

John Pichtel

Natural Resources and Environmental Management
Ball State University
Muncie, IN 47306-0495
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- Current position:** Professor, Department of Natural Resources and Environmental Management, Ball State University.
- Teach courses in emergency management, terrorism awareness, and environmental chemistry
 - Conduct research in management of hazardous materials

Education:

- 1984-1987 PhD Environmental Science from the Ohio State University, Columbus, OH.
- 1981-1983 MS Soil Chemistry from the Ohio State University, Columbus, OH.
- 1975-1980 BS *magna cum laude*. Natural Resource Management from Rutgers University, New Brunswick, NJ.

Professional Experience:

- 1997- Professor. Department of Natural Resources and Environmental Management, Ball State University, Muncie, IN.
- 1992-1995 Chairperson. Department of Natural Resources and Environmental Management, Ball State University, Muncie, IN.
- 1987-1997 Assistant Professor, Associate Professor. Department of Natural Resources, Ball State University, Muncie, IN.
- 1981-1987 Research Associate. Department of Agronomy. The Ohio State University, Columbus, OH.
- 1980 Engineering Assistant. Water and Power Resources Service. U.S. Department of the Interior, Billings, MT.

Visiting Scientist:

- 2013 University of Stirling (Scotland), Department of Biological and Environmental Sciences
- 2005 University College Cork (Ireland), Department of Civil and Environmental Engineering

- 1999-2003 Tampere University of Technology (Finland), Institute of Biotechnology and Environmental Engineering
- 1996 University of Stirling (Scotland), Department of Environmental Science

Professional Certifications:

- Certified to teach Incident Response to Terrorist Bombings (US Dept. Homeland Security), 2006-present
- Certified to teach Radiological/Nuclear Awareness for HazMat (US Dept. Homeland Security), 2007-present
- Certified in Hazardous Waste Site Operations, and Confined Space Entry, 1993-present
- Certified Hazardous Materials Manager, Institute of Hazardous Materials Management, 1997- present

Honors:

- Ball State University Immersive Learning Award, 2015.
- Nominated for Ball State University *Outstanding Teaching Award* for 2010.
- Nominated for Ball State University *Researcher of the Year*, 2007.
- Fulbright Scholar, 2005; 1999
- Docent in Site Remediation, Tampere University of Technology, Finland, 1999-present
- Energy Research Fellow, Ball State University, 2006-07; 2001-02; 1996-97, 1989-90
- University Fellowship, Ohio State University, 1981-83
- George H. Cook Scholar, Rutgers University, 1979-81

Courses Taught:

Ball State University

- NREM 101 - Environment and Society, 1987-present
- NREM 221 – Soil Resources, 2000-2006; 2013-present
- NREM 322 – Soil Fertility, 1987-1992
- NREM 387 – Solid and Hazardous Waste Management, 1987-present
- NREM 481 – Site Assessment, 1987-2010
- NREM 488 – Site Remediation, 1996-present
- NREM 608 – Research Methodologies in Environmental Science, 1987-1992
- NREM 609 – Graduate Seminar, 2004-2011
- EMHS 350 - Hazardous Waste Site Operations and Emergency Response (40-hour OSHA course), 1996-present
- EMHS 351 – Introduction to Emergency Management, 2011-present
- EMHS 352 – Science of WMDs and Technological Hazards, 2009-present
- EMHS 353 – Arson Investigation, 2014-present
- EMHS 355 – International and Domestic Terrorism, 2011-present
- EMHS 389 – Emergency Response to WMDs, 2006-present

Tampere University of Technology (Finland)

General Microbiology, Fall 1999

Phytoremediation of Contaminated Environments, Fall 1999

Tampere Polytechnic University (Finland)

Innovative Technologies for Site Remediation, Fall 1999

Research Theses and Dissertations Supervised:

- 2016 Alalade, D. Treatment of hydraulic fracturing fluids using physical and biological techniques.
- 2015 Ferguson, J. Water quality assessment of Prairie Creek Reservoir tributaries in Delaware County, Indiana.
- 2013 Liu, Y.-H. Biological decomposition of nitroglycerin as affected by environmental factors.
- 2013 Johnson, A. Reclamation of an Indiana brownfield site using agronomic and turf species.
- 2012 Trensey, J. Phytoremediation of nitroglycerin: Plant screening studies.
- 2012 Asbaghi, N. Phytoremediation of nitroglycerin as found in smokeless powders. *EdD dissertation*.
- 2011 Johnson, A. Phytoextraction of heavy metals from a derelict auto salvage facility
- 2009 Crawford, J. Phytoremediation of nitroglycerin as affected by soil treatment
- 2009 Asbaghi, N. Remediation of nitroglycerin in soil as affected by soil and plant treatment
- 2009 Meza, I. Permeable reactive barriers for treatment of Cr
- 2007 Nehl, R. Analysis of naturally-occurring and technology-based hazards in Indiana's District 6 Region
- 2007 Fitzwater, K. Assessment of environmental hazards from electronics wastes using four extraction methods
- 2007 Jacob, J. Field trials of the effectiveness of ragweed (*Ambrosia artemisifolia*) for remediation of a severely contaminated Superfund site
- 2006 Sagintayev, Z. Relationship between 20th century dune migration and wetland formation at Cape Cod National Seashore, Massachusetts
- 2005 Hee, C. Field scale trials of lead and cadmium-contaminated soil
- 2004 Flory, Q. Phytoremediation of lead-contaminated soil by selected green plants
- 2004 Kutna, O. Cost-benefit analysis of the 'Blue Bag' recycling program, Muncie, Indiana
- 2004 Sledz, L. GIS analysis of environmentally sensitive areas in Delaware County, Indiana
- 2003 Khmyl, A. Phytoremediation of soils contaminated by polychlorinated biphenyls
- 2002 Dominguez, E. Decomposition of petroleum hydrocarbons in the rhizosphere
- 2000 Williams, M. Phytoremediation of soils contaminated by petroleum aromatic compounds
- 2000 Bricker, T. Lead uptake by crops using chelating agents: Effects of repeated croppings
- 2000 Vine, B. Soil Pb extraction as affected by Pb mineralogical and chemical forms
- 1998 Steele, M. Comparison of extractants for metal recovery from a contaminated Superfund soil

- 1997 Liberti, M. Immobilization of heavy metals in contaminated soils using fixative reagents
- 1997 Curtis, T. Biofiltration for organic vapor removal from occupational environments
- 1995 Gierke, T. Venting for a hydrocarbon-contaminated aquifer in Northern Indiana
- 1991 Wilkins, J. A study of Delaware County, Indiana public opinion on waste management issues
- 1990 Jacinthe, P. Adsorption of the nitrification inhibitors nitrapyrin and dicyandiamide by soil humic substances
- 1990 Woods, E. Heavy metal migration in petroleum-treated soils
- 1990 Straub, C. Microbial degradation of synthetic polymers as affected by disposal environment
- 1990 Hayes, J. PCB (Arochlor 1242) mobility in soil as affected by various solvents

Membership in Professional and Honorary Societies:

International Association of Arson Investigators, 2011-present
 Indiana Academy of Science, 1987-present
 Sigma Xi Scientific Society, 1986-present
 Union of Concerned Scientists, 2016-present
 National Registry of Environmental Professionals, 1993-present
 Delaware County Emergency Management Agency, 2003-present

Additional Training and Experience:

Incident Response to Terrorist Bombings, US Dept. Homeland Security
 Technical Emergency Response to Terrorism, US Dept. Homeland Security
 Advanced Biological/Chemical Integrated Response, US Dept. Homeland Security
 Radiological/Nuclear Response, US Dept. Homeland Security

Soil chemical, biochemical and microbiological analysis
 Hazardous and solid waste chemical analysis
 Atomic absorption and flame emission spectroscopy
 Infrared spectroscopy, spectrofluorometry and UV-visible spectroscopy
 Ion chromatography, HPLC and gas chromatography
 Environmental site assessments (phase I and phase II)
 Experience with SPSSx, SAS, DOS and Windows software
 Field experience in United Kingdom, Poland, Finland and Latin America
 Intermediate fluency in Spanish; rudimentary knowledge of Polish and Finnish

Community Involvement:

Delaware County Emergency Management Agency, 2003-present

John Pichtel
List of Publications

Books:

Pichtel, J. 2016. *Terrorism and WMDs: Awareness and Response*, 2nd edition. CRC Press, Boca Raton, FL.

Pichtel, J. 2014. *Waste Management Principles: Municipal, Hazardous, Special Wastes*, 2nd edition. CRC Press, Boca Raton, FL.

Pichtel, J. 2007. *Fundamentals of Site Remediation for Metal- and Hydrocarbon-Contaminated Soils*, 2nd edition. Government Institutes, Inc., Rockville, MD.

Book Chapters:

Pichtel, J. 2017. Biofilms for remediation of xenobiotic hydrocarbons – A Technical Review. In Ahmad, I., and F.M. Husain (Eds.). *Biofilms in Plant and Soil Health*. Springer, The Netherlands.

Maheshwari, M., H.H. Abulreesh, M.S. Khan, I. Ahmad, and J. Pichtel. 2017. Horizontal gene transfer in soil and the rhizosphere: Impact on ecological fitness of bacteria. In *Agriculturally Important Microbes for Sustainable Agriculture*. Springer, The Netherlands.

Pichtel, J. 2013. Bioremediation of nitroglycerin: State of the science. In S.N. Singh (Ed.), *Remediation of Explosive Residues*. Springer-Verlag, The Netherlands.

Ahmad, I., M. Imran, I. Ansari, and J.Pichtel. 2010. Metal tolerance and biosorption potential of soil fungi: Applications for a green water treatment technology. In: Ahmad, I., F. Ahmad, and J. Pichtel (Eds.). *Microbial Technology: Agricultural and Environmental Applications*. Springer, New York, NY.

Siddiqui, Z., and J. Pichtel. 2008. Mycorrhizae: An overview. In: Siddiqui, Z. (Ed.). *Mycorrhizae: Sustainable Agriculture and Forestry*. Springer, Dordrecht, the Netherlands.

Pichtel, J. 2005. Phytoextraction of lead-contaminated soils: Current experience. In: Ahmad, I., S. Hayat, and J. Pichtel. (Eds.) 2005. *Heavy Metal Contamination of Soils: Problems and Remedies*. Science Publishers, Enfield, NH.

Book Co-Editor:

Ahmad, I., Ahmad, F., and J.Pichtel (Eds.). 2010. *Microbial Technology: Agricultural and Environmental Applications*. Springer, New York, NY.

Hayat, S., M. Mori, J. Pichtel, and A. Ahmad. (Eds.) 2009. *Nitric Oxide in Plant Physiology*. Wiley-Blackwell. Weinheim, Germany.

Ahmad, I., J. Pichtel, and S. Hayat. (Eds.). 2008. *Plant-Bacteria Interactions: Technologies for Promoting Plant Growth*. Wiley-VCH Verlag, Weinheim, Germany.

Ahmad, I., S. Hayat, and J. Pichtel. (Eds.) 2005. *Heavy Metal Contamination of Soils: Problems and Remedies*. Science Publishers, Enfield, NH.

Refereed Articles:

Kaewtubtim, P., W. Meeinkuirt, S. Seepoma, and J. Pichtel. 2016. Radionuclide (^{226}Ra , ^{232}Th , ^{40}K) accumulation among plant species in mangrove ecosystems of Pattani Bay, Thailand. *Marine Pollution Bulletin*. In press.

Kaewtubtim, P., W. Meeinkuirt, S. Seepom, and J. Pichtel. 2016. Occurrence of heavy metals and radionuclides in sediments and seawater in mangrove ecosystems in Pattani Bay, Thailand. *Environmental Science and Pollution Research*. In press.

Ferguson, J.D., J. Pichtel, and J. Popovičová. 2016. Water quality assessment of Prairie Creek Reservoir tributaries in Delaware County, Indiana. *Proceedings of the Indiana Academy of Science*. 125(1): 50-60.

Phusantisampan, T., W. Meeinkuirt, P. Saengwilai, J. Pichtel, and R. Chaiyarat. 2016. Phytostabilization potential of two ecotypes of *Vetiveria zizanioides* in cadmium-contaminated soils: Greenhouse and field experiments. *Environmental Science and Pollution Research*. In press.

Pichtel, J. 2016. Oil and Gas Production Wastewater: Soil Contamination and Pollution Prevention. *Applied and Environmental Soil Science*. p. 1-24. downloads.hindawi.com/journals/aess/aip/2707989.pdf

Phusantisampan, T., J. Pichtel, P. Saengwilai, J. Kubola, and W. Meeinkuirt. 2016. Evaluation of the cadmium phytoextraction potential of *Tagetes erecta* L. (marigold). *Maejo International Journal of Science and Technology*. www.mijst.mju.ac.th.

Kaewtubtim, P. W. Meeinkuirt, S. Seepom, and J. Pichtel. 2016. Heavy metal phytoremediation potential of mangrove plant species of Pattani Bay, Thailand. *Applied Ecology*. 14(1): 367-382.

Meeinkuirt, W., M. Kruatrachue, J. Pichtel, T. Phusantisampan, and P. Saengwilai. 2016. Influence of organic amendments on phytostabilization of Cd-contaminated soil by *Eucalyptus camaldulensis*. *ScienceAsia*. 42: 83-91.

Turner, D.A., J. Pichtel, Y. Rodenas, J. McKillip, and J. Goodpaster. 2015. Microbial degradation of gasoline in soil: Effect of season of sampling. *Forensic Science International*. 251: 69-76.

Schmid, L., and J. Pichtel. 2014. Decomposition of nitroglycerin in smokeless powders by aerobic thermophilic composting. *Proceedings of the Indiana Academy of Science*. 122(2): 69-77.

- Pichtel, Y., and J. Pichtel. 2014. Al-Qaeda in the Arabian Peninsula: Future directions. *Security and International Studies Journal*. 2(1): 15-28.
- Turner, D.A., J. Pichtel, Y. Rodenas, J. McKillip, and J. V. Goodpaster. 2013. Microbial degradation of ignitable liquids in soil: Comparison by soil type. *Journal of Bioremediation and Biodegradation*. 5(2): 216-221.
- Asbaghi, N., and J. Pichtel. 2012. Phytoremediation of nitroglycerin in smokeless powders *Environmental Biotechnology*. 8(2): 45-54.
- Hayat, S., Q. Hayat, M.N. Alyemini, A.S. Wani, J. Pichtel, and A. Ahmad. 2012. Role of proline under changing environments: A Review. *Plant Signaling and Behavior*. 7:1-11.
- Pichtel, J. 2012. Fate and distribution of explosive and propellant residues in soil. *Journal of Applied and Environmental Soil Science*. <http://www.hindawi.com/journals/aess/2012/617236/>.
- Meza, I., and J. Pichtel. 2010. Attenuation of chromium and cadmium using four media. *IUP Journal of Soil and Water Sciences*. 31(1):7-24.
- Keith, A., K. Keesling, K. Fitzwater, J. Pichtel, and D. Houy. 2008. Assessment of Pb, Cd, Cr and Ag leaching from electronics waste using four extraction methods. *Journal of Environmental Science and Health*. Part A. 43 (14):1-8.
- Jacob, J.R., C.K. Hee, and J. Pichtel. 2007. Amendments for field-scale phytotreatment of Pb, Cd and Zn from an Indiana Superfund soil. *Proceedings of the Indiana Academy of Science*. http://www.indianaacademyofscience.org/proceedings%20pdfs/2007%20vol%20116/Proc_v116_2_2007_pp148-157.pdf
- Palmroth, M.R., P.E. Koskinen, A.H. Koskinen, U. Munster, J. Pichtel, and J.A. Puhakka. 2007. Metabolic and phylogenetic analysis of microbial communities during phytoremediation of soil contaminated with weathered hydrocarbons and heavy metals. *Biodegradation*. 18(6):769-82.
- Pichtel, J., and D. Bradway. 2007. Conventional crops and organic amendments for Pb, Cd and Zn treatment at a severely contaminated site. *Bioresource Technology*. <http://www.sciencedirect.com/science/article/pii/S0960852407002301>.
- Palmroth, M.R.T., P.E. Koskinen, J. Pichtel, K. Vaajasaari, A. Joutti, J.A. Puhakka, and T.A. Tuhkanen. 2006. Field-scale assessment of phytoremediation of soil contaminated with weathered hydrocarbons and heavy metals. *Journal of Soils and Sediments*. 6(3):128-136.
- Palmroth, M.R., U. Munster, J. Pichtel, and J.A. Puhakka. 2005. Metabolic responses of microbiota to diesel fuel addition in vegetated soil. *Biodegradation*. 16:91-101.
- Dominguez-Rosado, E., and J. Pichtel. 2004. Transformation of fulvic substances in the rhizosphere during phytoremediation of used motor oil. *Journal of Environmental Science and Health*. A39(9):2369-2381.

- Dominguez-Rosado, E., J. Pichtel, and M. Coughlin. 2004. Phytoremediation of soil contaminated with used motor oil: I. Enhanced microbial activities from laboratory and growth chamber studies. *Environmental Engineering Science*. 21:157-168.
- Dominguez-Rosado, E., and J. Pichtel. 2004. Phytoremediation of soil contaminated with used motor oil: II. Greenhouse studies. *Environmental Engineering Science*. 21:169-180.
- Dominguez-Rosado, E., and J. Pichtel. 2003. Chemical characterization of fresh, used and weathered motor oil via GC/MS, NMR and FTIR techniques. *Proceedings of the Indiana Academy of Science*. 112(2): 109-116.
- Palmroth, M.R.T., J. Pichtel, and J.A. Puhakka. 2002. Phytoremediation of subarctic soil contaminated with diesel fuel. *Bioresource Technology*. 84:221-228.
- Dominguez-Rosado, E., J. J. Liggat, C. E. Snape, and J. Pichtel. 2002. Thermal degradation of urethane modified polyisocyanurate foams based on aliphatic and aromatic polyester polyol. *Polymer Degradation and Stability*. 78:1-5.
- Bricker, T.J., J. Pichtel, H.J. Brown, and M. Simmons. 2001. Phytoextraction of Pb and Cd from a Superfund soil: Effects of amendments and croppings. *Journal of Environmental Science and Health*. A36: 1597-1610.
- Pichtel, J., and P. Liskanen. 2001. Degradation of diesel fuel in rhizosphere soil. *Environmental Engineering Science*. 18: 147-159.
- Pichtel, J., B. Vine, P. Kuula-Väisänen and P. Niskanen. 2001. Lead extraction from soils as affected by Pb chemical and mineral forms. *Environmental Engineering Science*. 18: 91-98.
- Pichtel, J., K. Kuroiwa, and H.T. Sawyerr. 2000. Distribution of Pb, Cd and Ba in soils and plants of two contaminated sites. *Environmental Pollution*. 110:171-178.
- Liberti, M., and J. Pichtel. 1998. Spatial distribution of trace metals in Delaware County, Indiana, surface soils. *Proceedings of the Indiana Academy of Science*. 106:237-250.
- Steele, M.C., and J. Pichtel. 1998. *Ex-situ* remediation of a metal-contaminated Superfund soil using selective extractants. *Journal of Environmental Engineering*. 124:639-645.
- Pichtel, J., and C.A. Salt. 1998. Vegetative growth and trace metal accumulation on metalliferous wastes. *Journal of Environmental Quality*. 27:618-624.
- Pichtel, J., A. Covey, and K. Lucskay. 1997. Removal of lead and chromium from contaminated soil: Column studies. *Proceedings of the Indiana Academy of Science*. 106:95-104.
- Pichtel J., H.T. Sawyerr, and K. Czarnowska. 1997. Spatial and temporal distribution of heavy metals in Warsaw, Poland, Soils. *Environmental Pollution*. 98:169-174.
- Pichtel, J., and T. M. Pichtel. 1997. Comparison of solvents for *ex-situ* removal of Cr and Pb from contaminated soil. *Environmental Engineering Science*. 14:97-103.

- Pichtel, J., and M. Anderson. 1997. Trace metal bioavailability in municipal solid waste and sewage sludge composts. *Bioresource Technology*. 60:223-229.
- Pichtel, J., T.L. Gierke, and D.A. Scheidler. 1995. Determination of cyanide in soils and wastes by ion chromatography. *Proceedings of the Indiana Academy of Science*. 104:241-247.
- Pichtel, J., W.A. Dick, and P. Sutton. 1994. Comparison of amendments and management practices for long-term reclamation of abandoned mine lands. *Journal of Environmental Quality*. 23:766-772.
- Pichtel, J., and D.A. Scheidler. 1992. Microbial activity in soil-hydrocarbon mixtures amended with chromium. *Proceedings of the Indiana Academy of Science*. 101:75-82.
- Jacinthe, P.A., and J. Pichtel. 1992. Interaction of nitrapyrin and dicyandiamide with soil humic substances. *Soil Science Society of America Journal*. 56:465-470.
- Pichtel, J. and W.A. Dick. 1991. Sulfur, iron and solid phase transformations during the biological oxidation of pyritic mine spoil. *Soil Biology and Biochemistry*, 23:101-107.
- Pichtel, J., and W.A. Dick. 1991. Influence of biological inhibitors on the oxidation of pyritic mine spoil. *Soil Biology and Biochemistry*. 23:109-116.
- Pichtel, J. 1990. Microbial respiration in fly ash/sewage sludge-amended soils. *Environmental Pollution, Series A* 63:225-237.
- Pichtel, J., and J.M. Hayes. 1990. Influence of fly ash on soil microbial activity and populations. *Journal of Environmental Quality*. 19: 593-597.
- Pichtel, J., W.A. Dick, and E.L. McCoy. 1989. Binding of Fe from pyritic mine spoil by water- soluble organic materials. *Soil Science*. 148:140-148.
- Pichtel, J., W.A. Dick, and R.M. Hanna. 1988. Reclamation of a marcasite spoil by the addition of limestone. *Bulletin of the New Jersey Academy of Science*. 33:7-12.
- Pichtel, J., E.O. McLean, W.A. Dick, and H. Esmailzadeh. 1986. Refinement of Quicktest methodology for improved potassium fertilizer recommendations. *Agronomy Journal*. 78:772-774.

Non-refereed Publications:

- Pichtel, J., N. Carlson, and E.-Y. Lee. 2009. NIMS Preparedness at Emergency Call Centers: Perceptions from Public Safety Answering Points. *Emergency Number Professional Magazine*. March-April 2009.
- Pichtel, J. 1991. Assessment of air quality and ash residues from combustion of refuse-derived fuel. *Council of Great Lakes Governors, Chicago, IL*.

Invited Publications:

Pichtel, J., and others. 2012. AWR-212-W, Advanced Crisis Communications Strategies for Public Safety Communications Supervisors. Online. See: <http://www.acctraining.org/>. US Department of Homeland Security, Washington, DC.

Pichtel, J., and others. 2012. MGT-386, Advanced Crisis Communications Strategies for Public Safety Communications Supervisors. US Department of Homeland Security, Washington, DC.

Pichtel, J., and others. 2010. MGT-387-W, Advanced Crisis Communications Strategies for Public Information Officers. Online. US Department of Homeland Security, Washington, DC.

Pichtel, J., and others. 2010. MGT-407, Advanced Crisis Communications Strategies for Public Information Officers. US Department of Homeland Security, Washington, DC.

Pichtel, J. 2009. Fritz Haber. In *Great Lives from History: Inventors and Inventions*. Salem Press, EBSCO Industries, Pasadena, CA.

Pichtel, J. 2009. Selman Waksman. In *Great Lives from History: Inventors and Inventions*. Salem Press, EBSCO Industries, Pasadena, CA.

Pichtel, J. 2002. Love Canal. In G. Frankland (ed.). *International Encyclopedia of Environmental Politics*. Routledge, London. p. 311.

Pichtel, J. 2002. Three Mile Island. In G. Frankland (ed.). *International Encyclopedia of Environmental Politics*. Routledge, London. p. 451.

Pichtel, J. 2002. The Atomic Energy Commission/Nuclear Regulatory Commission. In G. Frankland (ed.). *International Encyclopedia of Environmental Politics*. Routledge, London. pp. 29-30.

Pichtel, J. 2001. Dokuchaev, V.V. In *MagillOnScience*. Salem Press, Inc. Pasadena, CA.

Pichtel, J. 2000. Refuse-Derived Fuels. In C.W. Allin (ed.) *Encyclopedia of Environmental Issues*, Vol. 3. Salem Press, Inc. Pasadena, CA.

Pichtel, J. 2000. Superfund. In C.W. Allin (ed.) *Encyclopedia of Environmental Issues*, Vol. 3. Salem Press, Inc. Pasadena, CA.

Book Reviews:

Pichtel, J. 2006. Six Arguments for a Greener Diet by M.F. Jacobson. *Journal of Environmental Quality*.

Pichtel, J. 2003. *Handbook of Chemical and Environmental Engineering Calculations* by Joseph P. Reynolds, John S. Jeris, and Louis Theodore. *Journal of Environmental Quality*.

Pichtel, J. 2003. *Mine Water: Hydrology, Pollution, Remediation* by Paul L. Younger, Steven A. Banwart, and Robert S. Hedin. *Journal of Environmental Quality*.

Pichtel, J. 2001. *An Introduction to the Management and Regulation of Hazardous Waste* by Emmett B. Moore. *Journal of Environmental Quality*. 30:1481-1482.

Pichtel, J. 2001. *Remediation of Chlorinated and Recalcitrant Compounds*. Edited by G. B. Wickramanayake and A. R. Gavaskar. *Journal of Environmental Quality*. 30:1855-1856.

Software Development:

Pichtel, J., and B. Nasseh. 1992. CHEMSPILL, A Site Remediation Expert System. Ball State University. Copyright no. TXu 599-866.

Trainings and Certifications:

2015

Hands-on Electrical Fire and Arson Investigation. Public Agency Training Council, Plainfield, IN. 10/6-8/15.

Interview and Interrogation Techniques. Reid and Associates. Indianapolis, IN.

2014

Vehicle Fire Investigation Training. Public Agency Training Council, Bloomington, IL. 10/21-23/14.

Arson Case Management. Public Agency Training Council, Indianapolis, IN. 6/25/14.

2012

Chemistry of Pyrotechnics. Department of Justice. Bureau of Alcohol, Tobacco and Firearms. Redstone Arsenal, AL. 8/2/12.

The Global Jihadi Threat. Center for Homeland Defense and Security. 7/16/12. [Online]

Leadership and Management of Surface Transportation Incidents. Security and Emergency Response Training Center, Pueblo, CO. 6/29/12.

Active Shooter: What you can do. Emergency Management Institute, 3/21/12. [Online]

2011

Basic Port Security. Southeastern Public Safety Institute. 9/11/11. [Online]

Legal Issues in Emergency Management. Indiana Department of Homeland Security, Indianapolis, IN. 7/7/11

2010

Advanced Public Information Officer. Emergency Management Institute, Emmetsburg, MD. 10/7/10.

Highway Emergency Response Specialist. Security and Emergency Response Training Center, Pueblo, CO. 7/30/10.

Basic Public Information Officer Training (G290). Ohio Emergency Management Agency, Columbus, OH. 4/29/10.

Prevention and Deterrence for Law Enforcement. National Center for Biomedical Research and Training. 3/15/10. [Online]

Awareness and Response to Biological Events. National Center for Biomedical Research and Training. 3/10/10. [Online]

2009

Tank Car Specialist. Security and Emergency Response Training Center, Pueblo, CO. 7/10/09.

2008

Advanced ICS Command and General Staff-Complex Incidents, ICS-400, Center for Domestic Preparedness, Anniston, AL. 11/7/08

Intermediate ICS for Expanding Incidents, ICS-300, Center for Domestic Preparedness, Anniston, AL, 11/4/08

National Response Framework, An Introduction (IS 800.b). Emergency Management Institute, 8/11/08

11 August, 2008. [Online]

ICS for Single Resources and Initial Action Incidents (IS 200.a). Emergency Management Institute, 8/7/08. [Online]

NIMS Public Information Systems (IS 702). Emergency Management Institute, 7/10/08. [Online]

WMD Basic Agricultural Emergency Response. Center for Domestic Preparedness, Anniston, AL. 6/13/08

Agricultural Emergency Response Training. Auburn University, Auburn, AL. 6/12/08

2007

Public Safety WMD Response-Sampling Techniques and Guidelines. Louisiana State University, Academy of Counter-Terrorist Education. 7/31/07.

WMD Radiological/Nuclear Course for Hazardous Materials Technicians Course. National Security Technologies, Mercury, NV. 7/19/07

WMD Radiological/Nuclear Awareness Train-The-Trainer. National Security Technologies, Mercury, NV. 7/18/07

Agriculture and Food Vulnerability Assessment Training (MGT 332). University of Tennessee College of Veterinary Medicine. 6/21/07

Public Safety WMD Response – Sampling Techniques and Guidelines Performance Level. National Center for Biomedical Research & Training Academy of Counter-Terrorist Education, Charleston, SC. 8/2/07

Advanced Chemical/Biological Integrated Response Course. Dugway Proving Ground, West Desert Test Center, and Joint Operational Testing and Training, Dugway, UT. 8/14/07

Advanced Chemical/Biological Integrated Response Course, Train-the-Trainer. Dugway Proving Ground, West Desert Test Center, and Joint Operational Testing and Training, Dugway, UT. 8/14/07

WMD Crime Scene Management for Emergency Responders. Center for Domestic Preparedness, Anniston, AL. 7/9/07

WMD Hazardous Materials Technician Course (COBRA-24 h). Center for Domestic Preparedness, Anniston, AL. 6/30/07

WMD HAZMAT Evidence Collection Course. Center for Domestic Preparedness, Anniston, AL. 6/26/07

Community Emergency Response Team. Department of Homeland Security Training Division, Muncie, IN. 4/22/07

2006

WMD Technical Emergency Response Course (COBRA). Center for Domestic Preparedness, Anniston, AL, 4/21/06

Preparedness and Response to Agricultural Terrorism Management Level. National Center for Biomedical Research & Training, Academy of Counter-Terrorist Education. Indianapolis, IN. 4/6/06

Emergency Response to Domestic Biological Incidents Operations Level. National Center for Biomedical Research & Training, Academy of Counter-Terrorist Education, Indianapolis, IN. 3/16/06

Prevention and Response to Suicide Bombing Incidents. Energetic Materials Research and Testing Center, Playas, NM. 6/30/06

Incident Response to Terrorist Bombings. Energetic Materials Research and Testing Center, Socorro, NM. 5/12/06

2005

Introduction to the Incident Command System (IS 100), Emergency Management Institute, 7/22/05. [Online]

National Incident Management System. Indiana Homeland Security Training Institute, Muskatatuk Urban Training Complex. 7/10/05

National Incident Management System (IS 700). Emergency Management Institute, 7/9/05. [Online]

2004

Introduction to Emergency Management. State of Indiana, State Emergency Management Agency. 7/22/04

Unified Incident Command Workshop. University of Findlay, School of Environmental and Emergency Management, Findlay, OH. 6/9/04

2000

Hazardous Waste Management – the Complete Course. Environmental Resource Center. Indianapolis, IN. 3/29/2000

Pre-2000

Advanced Hazardous Materials Management. Environmental Management Institute, Indianapolis, IN. 3/18/99.

Hazardous Waste Site Operations. U.S. HealthWorks Preventive Services, Indianapolis, IN. 2/25/99

Hazardous Materials Management Certification. University of Cincinnati Department of Environmental Health. 1/17/97.

Underground Storage Tank Inspection. State of Indiana. 11/22/96

Inspecting for Lead in Buildings. Environmental Management Institute, Indianapolis, IN. 1/20/95.

Asbestos Building Inspector. Environmental Management Institute, Indianapolis, IN. 11/16/94.

Confined Space Entry. U.S. HealthWorks Preventive Services, Indianapolis, IN. 9/21/94.

Environmental Inspector. Environmental Assessment Association. 8/25/94.

Professional Soil Specialist. American Registry of Certified Professionals in Agronomy, Crops and Soils. 7/13/88.

Arson Investigation Experience

Fire Dynamics and Fire Modeling. International Association of Arson Investigators. Indianapolis, IN 3/1-2/17.

Appliance fires (15); Hands-on Electrical Fire and Arson Investigation. Public Agency Training Council, Plainfield, IN. 10/6-8/15.

Vehicle fires (4); Vehicle Fire Investigation Training. Public Agency Training Council, Bloomington, IL. 10/21-23/14.

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