Environmental Toxicology and Chemistry*, 11:1914-1924, 1996.
16. Jafvert, Chad T., Beth K. Vogt, and Jose R. Fabrega, "Induced Desorption of DDT, DDD, and DDE from a Contaminated Sediment," *Journal of Environmental Engineering*, 123: 225-233, 1997.
17. Fan, Chihhao and Chad T. Jafvert, "The Two-Suffix Model Applied to PAH Solubilities in Alcohol-Water Mixtures," *Environmental Science and Technology*, 31: 3516-3522, 1997.
18. Lee, Linda S., Arto K. Nyman, Hui Li, Marianne Nyman, and Chad Jafvert, "Initial Sorption of Aromatic Amines to Surface Soils," *Environmental Toxicology and Chemistry*, 16: 1575-1582, 1997.
19. Yuan, Ching, and Chad T. Jafvert, "Sorption of Linear Ethoxylate Surfactant Homologues to Soils," *Journal of Contaminant Hydrology*, 28: 311-325, 1997.
20. Strathmann, Timothy J., and Chad T. Jafvert, "Ion-Pair Association of Substituted Phenolates with K<sup>+</sup> in Octanol," *Environmental Toxicology and Chemistry*, 17: 369-376, 1998.
21. Lyn, Dennis, Chad T. Jafvert, Vivek Kapoor and Ameya Limaye, "Concentration Non-Uniformities and Averages in Flow-through Spectrophotometric Measurements," *Anal. Chim. Acta*, 363: 171-181, 1998.
22. Chu, Wei, Chad T. Jafvert, Claude A. Diehl, Karen Marley and Richard A. Larson, "Phototransformations of Polychlorobiphenyls in Brij 58 Micellar Solutions," *Environmental Science and Technology*, 32: 1989-1993, 1998.
23. Yuan, Ching, Chung-Hsuang Hung, Chad T. Jafvert, "Groundwater Remediation by Anionic Surfactant Micelles: An Innovative Double Layer Model Applied to Na<sup>+</sup> and Mg<sup>2+</sup> Association with Dodecylsulfate Micelles," *Water Sci. Technol.*, 38:99-106, 1998.
24. Kapoor, Vivek, Chad T. Jafvert, and Dennis Lyn, "Experimental Study of a Bimolecular Reaction in Poiseuille Flow," *Water Resources Research*, 34: 1997-2004, 1998.
25. Fábrega-Duque, José R., Chad T. Jafvert, Hui Li, and Linda S. Lee, "Modeling Short-Term Soil-Water Distribution of Organic Bases," *Environmental Science and Technology*, 32: 2788-2794, 1998.
26. Larson, Richard A., Chad T. Jafvert, Francisco Boscá, Karen A. Marley, and Penney L. Miller, "Effects of Surfactants on Reduction and Photolysis (> 290 nm) of Nitroaromatic Compounds", *Environmental Science & Technology*, 34: 505-508, 2000.
27. Lin, Ching-Chieh, Chad T. Jafvert, "A Triple Layer, Planar Coordinate Model for Describing Counter-Ion Association to Micelles," *Langmuir*, 16: 2450-2456, 2000.
28. Fábrega-Duque, José R., Chad T. Jafvert, Hui Li, and Linda S. Lee, "Modeling Abiotic Processes of Aniline in Water-Saturated Soils," *Environmental Science and Technology*, 34:1687-1693, 2000.
29. Li, Hui, Linda S. Lee Chad T. Jafvert, and John G. Graveel, "Effect of Substitution on Irreversible Binding and Transformation of Aromatic Amines with Soils in Aqueous Systems," *Environmental Science and Technology*, 34, 3674-3680, 2000.
30. Fábrega-Duque, José R., Chad T. Jafvert, Hui Li, and Linda S. Lee, "Modeling Competitive Cation Exchange of Aromatic Amines in Water-Saturated Soils," *Environmental Science and Technology*, 35: 2727-2733, 2000.
31. Li, Hui, Linda S. Lee, José R Fábrega-Duque, and Chad T. Jafvert, "Role of pH in Partitioning and Cation Exchange of Aromatic Amines on Soils," *Chemosphere*, 44:627-635, 2001.
32. Diehl, Claude A., Chad T. Jafvert, Karen A. Marley, and Richard A. Larson, "Surfactant-Assisted UV-Photolysis on Nitroarenes," *Chemosphere*, 46: 553-560, 2002.

33. Chu, Wei., James R. Hunt, Chad T. Jafvert, "Modeling the Sequential Photodechlorination of Hexachlorobenzene in Surfactant Micelles," *Water Research*, 36: 843-850, 2002.
34. Hua, Inez, Namgoo Kang, and Chad T. Jafvert, "Heterogeneous and Homogeneous Photochemical Reactions of Decabromodiphenyl Ether," *Environmental Toxicology and Chemistry*, 22: 798-804, 2003.
35. Bezares-Cruz, Juan, Chad T. Jafvert, and Inez Hua, "Solar Photodecomposition of Decabromodiphenyl Ether: Products and Quantum Yield," *Environmental Science and Technology*, 38: 4149-4156, 2004.
36. Chu, W. K. H. Chan, C. Y. Kwan, and C. T. Jafvert, "Acceleration and Quenching of the Photolysis of PCB in the Presence of Surfactant and Humic Materials," *Environ. Sci. Technol.*, 39:9211-9216, 2005.
37. Jafvert, C. T., Lane, D., Lee, L.S., and Rao, P.S.C. Partitioning of Mono- and Polycyclic Aromatic Hydrocarbons in River Sediment Adjacent to a Former Manufactured Gas Plant Site, *Chemosphere*, 62:314-321, 2006
38. Ahn, Mi.-Youn., Timothy R. Filley, Chad T. Jafvert, Loring Nies, Inez Hua, and Juan Bezares-Cruz, "Photodegradation of Decabromodiphenyl Ether Adsorbed onto Clay Minerals, Oxides, and Sediment", *Environ. Sci. Technology*, 40, 215-220, 2006.
39. Hyun, S., Jafvert, C. T., Lee, L.S., and Rao, P.S.C., "Laboratory Studies to Characterize the Efficacy of a Sand Cap Placed over Tar-Contaminated Sediment," *Chemosphere*, 63:1621-1631, 2006.
40. Ahn, Mi.-Youn., Timothy R. Filley, Chad T. Jafvert, Loring Nies, and Inez Hua, Birnessite Mediated Debromination of Decabromodiphenyl Ether, *Chemosphere*, 64:1801-1807, 2006.
41. Rochon, Gilbert L., Loring F. Nies, Chad T. Jafvert, Julie A. Stuart, Rabi H. Mohtar, Joseph Quansah, and Akilah Martin, "Education in Sustainable Production in U.S. Universities", *Clean Technol. Environ. Policy*, 2006 (in press).
42. Hyun, S., Jafvert, C.T., Jenkinson, B., Enfield, C., Johnson, B. "Measuring the flux at the interface of coal-tar impacted sediment and river water near a former MGP site", accepted with minor revisions for publication in *Chemosphere*, 2007.

### c. Refereed Journal Communications or Notes

1. Valentine, Richard L. and Chad T. Jafvert, "Comments on Kinetics of Monobromamine Disproportionation-Dibromamine Formation in Aqueous Ammonia Solutions," *Environmental Science & Technology*, 19 (3): 286-287, 1985.
2. Jafvert, Chad T. "Biological Remediation of Contaminated Sediments," *Journal of Great Lakes Research*, 16: 337-338, 1990, (an Invited Editorial).
3. Phillips, Lorin W. and Chad T. Jafvert, "Comment on Application of Permeant/Polymer Diffusional Model to the Desorption of Polychlorinated Biphenyls from Hudson River Sediments," *Environmental Science & Technology*, 29, 283-284, 1995.
4. Jafvert, Chad T., Chihhao Fan, "Response to Comments on 'Margules Equations Applied to PAH Solubilities in Alcohol-Water Mixtures,'" *Environmental Science and Technology*, 33: 1955, 1999.

### d. Reports

1. Kollig, Heinz P., J.J. Ellington, K.J. Hamrick, C.T. Jafvert, Eric J. Weber, and N. Lee Wolfe, "Hydrolysis Rate Constants, Partition Coefficients, and Water Solubilities for 129 Chemicals: A Summary of Fate Constants Provided for the Concentration-based Listing Program, U.S. EPA Report, 33 pages, 1987.
2. Jafvert, Chad T., Partitioning of Ionizable (Anionic) Organic Compounds to Soils and Sediments: Preliminary Research Results. Internal Report submitted to the Office of Solid Waste, January, 1988.
3. Wolfe, N. Lee, Eric J. Weber and Chad T. Jafvert, Mohammad E. Metwally and Ansary E. Moftah, "Hydrolysis and Redox Processes in Aquifer and Sediment Systems" U.S. EPA Internal Report, 31 pages, 1988.
4. Jafvert, Chad T., "Assessing the Environmental Partitioning of Organic Acid Compounds," EPA Research Brief, EPA/600/M-89/016, 18 pages, May 1990.

5. Jafvert, Chad T., Eric J. Weber, "Sorption of Ionizable Organic Compounds to Sediments and Soils," EPA Research Report, Prepared for the Office of Pesticide Programs, 22 pages, June, 1990.
6. Loux, Nicholas T., Chad T. Jafvert, Jerry D. Allison, Sayed M. Hassan, and Claudia Chafin, "A Geochemical Assessment of Potential Porewater Exposure to EPA-Regulated Metal and Ionizable Organic Contaminants for Use in Developing Equilibrium-Partitioning Sediment Quality Criteria," EPA Report, Prepared for the Office of Water Regulations and Standards, 74 pages, July, 1990.
7. Ellington, J.J., C.T. Jafvert, H.P. Kollig, E.J. Weber, N. L. Wolfe, "Chemical Specific Parameters for Toxicity Characteristics Contaminants, U.S. EPA Report, 19 pages, EPA/600/3-91/004, 1990.
8. Jafvert, C.T., J.E. Rogers, Eds., "Biological Remediation of Contaminated Sediments with Special Emphasis on the Great Lakes, Report of a Workshop, U.S. EPA Report, EPA/600/9-91/001, 181 pages, 1991, available through National Technical Information System (NTIS).
9. Ketcham, Michael, L., V. Prasad Kunchakarra, Chad T. Jafvert \* "Urban Targeting of Nonpoint Source Pollution in the Grand Calumet River Watershed", Final report to the Lake County Soil and Water Conservation District, Crown Point, IN, 92 pages, December 15, 1992.
10. Allen, Christopher, Chad T. Jafvert, "Water Quality Modeling of the White River," Final report to the Department of Public Works, City of Indianapolis, IN, 119 pages, September, 1993.
11. Jafvert, Chad T., and Michael L. Ketcham, "A GIS Toolbox for Targeting Nonpoint Source Pollution in Urban Areas, Demonstrated with the Grand Calumet River Watershed, Indiana, prepared for the Lake County Soil and Water Conservation District, Crown Point, IN, June 1, 1994.
12. Jafvert, Chad T., "Photochemical Reduction of Munitions Wastewater Constituents: A report to satisfy Task 3 of Contract: DACA88-93-D-0011", Report to the CERL, Corps of Engineers, Champaign, IL 61826, 41 pages, June 20, 1995.
13. Larson, Richard A., Chad T. Jafvert, Claude Diehl, and Karen A. Marley, "Photochemical Reduction of Munitions Wastewater Constituents: Final Report", Final report to the CERL, Corps of Engineers, Champaign, IL 61826, 41 pages, December 22, 1995.
14. Jafvert, Chad T., "Technology Evaluation Report: Surfactants/Cosolvents," Report prepared for the Ground-Water Remediation Technologies Analysis Center (GWRTAC), National Environmental Technology Application Center (NETAC), Pittsburgh, PA, and available online at: <http://www.gwrtac.org>, 41 pages, December, 1996.
15. Lee, Linda, S., Chad T. Jafvert, Hui Li, and José R. Fábrega-Duque, "Modeling Soil-Water Distribution of Aromatic Amines in Water Saturated Soil Systems," EPA Research Brief, EPA/600/S-99/005, 9 pages, April 2000.
16. Jafvert, C., Rao, S., Lee, L. Progress Report for the Project Entitled: Laboratory Studies to Characterize the Performance of a Sand Cap over Tar-Contaminated Sediment: Grand Calumet River, Hammond, IN, prepared for: NiSource, 801 E. 86<sup>th</sup> Avenue, Merrillville, IN 46410, 30 pages, February 13, 2002.
17. Jafvert, C., Lane, D., Basu, N. Rao, S., Lee, L. Progress Report for the Project Entitled: Laboratory Studies to Characterize the Performance of a Sand Cap over Tar-Contaminated Sediment: Grand Calumet River, Hammond, IN, Prepared for: NiSource, 801 E. 86<sup>th</sup> Avenue, Merrillville, IN 46410, August 29, 2003.
18. Hyun, S., Jafvert, C. T., Lee, L.S., and Rao, P.S.C., Final Report for the Project Entitled: Laboratory Studies to Characterize the Performance of a Sand Cap over Tar-Contaminated Sediment: Grand Calumet River, Hammond, IN, prepared for: NiSource, 801 E. 86<sup>th</sup> Avenue, Merrillville, IN 46410, 22 pages, September 1, 2004.
19. Hyun, S., Jafvert, C. T., Jenkinson, B., Enfield, C., Rao, P.S.C., and, Lee, L.S., Final Report for the Project Entitled: Measuring the Flow of Water through Coal-Tar Impacted Sediment in the Grand Calumet River at a Former MGP Site, Hammond, IN. prepared for NiSource, 801 E. 86<sup>th</sup> Avenue, Merrillville, IN 46410, submitted as three sub-reports reporting on Task 1 (25 pp.), Task 2 (72 pp.) and Task 3 (19 pp.) accomplishments, June, 2006.

**e. Other**

1. Ketcham, Michael, L., Chad T. Jafvert, "Urban Targeting of Nonpoint Source Pollution in the Grand Calumet River Watershed", **NPS-NEWS Notes**, U.S. EPA, Office of Water, April, 1993.

## **2. INVITED PRESENTATIONS AND PROCEEDINGS**

### **a. Published Abstracts or Proceedings**

1. Jafvert, Chad T. and Richard L. Valentine, "A Unified Chlorine-Ammonia Speciation and Fate Model," Proceedings of the 15th Universities Forum, American Water Works Association (AWWA) Annual Conference, Denver, Colorado, June, 1986.
2. Valentine, Richard L. and Chad T. Jafvert, "Experimental Verification of a Unified Chlorine-Ammonia Reaction Model," Published Extended Abstracts of the Annual American Society of Civil Engineering (ASCE) Meeting, Cincinnati OH, July 1986.
3. Jafvert, C. T. and N. L. Wolfe, "Degradation of Selected Halogenated Ethanes in Anoxic Sediment-Water Systems," Presented at the Annual Society of Environmental Toxicology and Chemistry (SETAC) Meeting, Alexandria, Virginia, November, 1986.
4. Jafvert, C. T. and N. L. Wolfe, "Degradation of Halogenated Ethanes in Selected Media," Published Extended Abstracts of the American Chemical Society Meeting, Environmental Chemistry Division, Denver, Colorado, April, 1987.
5. Valentine, R. L., S. W. Leung, C. T. Jafvert, "Effect of Inorganic Composition of the Kinetics of Chloramine Decomposition in the Presence of Excess Ammonia," Published Extended Abstracts of the American Chemical Society Meeting, Environmental Chemistry Division, New Orleans, Louisiana, September, 1987.
6. Jafvert, C. T., "Partitioning of Anionic Organic Compounds to Soils and Sediments," Presented as a poster at the Annual Society of Environmental Toxicology and Chemistry (SETAC) Meeting, Arlington, Virginia, November, 1988.
7. Jafvert, C. T. and J. Rogers, "Enhancement of Bioremediation in Soils, Sediments, and Subsurface Materials with Surfactants and Solubilizing Agents," Proceedings of the AWMA/EPA International Symposium on Hazardous Waste Treatment: Biosystems for Pollution Control, Cincinnati, Ohio, February 20-23, 1989.
8. Jafvert, C. T., "Influences of Surfactants on the Distribution of Hydrophobic Organic Compounds in Environmental Systems," Presented at the Annual Society of Environmental Toxicology and Chemistry (SETAC) Meeting, Toronto, Canada, November, 1989.
9. Jafvert, C. T., J. Rogers, and P. Van Hoof, "Surfactant/Sorption Effects upon Biodegradation," Proceedings of the Bioremediation of Hazardous Wastes Symposium: U.S. EPA's Biosystems Technology Development Program, Arlington, Virginia, February, 1990.
10. Van Hoof, P., C. T. Jafvert, "Influence of Nonionic Surfactants on the Anaerobic Dechlorination of Hexachlorobenzene," Proceedings of the Bioremediation of Hazardous Wastes Symposium: U.S. EPA's Biosystems Technology Development Program, Falls Church, Virginia, April 1991.
11. Van Hoof, P., C. T. Jafvert, "Influence of Nonionic Surfactants on Hexachlorobenzene Degradation," Presented at the 12th Annual Society of Environmental Toxicology and Chemistry (SETAC) Meeting, Seattle, Washington, November 3-7, 1991.
12. Jafvert, C. T., P. L. Van Hoof, J. K. Heath, "Distribution and Degradation of Halogenated Organic Compounds in Surfactant-Amended Sediment Slurries," Published Extended Abstracts of the 203<sup>rd</sup> American Chemical Society Meeting, Environmental Chemistry Division, San Francisco, April 5-10, 1992.
13. Jafvert, C. T., P. L. Van Hoof, "A QSAR for Solubilization of Nonpolar Compounds by Nonionic Surfactant Micelles," Published Extended Abstracts of the 207<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, San Diego, CA, March 13-18, 1994.
14. Chu, W., C. T. Jafvert, "Direct Photoreduction of Hexachlorobenzene Solubilized within Surfactant Micelles," Published Extended Abstracts of the 207<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, San Diego, CA, March 13-18, 1994.

15. Ketcham, M.L., C. T. Jafvert, and Bernard A. Engel, "A GIS Toolbox for Targeting Nonpoint Source Pollution in Urban Areas," presented at the National Conference on Environmental Problem Solving with Geographic Information Systems, sponsored by the U.S. EPA, Cincinnati OH, September 21-23, 1994.
16. Jafvert, C. T., Vogt, B. K., Fabrega, J. "Induced Desorption of DDT, DDD, and DDE from a Contaminated Sediment," to be presented at The 209<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, Anaheim, CA, April 2-6, 1995.
17. Yuan, C., Jafvert, C. T. "Revisiting Counterion Binding to Micelles: The Double-Layer Model Applied to the Calcium, Sodium, Dodecylsulfate Systems," presented at the 209<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, Anaheim, CA, April 2-6, 1995.
18. Yuan, C., Jafvert, C. T. "Assessing Surfactant Mixtures for Soil Remediation," presented at the Annual AWMA Meeting, San Antonio, Texas, June 19-23, 1995.
19. Diehl, C., Jafvert, C. Larson, L. "Photochemical Reactions of 2,4-Dinitrotoluene in Surfactant Solutions," presented at the 210<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, Chicago, IL, August 21-26, 1995.
20. Nyman, A. K., Nyman, M. C., Lee, L. S., Jafvert, C. T. "Sorption of Aniline and  $\alpha$ -Naphthylamine by Three Silty Clay Loams," presented as a poster at the Annual Soil Science Society of America Conference, St. Louis, MO, October 29- November 2, 1995.
21. Chu, W., C. T. Jafvert, "The Photodecay of Polychlorobiphenyls in Surfactant Solutions - A Remediation Process for Contaminated Sediments," 2nd IAWQ specialized conference on Hazard Assessment and Control of Environmental Contaminants in Water - the Interface between Environmental Engineering and Environmental Science, Copenhagen, Denmark, June 29-30, 1995.
22. Jafvert, Chad T., "Remediation Technology Status Report: Surfactants and Cosolvents," presented at Emerging Technologies in Hazardous Waste Management VIII, Birmingham, AL, September 8-12, 1996.
23. Ferra, J., Lee, L. S., Lin, C- C., and Jafvert, C. T. "The efficacy of Sodium Dodecyl Benzene Sulfonate in Reducing Leachate Acidity from an Active Coal Pile," presented at the Annual Soil Science Society of America Conference, Indianapolis, IN, November 3-6, 1996.
24. Fan, C., Jafvert, C. T., and Lee, L. S. "Solubilities of PAHs in Alcohol-Water Mixtures," presented at the Annual Soil Science Society of America Conference, Indianapolis, IN, November 3-6, 1996.
25. Strathmann, T.J., Jafvert, C.T., and Lee, L.S. "Ion Association of Inorganic Cations with Nitro-Phenolates in Octanol," presented at the Annual Soil Science Society of America Conference, Indianapolis, IN, November 3-6, 1996.
26. Jafvert, Chad T., Chu, W., Marley, K. and Larson, R.A., "Phototransformations of PCBs in Surfactant Micelle Solutions," presented at the First International Conference on Remediation of Chlorinated and Recalcitrant Compounds (Battelle), Monterey, CA, May 17--20, 1998.
27. Lin, C.-C., and Jafvert, C. T. "A planar Coordinate Model Describing Counter-Ion Association to Micelles," presented at the First International Conference on Remediation of Chlorinated and Recalcitrant Compounds (Battelle), Monterey, CA, May 17--20, 1998.
28. Fabrega, J. and Jafvert C.T. "Modeling Soil-Water Phase Transfer Processes of Organic Bases," presented at the First International Conference on Remediation of Chlorinated and Recalcitrant Compounds (Battelle), Monterey, CA, May 17--20, 1998.
29. Jafvert, Chad T. "Groundwater Remediation with Surfactants and Cosolvents," presented at the Asian Industrial Technology Congress, April 26-29,1999.
30. Fabrega-Duque, J. R., Jafvert, C. T., Li, H., and Lee L. S. "Modeling Competitive Cation Exchange of Aromatic Amines in Water Saturated Soils, presented at the 220<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, Washington, DC, August 20-24, 2000.
30. Jafvert, Chad T., Rao, P. S. C., and Lee, L. S. "Microbially Mediated Impacts on Environmental Chemodynamics of Contaminants in Geosorbents," presented at the Third International Symposium of the Working Group "Minerals and Organics" of the International Union of Soil Sciences (ISMOM2000), Naples-Capri Italy, May 22-26, 2000.

31. Kolbe, J.L., Lee, L.S., Jafvert, C.T., and Murarka, I.P. "Use of Fly Ash in Acid Mine Reclamation: Arsenic Behavior," presented at the Annual American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Conference, Indianapolis, IN, November 10-14, 2002.
32. Jafvert, C.T., Basu, N., Lane, D., Lee, L.S., Rao, P.S.C. "Equilibrium Partitioning of PAHs and Monocyclic Aromatic Hydrocarbons between Water and Contaminated River Sediment collected in Northern Indiana," presented as a poster at the Sediment Quality Assessment Conference (Aquatic Ecosystem Health and Management Society), Chicago, IL, October 16-18, 2002.
33. Jafvert, C. T., "Heterogeneous Photochemical Reactions of Decabromodiphenylether," Presented at the Annual Society of Environmental Toxicology and Chemistry Europe (SETAC - Europe) Meeting, Hamburg Germany, April 27- May 1, 2003.
34. Hua, I., Jafvert, C., Bezares-Cruz, J., Kang, N., Filley, T. "Photochemical Reaction Rates and Products of Solar Irradiated Polybrominated Diphenylethers," Presented at the 226<sup>th</sup> American Chemical Society Meeting, Environmental Chemistry Division, New York, NY, September 7-11, 2003.
35. Bezares-Cruz, J., Jafvert, C.T., Hua, I., Filley, T. "Solar Irradiative Decay of Decabromodiphenylether in Hexane and Humic Acid Solutions," Presented at the 228<sup>th</sup> American Chemical Society Meeting, Philadelphia, PA, August 22-26, 2004.
36. Dahan, F.J., Jafvert, C.T. "New Approach to Quantify the Chemical and Physical interactions that occur in the adsorpted surfactant layer at the oil-water interface," Presented at the 228<sup>th</sup> American Chemical Society Meeting, Philadelphia, PA, August 22-26, 2004.
37. Hyun, S., Jafvert, C. Lee, L., Rao, P.S.C., "Laboratory Evaluation of In-Situ Sand-Capping for Controlling the Upward Flux of PAHs from Tar-Contaminated River Sediments," presented at the 4<sup>th</sup> SETAC World Conference and 25th Annual Society of Environmental Toxicology and Chemistry (SETAC) Meeting, Portland, Oregon, November 14-18, 2004.
38. Hua, I., Iraci\*, L., Jafvert, C., Bezares-Cruz, J., "Environmental Partitioning and Reactivity of Polybrominated Diphenylethers", *Eos Trans. AGU*, 85(17), Jt. Assembly Supplement, Abstract A23A-03, 2004. Presented at the 2004 Joint Assembly of AGU, CGU, SEG, and EESG. Montreal, Canada, May 17-21, 2004, (Poster).
39. Kulkarni, P.P., Jafvert, C.T., "Solubility of buckminsterfullerene (C<sub>60</sub>) in solvent mixtures," Presented at the 229<sup>th</sup> ACS National Meeting, San Diego, CA, March 13-17, 2005.
40. Ahn, Mi-Y., Jafvert, C.T., Nies, L., Hua, I., Filley, T.R., "Photodegradation of Decabromodiphenyl Ether Adsorbed onto Clay Minerals and Sediment," Published Extended Abstracts of the 229<sup>th</sup> American Chemical Society Meeting, San Diego, CA, March 13-17, 2005.
41. Ahn, Mi-Y., Jafvert, C.T., Nies, L., Hua, I., Filley, T.R., "Debromination of Decabromodiphenyl Ether by a Manganese Oxide," Published Extended Abstracts of the 229<sup>th</sup> American Chemical Society Meeting, San Diego, CA, March 13-17, 2005.
42. Kulkarni, P.P., Jafvert, C.T., "Solubility and partitioning studies of C<sub>60</sub>," Presented at the 230<sup>th</sup> ACS National Meeting, Washington, DC, August 28 - September 1, 2005.
43. Johnson, B.; Jafvert C.T.; Hyun S.; Enfield, C.; Jenkinson, B. "Measurement of Flux at the Groundwater/Sediment Interface", *Sea to Sky Geotechnique 2006 - the 59th Canadian Geotechnical Conference and the 7th Joint CGS/IAH-CNC Groundwater Specialty Conference*, (paper #118), Vancouver BC, Canada, Oct 1-4 2006.

## **b. Other Platform and Poster Presentations**

1. Vogt, Beth, and Chad T. Jafvert, "Desorption Kinetics of DDT from Contaminated Sediment" presented as a poster at The First Purdue University Environmental Workshop, West Lafayette IN, August 20, 1993.
2. Foon-Yee Chong, and Chad T. Jafvert, "The Octanol-Water Distribution of Nitrophenols" presented as a poster at The First Purdue University Environmental Workshop, West Lafayette IN, August 20, 1993.
3. Allen, Christopher, "Water Quality Modeling of the White River" presented as a poster at The First Purdue University Environmental Workshop, West Lafayette IN, August 20, 1993.

4. Ketcham, Michael, and Chad T. Jafvert, "A GIS Toolbox for Ranking Urban Watershed Areas for Nonpoint Source Pollution Control", presented as a poster at The First Purdue University Environmental Workshop, West Lafayette IN, August 20, 1993.
5. Chu, Wei, and Chad T. Jafvert, "Photolysis of Hexachlorobenzene in Surfactant Micelles," presented as a poster at the Mini-Symposium, "Environmental Chemistry and Chemical Ecology," at The Institute for Environmental Studies, University of Illinois, Urbana, IL, August 26, 1993.
6. Phillips, Lorin and Chad T. Jafvert, "Sorption of Hydrophobic Compounds to Model Particles," presented as a poster at the Mini-Symposium, "Environmental Chemistry and Chemical Ecology," presented at The Institute for Environmental Studies, University of Illinois, Urbana, IL, August 26, 1993.
7. Chu, Wei and Chad T. Jafvert, "Photolysis of Hazardous Materials Solubilized within Surfactant Micelles," presented at The 16<sup>th</sup> Midwest Environmental Chemistry Workshop, University of Notre Dame, October 17-18, 1993.
8. Vogt, Beth, Jose Fabrega and Chad T. Jafvert, "Desorption Kinetics of DDT from Contaminated Sediment," presented at The 16<sup>th</sup> Midwest Environmental Chemistry Workshop, University of Notre Dame, October 17-18, 1993.
9. Larson, Richard A., Franciso Bosca, Penny Miller and Chad T. Jafvert, "Photoreduction and Nucleophilic Reactions of Nitroaromatic Compounds in Micelles," presented at the Gordon Conference on Environmental Sciences - Water, New Hampton NH, June 22, 1994.
10. Diehl, Claude, Wei Chu and Chad. T. Jafvert, "Photolysis of Aryl Chlorides and Nitroaromatics in Aqueous Solutions Containing Surfactant Micelles," presented at The 17<sup>th</sup> Midwest Environmental Chemistry Workshop, Michigan State U., October 8-9, 1994.
11. Yuan, Ching and Chad T. Jafvert, "Modeling Aqueous Anionic/Nonionic Surfactant Mixtures," presented at The 17<sup>th</sup> Midwest Environmental Chemistry Workshop, Michigan State U., October 8-9, 1994.
12. Jafvert, C.T., Yuan, C. "Sorption of a Nonionic Surfactant Homologue Mixture to Soils," presented at the 18th Midwest Environmental Chemistry Workshop, Ohio State University, October 6-7, 1995.
13. Strathmann, T.J., and Jafvert C.T. "Speciation of Substituted Phenols in the Model Hydrophobic Solvent - Octanol, presented at the 19th Midwest Environmental Chemistry Workshop, Purdue University, October 12-13, 1996.
14. Fabrega, J., Jafvert, C. T. , Lee, L.S., and Li, H. "A distributed Parameter Model for Sorption of Organic Bases to Soils," presented at the at the 20th Midwest Environmental Chemistry Workshop, Indiana University, November 8-9, 1997.
15. Li, H., Nyman, A.K., Lee, L.S., and Jafvert, C.T. "Sorption of Aniline and  $\alpha$ -Naphthylamine by Five Soils," presented at the at the 20th Midwest Environmental Chemistry Workshop, Indiana University, November 8-9, 1997.
16. Lin, C.-C., Yuan, C., and Jafvert, C.T. "Comparison of Planar and Radial Coordinate Models for Describing Counterion Association to Micelles," presented at the 20th Midwest Environmental Chemistry Workshop, Indiana University, November 8-9, 1997.
17. Basu, N., Jafvert, C.T., Lane, D., Lee, L.S., and Rao, P.S.C., "Evaluation of the Performance of a Proposed Sand Cap over Contaminated River Sediment," poster presented at the Ohio Valley Regional Chapter of SETAC, May 15-16, 2003.
18. Jafvert, C.T., Hua, I., Bezares-Cruz, J.C., Kang, N., and Filley, T., "Photochemical Reactions of Decabromodiphenylether with Solar Light," poster presented at the Ohio Valley Regional Chapter of SETAC, Cincinnati OH, May 15-16, 2003.
19. Bezares-Cruz, J. Jafvert, C. Hua, I., Filley T. "Reactions Products of Solar Photolysis of Decabromodiphenylether (DBE209)," Presented at the 26<sup>th</sup> Annual Midwest Environmental Chemistry Workshop, University of Iowa, Iowa City, Oct. 11-12, 2003.
20. Smith, Matthew, Loring F. Nies and Chad T. Jafvert. "Reductive Dechlorination of Technical Chlordane," presented at the 5th Annual Environmental Research Symposium, Environmental Science & Engineering Institute (ESEI), Purdue University, West Lafayette, IN, April 8-9 2004.
21. Hyun, Seunghun., Chad T. Jafvert, Linda S. Lee, and P. Suresh. C. Rao, "Laboratory-scale Assessment of Performance of In-situ Capping: A Possible Remediation Strategy for Coal-tar Contaminated Sediment,"



- presented at the 5th Annual Environmental Research Symposium, Environmental Science & Engineering Institute (ESEI), Purdue University, West Lafayette, IN, April 8-9 2004.
22. Juan Bezares-Cruz, Chad Jafvert, Inez Hua, and Timothy Filley, "Solar Photochemical Transformation of Decabromodiphenyl Ether (BDE209)," presented at the 5th Annual Environmental Research Symposium, Environmental Science & Engineering Institute (ESEI), Purdue University, West Lafayette, IN, April 8-9 2004.
  23. Kulkarni, Pradnya, and Chad Jafvert, "Solubility and Partitioning Studies on C60," presented at the Sigma Xi graduate student poster competition, Purdue University, February 14, 2006 (won 1<sup>st</sup> Place in Engineering Sciences).
  24. Juan Bezares-Cruz, Irene C. Poyer, Amanda M. Nienow, Inez Hua, and Chad Jafvert, "H<sub>2</sub>O<sub>2</sub> Enhanced Photocatalytic Degradation of Pesticides in Potable Water Systems," presented at the 2006 Center for the Environment Graduate Research Showcase, Purdue University, April 4, 2006.
  25. Kulkarni, Pradnya, and Chad Jafvert, "Solubility and Partitioning Studies on C60," presented at the 2006 Center for the Environment Graduate Research Showcase, Purdue University, April 4, 2006.
  26. Govindaraju, R., B. Engel, D. Ebert, B. Fossum, M. Huber, C. Jafvert, V. Merwade, D. Niyogi, L. Oliver, S. Prabhakar, G. Rochon, C. Song, L. Zhao, "Cyberinfrastructure for End-to-End Environmental Explorations (C4E4)", poster presented at the Joint Workshop for WATERS Network Test Beds and CUAHSI Hydrologic Information Systems, Austin, TX, November 14-17, 2006.

### **c. Invited Lectures, Exhibitions, and Workshops**

1. Participant to a Workshop on "Abiotic Organic Transformation Reactions," Stanford University, Environmental Engineering, February, 1986.
2. Participant, Gordon Research Conference on "Environmental Sciences: Water", June 18-22, 1990.
3. With J. Heath, "Reactions of Anionic Surfactants in Saturated Soils and Sediments: Precipitation and Micelle Formation," Presented at Manteo III, Concepts in Manipulation of Groundwater Colloids for Environmental Restoration, Sponsored by Oak Ridge National Laboratory, October 15-18, 1990.
4. With E. Blatchley, "Ammonia-Halogen Interactions", a seminar presented at the Advanced Disinfection Processes Seminar Sponsored by the Indiana Water Pollution Control Association, Stewart Center, Purdue University, August 21, 1992.
5. "Influences of Particulate and Dissolved Material on the Bioavailability of Organic Compounds", summary presentation of discussion group, presented at the (invited) Workshop "A Mechanistic Understanding of Bioavailability: Physical - Chemical Interactions", sponsored by The Society of Environmental Toxicology and Chemistry, August 17-22, 1992, Pellston, Michigan.
6. "A Reaction Scheme for the Chlorination of Ammoniacal Water", a seminar presented to the Analytical Chemistry Program, Dept. of Chemistry, Purdue University, September 15, 1992.
7. "Combined Chlorine Residual Decay Reactions", a seminar presented at the U.S. EPA Risk Reduction Engineering Laboratory, Cincinnati, OH, September 30, 1993.
8. Participant, a workshop on "Surfactant-aided Subsurface Remediation Technologies," Sponsored by the U.S. EPA, Ada, and the Institute for Applied Surfactant Research, University of Oklahoma, Norman, OK, November 30, 1994.
9. "Photolysis of Arylchlorides and Nitroaromatics in Surfactant Micelle Solutions," a seminar presented at the Graduate Institute of Environmental Engineering, National Taiwan University, Taipei, December 19, 1994.
10. "Extraction of PAHs and PCBs from Soil with Surfactant Solutions," a seminar presented at the Department of Environmental Protection, National Pingtung Polytechnic Institute, Pingtung China (ROC), December 21, 1994 and at Institute of Environmental Engineering and Department of Chemistry, National Sun Yat-Sen University, Kaohsiung, China (ROC), December 23, 1994.
11. "Some Investigations on the Environmental Physical Chemistry of Surfactants," presented at the 1996 Gordon Conference: Environmental-Sciences: Water, New Hampton School, New Hampshire, June 23-28, 1996.

12. "Some Investigations on the Environmental Physical Chemistry of Surfactants," presented to the Environmental Engineering Program, Civil Engineering, Northwestern University, Evanston IL, May 7, 1997.
13. "Modeling Soil-Water Distribution of Aromatic Amines" presented at the U.S. EPA, National Exposure Research Lab (NERL), Ecosystems Research Division, Athens, Georgia, co-authors: Linda S. Lee, Hui Li, and José Fábrega-Duque, January 20, 1999.
14. Jafvert, Chad T. "Phase Transfer Processes Involving Surfactants in Saturated Soils," presented to the Department of Civil and Structural Engineering, Hong Kong Polytechnic University, Hong Kong, April 25, 1999.
15. Rao, P.S.C., Linda Lee, and Chad Jafvert (Presenter) "Microbially Mediated Impacts on Environmental Chemodynamics of Contaminants in Geosorbents," presented at the Third International Symposium of the Working Group MO (Minerals and Organics) of the International Union of Soil Sciences. Naples-Capri, Italy, May 22-26, 2000.
16. Hua, Inez, Chad Jafvert, Jose Fábrega-Duque, "Environmental Photochemistry of Polybrominated Diphenyl Ethers," presented at the 2000 Gordon Conference: Environmental-Sciences: Water, Holderness School, New Hampshire, June 25-30, 2000.
17. Jafvert, Chad T. "Environmental Phase Transfer Processes of Organic Acids and Bases," presented at the Graduate Institute of Environmental Engineering, National Taiwan University, Taipei, Taiwan, November 28, 2000.
18. Jafvert, Chad T. "Photolysis of Halo- and Nitro- Aromatic Pollutants in Heterogeneous Media," presented at The Department of Environmental Engineering, National Cheng Kung University, Tainan, Taiwan, November 29, 2000.
19. Jafvert, Chad T. "The Environmental Chemistry of Surfactant Micelles and Emulsions," presented at the Graduate Institute of Environmental Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan, November 30, 2000.
20. Jafvert, Chad T. "An Introduction to the Environmental Chemistry of Surfactant Micelles and Emulsions," presented to the Environmental Engineering Program, Civil Engineering, University of Illinois, December 6, 2001.
21. Jafvert, Chad T. "VBA Macros for Solving Problems in Water Chemistry", presented at the Workshop "Computer-Based Learning Tools for Environmental Engineering and Science" at the 2002 meeting of the Association of Environmental Engineering and Science Professors (AEESP), University of Toronto, August 10-14, 2002.
22. Jafvert, C. Hua, I., Bezares-Cruz, J., Filley T. "Photochemical Reactions of Decabromodiphenylether (DBDPE)," presented at the U.S. EPA Region V Analytical Chemistry Group, 536 S Clark Street, Chicago IL, Oct. 16, 2003.
23. Jafvert, Chad T. "Why it is not good to be phobic of our aqueous environment if you are a chemical: Studies with PAHs, flame retardants, and buckyballs," presented at Indiana University, School of Public and Environmental Affairs, Bloomington, IN, March 31, 2006.
24. Jafvert, Chad T. "Monitoring Chemicals in Rivers and Hydraulic Gradients around Rivers", presented to the Hydraulics and Hydrology area, School of Civil Engineering, Purdue University, Sept. 25, 2006.