CV Hudnell 7-07

NAME: HILTON KENNETH HUDNELL

DATE AND PLACE OF BIRTH: April 30, 1949; New Bern, NC

CITIZENSHIP: USA

EDUCATION:

Institution	Degree	Year	Field
UNC-CH	B.A.	1976	Chemistry/Biological Psychology
UNC-CH	Ph.D.	1984	Biological Psychology/Neurobiology

EMPLOYMENT:

1988- present: Research Psychologist, U.S. Environmental Protection Agency, Office of Research & Development, National Health and Environmental Effects Research Laboratory, Neurotoxicology Division, Neurophysiological Toxicology Branch.

1985-1988: National Research Council Research Associate. U.S. Environmental Protection Agency, Office of Research & Development, Health Effects Research Laboratory, Neurotoxicology Division, Neurophysiology Branch.

1984-1985: Senior Scientist, Northrop Environmental Services Inc., Contractor to U.S. Environmental Protection Agency, Health Effects Research Laboratory, Neurotoxicology Division, Neurophysiology Branch.

1985: Visiting Lecturer, Sensation and Perception, UNC-CH.

1980-1984: Instructor; General Psychology-Independent Study through Correspondence, UNC-CH.

1976-1984: Instructor; General Psychology, UNC-CH.

1971-1975: Owner and Manager; Virgin Island Black Coral Jewelry, 15 Member Staff, St. Thomas, US Virgin Islands.

SOCIETIES:

1. International Neurotoxicology Association.

2. Behavioral Toxicology Society

3. Neurobehavioral Teratology Society

4. Sigma Xi - Scientific Research Society of North America.

HONORS:

1. ORD Bronze Medal Award - Interagency leadership, cyanobacteria & Nat. Res. Plan, 2006.

2. NHEERL Special Act - White house reports and symposium lead on cyanobacteria, 2005.

3. EPA Science Forum, 1st Place Award - Cyanobacteria & their toxins, Washington, DC, 2005.

4. NHEERL Special Act Award - Sustained Superior Performance Award, 2004.

5. Citizens of Marietta, OH, Appreciation Award- Environmental manganese exposure, 2003.

6. ORD Bronze Medal Award - Research on health effects from exposure to fungi, 2003.

7. NHEERL Special Act - Perchloroethylene article & assistance in risk assessment, 2002.

8. ORD Science and Technology Achievement Award, Level III - Inhaled Manganese, 2000.

9. NHEERL Special Act - Chair, HAB Session in 5th Annual NHEERL Symposium, 2000.

10. NHEERL Special Act Award - NC *Pfiesteria* Study, 1999.

11. NHEERL Special act Award - Committee for directing animal Mn-toxicity studies, 1998.

12. NHEERL Special Act Award - Lab and OGC FOIA Policy & Ethyl FOIA response, 1998.

13. NTD SAINT Award - Best Article: Peer reviewed publication 18, 1996.

14. NHEERL Special Act Award - Solvent team leadership, 1996.

15. NHEERL Sustained Superior Performance Award - 1994.

16. ORD Science and Technology Achievement Award, Level III - Indoor Air, 1993.

17. HERL Special Act Awards - Solvent Worker Study, 1993.

18. HERL Special Act Award - Czech Republic Study, 1993.

19. HERL Special Act Award - HERL Quality Assurance Plan Development Com., 1992.

RESEARCH INTERESTS:

Areas: Neurotoxicology - Environmental chemicals and human health effects with a focus on neurological function through studies conducted in the field, clinic, and laboratory.

Issues: Effects in humans from chronic, environmental exposures to biotoxins (e.g., cyanotoxins, mycotoxins), airborne metals (e.g., manganese, mixtures), and volatile organic compounds (e.g., perchloroethylene, mixtures). A systems approach to cyanotoxin risk assessment and management. Integration of human health protection and ecosystem sustainability goals into the Global Earth Observation System of Systems. Influence of vision on computerized test performance. Human susceptibility factors. Animal-to-human extrapolation.

Methods: Epidemiological, Neurobehavioral, Electrophysiological, Psychophysical

ADJUNCT FACULTY, EDITORIAL, ADVISORY & COMMITTEE APPOINTMENTS

Adjunct Professor - The University of North Carolina at Chapel Hill, Biological Psychology

Editorial Boards - *Neurotoxicology & Teratology*
- *Science of the Total Environment*
- *Journal of Toxicology and Environmental Health*
- *Chinese Journal of Safety and Environment*

Scientific Advisory Boards

1. NOAA & WHOI HAB Research Advisory Committee - Research Development, Demonstration & Technology Transfer Report on the Prevention, Control & Mitigation of Harmful Algal Blooms

1. International Organization - Neurobehavioral Methods and Effects in Occupational and Environmental Health

2. EPA Region 9 - Cyanobacterial HAB assessment and management

3. Oregon DEH - Cyanobacterial HAB assessment and management

4. EPA Team - Manganese risk assessment and residual risk assessment

5. EPA Team - Perchloroethylene risk assessment (IRIS document development).

6. EPA Region 5 - Determination of action on airborne manganese point source

7. EPA Team - Perchloroethylene residual-risk assessment (lowering large source emissions)

8. Midwest Research Institute - The Effectiveness of the HUD Lead Abatement Grant Program in Improving the Neurobehavioral Function of Children in Kansas City

9. Agency for Toxic Substances and Disease Registry - Development and implementation of the Adult and the Pediatric Environmental Neurobehavioral Test Batteries

10. ORD Team - Recommendations for research on manganese toxicity to be performed by the Ethyl (now Afton) Corp.

11. ORD Team - Develop Agency research plan for NHANES IV.

12. NHEERL Team - Recommendations for research to be conducted in the Mexican Border Project.

13. NHEERL QA Committee - Advise on development of QA policies and procedures.

Committees & Workgroups

1. Workgroup member, Research Development, Demonstration & Technology Transfer Report on the Prevention, Control & Mitigation of Harmful Algal Blooms, National Academy of Science, Woods Hole, MA, June, 2007.

2. Committee member, Integrated Oceans Observation Systems grant review for NOAA, Charleston, SC, May, 2007.

3. Committee member, US Global Ocean Observation Committee - subcommittee on public health, since August 2006, internal report produced.

4. Workgroup member, Updating the Adult and Pediatric Environmental Neurobehavioral Test Battery Guidelines, March 20-22, 2006, Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry, Atlanta, GA, internal report produced.

5. Workgroup member, Public Health Risks: Coastal Observations for Decision Making, January 23-25, 2006, St. Petersburg, FL, internal report produced.

6. Workgroup member, OR government and EPA R10 workshop on Cyanobacteria, November 9, 2005, Eugene, OR, internal report produced.

7. Committee member, CA government and EPA R9 committee on Cyanobacteria, since

November 2005, internal report produced.

8. Leader Organizer & Symposium Chair, Interagency, International Symposium on Cyanobacterial Harmful Algal Blooms, RTP, NC, September 6-10, 2005, book produced.

9. Organizer & Co-Chair, Manganese and Welding Sessions, 9th International Symposium: Neurobehavioral Methods and Effects in Occupational and Environmental Health. Gyeongju, Korea. September 26-29, 2005, abstracts produced.

10. Workgroup member, Chronic, Non-specific Human Illness & Biotoxins, Environmental Medicine Unit, Tokyo, Japan. January, 26-28, 2004, abstracts produced.

11. Organizer & Biotoxin Session Chair, 8th International Symposium: Neurobehavioral Methods and Effects in Occupational and Environmental Health. Brescia, Italy. June 23-26, 2002, abstracts produced.

12. Inhaled metals expert, Health Effects Institute Research Needs Workshop. Georgetown University. May 1-2, 2001, internal report produced.

13. Workgroup member, DOD workshop on Parkinson's Related Research. Potomic, MD. March 22-24, 2001, abstracts produced.

14. Group leader, Health research needs on Mn in drinking water, AWWSC/AWWA, Voorhees, NJ, January 8-10, 2001, internal report produced.

15. Workgroup member, CDC National Conference on *Pfiesteria,* Stone Mt., GA. October 18-20, 2000, abstracts produced.

16. Organizer and Session Chair, 5th NHEERL Symposium: Harmful Algal Blooms, RTP, NC, June 6-8, 2000, abstracts produced.

17. Workgroup member, Third Annual *Pfiesteria* Technical Workshop. Maryland Department of Natural Resources. Annapolis, MD. March 9-10, 2000, abstracts produced.

18. Workgroup member, Solvent exposure among railroad workers. Association of Occupational and Environmental Clinics, and the National Institute for Occupational Safety and Health, Washington, DC, November 7-8, 1996, Journal of Occupational and Environmental Medicine, Letter to the Editor, 39(10): 1997.

19. Neuroimmunology workgroup member, Experimental approaches to chemical sensitivity. Neurogenic Inflammation Workgroup. EOHSI/NIEHS, Princeton, NJ, September 20-22, 1995, Report: Environmental Health Perspectives, 1997, 105:531-537.

20. Session Chair, Sensory and motor testing in computerized batteries. Computerized behavioral testing of humans in neurotoxicological research. Portland, OR, June 21-23, 1995, Report: Neurotoxicology and Teratology, 18:347-518, 1996.

21. Workgroup member, Recommendations for a battery of neurobehavioral tests for use in human field studies. Agency for Toxic Substance and Disease Registry, Atlanta, GA, September 11-13, 1991, Report: Neurotoxicology and Teratology, 16:489-497, 1994.

22. Organizer & Discussion Leader, Workshop on animal models of nervous system susceptibility to indoor air contaminants. EPA, Chapel Hill, NC, October 19-21, 1994, Report: USEPA MS-95-264, 1995.

23. Workgroup member, Adult environmental neurobehavioral test battery interpretation meeting. Agency for Toxic Substance and Disease Registry, Atlanta, GA, February 24-25, 1995.

24. Workgroup member, Sensory irritation from source emissions. J.B. Pierce Laboratory and EPA, Sonderberg, Denmark, August 11-13, 1991, internal report produced.

25. Workgroup member, Protocols for using human panels to evaluate emissions and air quality in buildings. J.B. Pierce Laboratory and EPA, Sonderberg, Denmark, August 14-16, 1991, internal report produced.

26. Workgroup member, Evaluation of emissions from sources of indoor air contaminants: Seminar and workshop on neurogenic effects. J.B. Pierce Laboratory and EPA, Yale University, New Haven, CN, April 4-5, 1991, internal report produced.

27. Workgroup member, Workshop to develop research protocols for multiple chemical hypersensitivity, Group II, Mechanisms. National Academy of Science, National Research Council, Commission on Life Sciences. University of California at Irvine, CA, March 20-21, 1991.

28. Workgroup member, Workshop on the qualitative and quantitative comparability of human and animal developmental neurotoxicity, Work group I: Comparability of measures of developmental neurotoxicity in humans and laboratory animals. Williamsburg, VA, April 11-13, 1989. Report: Neurotoxicol and Teratol, 12:261-267, 1990.

INVITED SEMINARS

International Seminar & Symposia Presentations

1. 2006: Water Quality Symposium, Veolia Water Corp & IUPUI, Indianapolis, IN (HABs).

2. 2005: Interagency, International Symposium on Cyanobacteria, RTP, NC, (Overview).

3. 2004: Environmental Medicine Unit, Tokyo, Japan, (Biotoxin Associated Illness).

4. 2002: Neurobehavioral Methods & Effects Symposium, Brescia, Italy (Biotoxins).

5. 2002: Neurobehavioral Methods & Effects Symposium, Brescia, Italy (Mn)

6. 2001: International Neurotoxicology Association, Estoril, Portugal (HABs)

7. 2001: International Neurotoxicology Association, Estoril, Portugal (Solvents).

8. 2001: International Neurotoxicology Association, Estoril, Portugal (Mn).

9. 1999: Neurobehavioral Methods Meeting, Solentuna, Sweden (Mn).

10. 1999: Neurobehavioral Methods Meeting, Solentuna, Sweden (Visual Contrast Sensitivity).

11. 1997: 15th International Neurotoxicology Conference: Manganese, Little Rock, AR. (Mn).

12. 1997: Institute for Clinical & Preventative Med., Brataslava, Slovak Republic (Hg).

13. 1997: International Neurotoxicology Association, Szeged, Hungry (Mn).

14. 1997: University of Quebec at Montreal, Montreal, Quebec, Canada. (Mn).

15. 1993: Institute of Hygiene, Prague, Czech Republic (solvents).

16. 1993: International Neurotoxicity Association, Elsinore, Denmark (solvents).

17. 1993: Indoor Air93, Helsinki, Finland (sensory indicators & indoor air).

18. 1993: ATSDR International Congress Health Effects Hazardous Waste, Atlanta (solvents).

19. 1991: TNO Laboratory, Rijswijk, The Netherlands (solvents).

20. 1990: Indoor Air90, Toronto, Canada (sensory indicators & indoor air).

<u>US/Regional Seminar & Symposia Presentations</u>

21. 2007: FL AWWA/BCC, Cyanobacteria, Tarpon Springs, FL (Keynote).

22. 2007: Government, Industry & Sierra Club Coalition, Cyanobacteria, Sarasota, FL(Keynote).

23. 2006: SW FL Water Resources Conference, Ft. Myers, FL, (Keynote).

24. 2005: OR Government & EPA R10 Cyanobacteria Workshop, Eugene, OR, (Keynote).

25. 2005: CA Government & EPA R9 Cyanobacteria Workshop, Sacramento, CA, (Keynote).

26. 2005: White House Subcommittee - Health & Environment[2], Washington, DC, (Cyano.).

27. 2005: White House Subcommittee - Toxics & Risk, Washington, DC, (Cyanobacteria).

28. 2005: White House Subcommittee - Health & Environment[1], Washington, DC, (Cyano.).

29. 2003: Neurobehavioral Toxicology Society, Philadelphia, (Biotoxin Associated Illness).

30. 2003: The University of North Carolina at Chapel Hill, (Manganese risk assessment).

31. 2001: DOD workshop on Parkinson's Disease. Potomic, MD, (Manganism & Parkinson's).

32. 2001: Psychology Department, UNC-CH, Chapel Hill, NC (HABs).

33. 2000: CDC National Conference on *Pfiesteria,* Stone Mt., GA (HABs).

34. 2000: National Institute of Environmental Health Sciences, RTP, NC. (HABs).

35. 2000: Psychology Department, UNC-CH, Chapel Hill, NC (HABs).

36. 2000: Third Annual *Pfiesteria* Technical Workshop, Annapolis, MD (HABs).

37. 1999: National Oceanographic and Atmospheric Administration, Charleston, SC (HABs).

38. 1998: American Psychological Association, San Francisco, CA. (Mn).

39. 1998: National Institute of Environmental Health Sciences, RTP, NC (Mn).

40. 1997: CDC/NCEH, Atlanta, GA (Vision & cognitive tests).

41. 1994: EPA/OAQPS, RTP, NC. (solvents).

42. 1994: ATSDR, Atlanta, GA (Vision & cognitive tests)

43. 1993: National Institute of Environmental Health Sciences, RTP, NC (solvents)

44. 1992: Oregon Health Science University, Portland (Vision & Cognitive tests).

45. 1992: Psychology Department, UNC-CH (solvents).

46. 1990: Symposium on Animal-to Human Extrapolation, U. of TX- San Antonio (VEPs).

47. 1990: American Industrial Health Council, RTP, NC (VEPs & toxicity).

48. 1989: Neurobiology Curriculum, UNC-CH (VEPs & toxicity).

49. 1988: Physiology Department, UNC-CH (VEPs & toxicity).

50. 1986: Psychology Department, UNC-CH (Visual system function).

BIBLIOGRAPHY (PEER-REVIEWED JOURNAL PUBLICATIONS)**:**

1. Hollins, M. and Hudnell, K. (1980) Adaptation of the Binocular Rivalry Mechanism. Invest. Ophthalmol. Vis. Sci., 19:1117-1120.

2. Otto, D., Hudnell, K., Boyes,W., Janssen, R. and Dyer, R. (1988). Electrophysiological Measures of Visual and Auditory Function as Indices of Neurotoxicology. Toxicol. 49:205-218.

3. Hudnell, H.K. and Benignus, V.A. (1989). Carbon Monoxide Exposure and Human Visual Detection Thresholds. Neurotox. Teratol., 11:363-371.

4. Hudnell, H.K., Boyes, W.K. and Otto, D.A. (1990). Stationary Pattern Adaptation and the Early Components in Human Visual Evoked Potentials. Electroenceph. clin. Neurophysiol., 77:190-198.

5. Hudnell, H.K., Boyes, W.K. and Otto, D.A. (1990). Rat and Human Visual Evoked Potentials Recorded Under Comparable Conditions: A Preliminary Analysis to Address the Issue of Predicting Human Neurotoxic Effects from Rat Data. Neurotox. Teratol., 12:391-398.

6. Otto, D., Molhave, L., Rose, G. Hudnell, H.K. and House, D. (1990).Neurobehavioral and Sensory Irritant Effects of Controlled Exposure to a Complex Mixture of Volatile Organic Compounds. Neurotox. Teratol., 12:649-652.

7. Hudnell, H.K. and Boyes, W.K. (1991). The Comparability of Rat and Human Visual Evoked Potentials, Neurosci. Biobehav. Rev., 15:159-164.

8. Benignus, V.A., Boyes, W.K., Hudnell, H.K., Frey, C.M. and Svendsgaard, D.J. (1991). Quantitative Methods for Cross-species Mapping (CSM). Neurosci. Biobehav. Rev., 15:165-171.

9. Otto, D.A., Hudnell, H.K. (1991). Problems in studying low level solvent mixtures. Arbete och Halsa, 35:35-38.

10. Otto, D and Hudnell HK. (1991). Acute effects of exposure to organic solvents: Experimental approaches and methods. Arbete och Hälsa, 35:35-38.

11. Otto, D.A., Hudnell, H.K., House, D.E., Molhave, L. and Counts, W. (1992). Exposure of humans to a volatile organic mixture. I. Behavioral Assessment. Archiv. Environ. Health, 47:23-30.

12. Hudnell, H.K., Otto, D.A., House, D.E. and Molhave, L. (1992). Exposure of humans to a volatile organic mixture. II. Sensory. Archiv. Environ. Health, 47:31-38.

13. Otto, D., Hudnell, H.K. and Prah, J. (1992). Methodological issues in human exposure studies of low level solvent mixtures. Applied Psychology: An International Review, 41:239-245.

14. Otto, D.A. and Hudnell, H.K. (1993). The use of visual and chemosensory evoked potentials in environmental and occupational health. Environmental Research, 62:159-171.

15. Anger, W.K., Letz, R.E., Chrislip, D.W., Frumpkin, H., Hudnell, H.K., Kilburn, K.H., Russo, J.M., Chappell, W. and Hutchinson, L. (1994). Neurobehavioral test methods for immediate use in environmental health studies of adults. Neurotoxicol. Teratol., 16:489-497.

16. Skalik I, Kottnauerova S, Dvorakova D, Otto DA and Hudnell HK (1994). Verifying methods of studying neurobehavioral functions in children as presented in environmental studies - methodology of screening examinations: Neurobehavioral Evaluation System (NES). Czechoslovak Psychology, 27: 233-244.

17. Broadwell, D.K., Darcey, D.J., Hudnell, H.K., Otto, D.A. and Boyes, W.K. (1995). Work-site neurobehavioral assessment of solvent exposed microelectronic workers. Am. J. Indust. Med., 27:677-698.

18. Hudnell, H.K., Otto, D.A. and House, D.E. (1996). The influence of vision on computerized-neurobehavioral test scores: A proposal for improving test protocols. Neurotoxicol. Teratol., 18:391- 400.

19. Otto, D.A., Skalik, I., House, D., Tse, J. and Hudnell, K. (1996). Neurobehavioral evaluation

system (NES2): Normative data from 2ND, 4TH and 8TH-grade children. Neurotoxicol. Teratol., 18:421-428.

20. Dahl, R., White, R.F., Weihe, P., Sorenson, N., Letz, R, Hudnell, K, Otto, D.A. and Grandjean, P. (1996). Feasibility and validity of three computer-assisted neurobehavioral tests in 7-year old children. Neurotoxicol. Teratol., 18:413-419.

21. Hudnell, H.K., Boyes, W.K., Otto, D.A., House, D.E., Creason J.P., Geller, A.M., Darcey, D.J. and Broadwell, D.K. (1996). Battery of neurobehavioral tests recommended to ATSDR: solvent-induced deficits in microelectronics workers. Toxicol. Indust. Hlth., 12:235-243.

22. Kelly, E.F., McLaughlin, D.F., Ross Dunseath, W.J., Folger, S., Jones, Jr., F. and Hudnell, H.K. (1996). Frequency-domain measurement of vibrotactile driving responses in first-order afferent populations. Exp. Brain Res., 109:500-506.

23. Hudnell, H.K., Skalik, I., Otto, D.A., House, D.A., and Sram, R. (1996). Visual contrast sensitivity deficits in Bohemian children. Neurotoxicology17:615-628.

24. Bascomb R, Meggs W, Frampton M, Hudnell K, Killburn K, Kobal G, Medinski M and Rea W (1997). Neurogenic Inflammation: with additional discussion of central and perceptual integration and non-neurogenic inflammation. Env. Hlth. Perspect., 105:531-537.

25. Cometto-Muniz, J.E., Cain, W.S. and Hudnell, H.K. (1997). Human chemosensory responses to mixtures of volatile organic compounds: odor, nasal pungency, and eye irritation. Perception Psychophysics, 59:665-674.

26. Geller, A.M. and Hudnell, H.K. (1997). Critical issues in the use and analysis of the Lanthony Desaturated Color Vision Test. Neurotoxicol. Teratol., 19:455-465.

27. Mergler D, Belanger SB, Larribel F, Panisset M, Bowler R, Baldwin M, Lebel J and Hudnell K (1998). Preliminary evidence of neurotoxicity associated with eating fish from the upper St. Lawrence River. Neurotoxicology, 19:691-702.

28. Mergler D, Baldwin M, Belanger S, Larribe F, Beuter A, Bowler R, Panisset M, Edwards R, de Geoffroy, Sassine M-P and Hudnell, K (1999). Manganese neurotoxicity, a continuum of dysfunction: results from a community based study. Neurotoxicology, 20(2/3):327-342.

29. Baldwin M, Mergler D, Larribe F, Belanger S, Tardiff R, Bilodeau L and Hudnell K (1999). Bioindicators and exposure data for a population based study of manganese. Neurotoxicology, 20(2/3):343-354.

30. Beuter A, Edwards R, de Geoffroy A, Mergler D and Hudnell K (1999). Quantification of Neuromotor function for detection of the effects of manganese. Neurotoxicology,

20(2/3):355-366.

31. Bowler RM, Mergler D, Sassine M-P, Larribe F and Hudnell K (1999). Neuropsychiatric effects of manganese on mood. Neurotoxicology, 20(2/3):367-378.

32. Hudnell HK (1999). Effects from environmental manganese exposure: A review of the evidence from non-occupational exposure studies. Neurotoxicology, 20(2/3):379-400.

33. Hemple-Jorgensen A, Kjaergard SK, Molhave L and Hudnell K (1999). Time course of sensory irritation in humans exposed to n-butanol and 1-octene. Arch. Env. Hlth., 54:86-94.

34. Hemple-Jorgensen A, Kjaergard SK, Molhave L and Hudnell K (1999). Sensory eye irritation in humans exposed to mixtures of volatile organic compounds. Arch. Env. Hlth., 54: 416-424.

35. Swinker M, Koltai D, Wilkins J, Hudnell K, Hall C, Darcey D, Robertson K, Schmechel D, Stopford W, Music S (2001). Estuary associated syndrome in North Carolina: an occupational prevalence study. Environ Health Perspect, 109(1):21-26.

36. Camicioli R, Grossmann SJ, Spencer PS, Hudnell K, Anger WK. Discriminating Mild Parkinsonism: Methods for Epidemiological Research. Movement Disorders (2001), 16: 33-40.

37. Hudnell HK, House D, Schmid J, Koltai D, Wilkins J, Stopford W, Savitz D, Swinker M and Music S (2001). Human visual function in the North Carolina Clinical Study on Possible Estuary Associated Syndrome. J Toxicol Environ Health , 62:575-594.

38. Engle LS, Checkoway H, Keifer MC, Seixas NS, LongstrethWT, Scott KC, Hudnell K, Anger WK, Camicioli R (2001). Parkinsonism and occupational exposure to pesticides. Occup Env Med, 58:582-589.

39. Shoemaker RC & Hudnell HK (2001). Possible estuary associated syndrome: Symptoms, vision and treatment. Environmental Health Perspectives, 109(5):539-545.

40. Shoemaker RC (Hudnell in acknowledgments) (2001). Residential and recreational acquisition of possible estuary associated syndrome: A new approach to successful diagnosis and treatment. Environmental Health Perspectives, 109(Supp.5):791-796.

41. Hudnell and Shoemaker RC (2002). Response to Letter to EHP: Visual contrast sensitivity as a diagnostic tool. Environmental Health Perspectives, 110(3):A121-123.

42. Rothenberg SJ, Schnaas L, Salgado-Valladares M, Casanueva E, Perroni E, Geller AM, Hudnell HK and Fox DA (2002). Increased ERG a- and b-wave amplitudes in 7- to 10-year-

old children resulting from prenatal lead exposure. Investigative Ophthalmology Visual Science, 43(6):2036-2044.

43. Sassine M-P, Mergler D, Bowler R and Hudnell HK (2002). Manganese accentuates adverse mental health effects associated with alcohol use disorders. Biological Psychiatry, 51(11): 909-921.

44. Schreiber JS, Hudnell HK, Geller AM, House DE, Prohonic E, Langguth K, Aldous K, Force M and Parker JC. (2002). Residential and day care worker exposure to tetrachloroethylene (perc) and deficits in visual contrast sensitivity. Environmental Health Perspectives, 110(7):655-664.

45. Hudnell HK and Shoemaker RC (2003). Neuropsychologic testing versus visual contrast sensitivity: Response. Environmental Health Perspectives, 111(1):A14-A15.

46. Hudnell HK and Shoemaker RC (2003). A letter of comment on "Human health effects of exposure to *Pfiesteria piscicida*: a review" by Swinker and colleagues. Microbes and Infection 5:345-347.

47. Geller AM, Hudnell HK, Vaughn BV, Messenheimer JA, Boyes WK (2005). Epilepsy and medication effects on the pattern visual evoked potential. Documenta Ophthalmologica 110:121-131.

48. Hudnell HK (2005). Chronic biotoxin-associated illness: Multiple-system symptoms, a vision deficit, and effective treatment, Neurotoxicol Teratol 27:733-743.

49. Otto D, Li Y, Xia Y, He L, Ning Z, Wu K, Zhao B, Hudnell HK, Kwok R, Mumford J, Geller A and Wade T (2006). Neurosensory effects of chronic exposure to arsenic via drinking water in inner Mongolia: ii. Vibrotactile and visual function. J Water Health 4(1):39-47.

50. Otto D, Xia Y, Li Y, Wu K, He L, Telech J, Hundell [sic] H, Prah J, Mumford J and Wade J (2007). Neurosensory effects of chronic human exposure to arsenic associated with body burden and environmental measures.

BOOK CHAPTERS, CONFERENCES, PROCEEDINGS, MONOGRAPHS:

<u>International Conferences & Books</u>

1. Hudnell, H.K., Otto, D.A., House, D.E. and Molhave, L. (1990). Odor and Irritation Effects of a Volatile Organic Compound Mixture. Proceedings of Indoor Air'90, 1:263-268.

2. Skalik, I., Kottnauerova, S., Dvorakova, D., Otto, D. and Hudnell, K. (1993). Overovani metod pro sledovani neurobehavioralnich funkce u deti v environmentalnich studiich. Methodika screeningoveho vysetreni. NES2 - neurobehavioral evaluation system. Predbezna sdeleni, Czech Republic, pp. 233-244.

3. Otto, D., Hudnell, K. and House, D. (1993). Neurobehavioral and subjective reactions of young men and women to a complex mixture of volatile organic compounds. Proceedings of Indoor Air93, Vol. 1:59-64.

4. Hudnell, H.K., Otto, D.A. and House, D.E. (1993). Time course of odor and irritation effects in humans exposed to a mixture of 22 volatile organic compounds. Proceedings of Indoor Air93, Vol. 1:567-572.

5. Hudnell, H.K., Boyes, W.K., Otto, D.A., House, D.E., Creason J.P., Geller, A.M., Darcey, D.J. and Broadwell, D.K. (1994). The battery of neurobehavioral tests recommended to ATSDR: Solvent induced deficits in microelectronic workers. In: Hazardous Waste and Public Health: International Congress on the Health Effects of Hazardous Waste. Princeton Scientific Publishing Co., Inc., Princeton New Jersey, pp. 690-697.

6. Hudnell HK [Ed] (2007). Proceedings of the Interagency, International Symposium on Cyanobacterial Harmful Algal Blooms (ISOC-HAB): State-of-the-science and research needs, Springer Press: Advances in Experimental Medicine and Biology, in press.

7. Hudnell HK, Dortch Q, Zenick (2007). An Overview of the Interagency, International Symposium on Cyanobacterial Harmful Algal Blooms (ISOC-HAB): Advancing the Scientific Understanding of Freshwater Harmful Algal Blooms. In: Proceedings of the Interagency, International Symposium on Cyanobacterial Harmful Algal Blooms (ISOC-HAB): State-of-the-Science and Research Needs, Hudnell (Ed), New York, Springer Press, in press.

8. Hudnell HK, Dortch Q (2007). Synopsis of the ISOC-HAB: Research Needs. In: Proceedings of the Interagency, International Symposium on Cyanobacterial Harmful Algal Blooms (ISOC-HAB): State-of-the-Science and Research Needs, Hudnell (Ed), New York, Springer Press, in press.

US/Conferences & Books

9. Hudnell, K. (1982). An Independent Study Course in General Psychology, IV ed. UNC-CH Press.

10. Hudnell, K. (1984). The Relationship between Saccadic Eye Movements and Binocular Rivalry. Dissertation.

11. Hudnell, K. and Oliveto, A. (1988). An Independent Study Course in General Psychology, V ed. UNC-CH Press.

12. Otto, D.A. and Hudnell, H.K. (1990). Electrophysiological Systems for Neurotoxicity Field Testing: Pearl II and Alternatives.In: Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health, Ch. 27 (B.L. Johnson, ed.). Chelsea Michigan, Lewis Publishers, Inc..

13. Tucker, W.G., Hudnell, H.K. and Mason, M.A. (1996). Status of EPA's bioresponse-based testing program. In: Characterizing sources and of indoor air pollution and related sink effects. ASTM STP 1287 (B.A. Techenor, ed.). American Society for Testing and Materials International, Philadelphia, pp.321-330.

14. Hudnell K and Mergler D (1999). Manganese: Essential element & neurotoxin. In: *Occupational Medicine Secrets,* Bowler RM and Cone JE (eds.), Philadelphia, Hanley & Belfus, Inc., pp. 81-84.

GOVERNMENT REPORTS:

1. Onset Visual Evoked Potentials and Motion Adaptation in Humans; A Study to Provide Data for Rat to Human Extrapolation. Hudnell, K., Boyes, W. and Otto, D. HERL, DU L104, ORDIS # B0701, 1987.

2. Neurotoxic Effects of Controlled Exposure to a Complex Mixture of Volatile Organic Compounds. Otto, D., Molhave, L., Rose, G. Hudnell, H.K. and House, D. HERL, DU A101/E9101, #2520, 1989.

3. Comparison of Rat and Human Visual Evoked Potentials. Boyes, W.K. and Hudnell, H.K. HERL, DU L104D/G0105, #3147, 1992.

4. Visual function studies during exposure to a mixture of dibasic esters in Long-Evans rats. Boyes WK and Hudnell HK. USEPA HERL-0856, 1994.

5. Workshop on animal models of nervous system susceptibility to indoor air contaminants - summary report. Hudnell, H.K. et al. NHEERL, US EPA MS-95-264, 1995.

6. Project Officer's Site Visit Report. Early signs and symptoms of manganese neurotoxicity in environmentally exposed human populations. Hudnell, HK, US EPA, 1997.

7. Final Report: US EPA-Czech Republic Northern Bohemia-Teplice Program Health Effects Research Collaboration. Lewtas, JE, et al., US EPA, 1998.

8. Human visual function in the North Carolina study on *Pfiesteria piscicida.* Hudnell HK (1998). For the North Carolina Department of Health and Human Services and the North Carolina Task Force on Pfiesteria, Dean William Roper, Chairman, University of North Carolina School of Public Health. [US EPA # 600-R-98-132]

9. A pilot study on chronic, environmental, airborne, manganese exposure: Possible effects on neurobehavioral and school performance in 4th grade children. HK Hudnell, RA Wittberg, L Flowers, D Mergler. US EPA, 1999.

10. Evaluation of residential exposure to tetrachloroethylene using biomarkers of dose and neurological tests. Schreiber JS, Prohonic E, Langguth K, Smead G, Aldous KM, Force M, Narang R - New York State Department of Health; Hudnell K, Geller A, House D - US Environmental Protection Agency. State of New York Department of Health, 2000.

11. Pumpkin patch day care center investigation. Schreiber JS, Mott JA, Prohonic E, House S, Hughes M, Sharron D, Eadon G, Aldous K, Force M, Narang R, Hwang S-A, Fitzgerald E, Hudnell K, House D, Wells WL, Wilburn RE, Langguth K, Bullard W, Lohff C, Groves R, Sebestyen C, Tabert M, Spector J and Lewandowske A., State of New York Department of Health, 2000.

12. Scientific assessment of freshwater harmful algal blooms. Q. Dortch, K Hudnell et al., A report to the U.S. Congress, 2007.

13. Research Development, Demonstration and Technology Transfer of Methods to Prevent, Control, and Mitigate Harmful Algal Blooms, D Anderson, K Hudnell et al., a report to NOAA, 2007.

ABSTRACTS (selected):

1. Fatigue of the Suppression Mechanism Following Prolonged Binocular Rivalry. Hudnell, K. and Hollins, M. Supplement to Invest. Ophthalmol. Vis. Sci., 19:173, 1979.

2. The Influence of Saccadic Eye Movements on Binocular Rivalry. Hudnell, K. and Hollins, M. Supplement to Invest. Ophthalmol. Vis. Sci., 26:241, 1985.

3. Pattern and Motion Components in the Visual Evoked Potential Elicited by Sine-wave Grating Onset: Human. Hudnell, H.K. and Otto, D.A. Soc. for Neurosci. Abst., 12:121.17, 1986.

4. Pattern and Motion Components in the Visual Evoked Potential Elicited by Sine-wave Grating Onset: Rat. Boyes, W.K. and Hudnell, H.K. Soc. for Neurosci. Abst., 12:121.18, 1986.

5. Chlordimeform Action on the Sustained and Transient Components of Rat Pattern Evoked Potentials. Boyes, W. and Hudnell, K. Soc. of Toxicol., 7:389, 1987.

6. A Patter-specific Component in the Sine-wave Grating Onset Visual Evoked Potential: Orientation Selectivity. Hudnell, K., Boyes, W., Otto, D. and May, A. Supplement to Invest. Ophthalmol. and Vis. Sci., 28:297, 1987.

7. Effects of Acetylcholinesterase Inhibition on Spatial Vision in Rats. Boyes, W. and Hudnell, K. Soc. of Toxicol., 8:902, 1988.

8. Carboxyhemoglobin and Human Visual Function. Hudnell, K. and Benignus, V. Soc. of Toxicol. 8:907, 1988.

9. Human and Rat Visual Evoked Potentials is Response to Stimulus Spatial and Temporal Frequency. Boyes, W.K. and Hudnell, H.K. Soc. for Neurosci. Absts. 14:502.19, 1988.

10. Human and Rat Visual Evoked Potentials in Response to Diazepam. Hudnell, H.K. and Boyes, W.K. Soc. for Neurosci. Absts., 15:52.3, 1989.

11. Human and Rat Visual Evoked Potentials in Response to Stimulus Contrast. Boyes, W.K. and Hudnell, H.K. Soc. for Neurosci. Absts., 15:52.2, 1989.

12. Neurobehavioral and Sensory Irritant Effects of Controlled Exposure to a Complex Mixture of Volatile Organic Compounds: Preliminary Results. Otto, D., Rose, G., Hudnell, H.K. and House, D. The Second Annual Meeting of the International Neurotoxicology Association. Sitges, Spain, May, 1989.

13. Neurobehavioral and Sensory Irritant Effects of Controlled Exposure to a Complex Mixture of Volatile Organic Compounds. Otto, D., Molhave, L., Rose, G., Hudnell, H.K. and House, D. The Seventh International Neurotoxicology Conference. Little Rock, Arkansas, September, 1989.

14. Temporal Differences in Olfactory and Trigeminal Symptom Responses to a Complex Mixture of Volatile Organic Compounds. Otto, D., Hudnell, H.K. Molhave, L. The 5th International Conference on Indoor Air Quality and Climate. Toronto, Canada, July, 1990.

15. The Comparability of Rat and Human Visual Evoked Potentials. Hudnell, H.K. and Boyes, W.K. Soc. of Toxicol., 12:1227, 1990.

16. The Comparability of Rat and Human Visual Evoked Potentials. Hudnell, H.K. and Boyes, W.K. An International Symposium on Animal-to Human Extrapolation: Issues and Opportunities. Univ of Texas at San Antonio, March, 1990.

17. Diazepam induced effects on visual evoked potentials and visual contrast detection thresholds in humans. Hudnell, H.K., Boyes, W.K. and Counts, W.B. Soc. for Neurosci. Absts., 238.14, 1990.

18. Contrast sensitivity functions (CSF) in pigmented rats estimated from visual evoked potentials (VEP) elicited with counterphase or on/off modulated gratings. Boyes, W.K., Manring, E.A. and Hudnell, H.K. Soc. for Neurosci. Absts., 238.13, 1990.

19. Influence of pupil diameter on pattern-elicited visual evoked potentials in pigmented rats. W.K. Boyes, D.W. Herr and H.K. Hudnell. Society for Neuroscience, 1991.

20. A characterization of visual system function in epileptic patients using evoked potential and psychophysical techniques. Hudnell, H.K., Messenheimer J.A., Vaughn, B.V., Geller, A.M. and Boyes, W.K. Am. Epilepsy Soc., 1992.

21. The battery of neurobehavioral tests recommended to ATSDR: Solvent induced deficits in microelectronic workers. Hudnell, H.K., Boyes, W.K., Otto, D.A., House, D.E., Geller, A.M., Darcey, D.J. and Broadwell, D.K. International Congress on the Health Effects of Hazardous Waste, May, 1993.

22. Deficits in microelectronic workers chronically exposed to solvents: I. Investigation, clinical findings and personality profiles. Broadwell, D.K., Darcey, D., Otto, D., Hudnell, H.K. and Boyes, W. International Neurotoxicology Association, June, 1993.

23. Deficits in microelectronic workers chronically exposed to solvents: II. Sensory and motor. Broadwell, D.K., Darcey, D., Otto, D., Hudnell, H.K. and Boyes, W. International Neurotoxicology Association, June, 1993.

24. Deficits in microelectronic workers chronically exposed to solvents: III. Computerized neurobehavioral assessment. Broadwell,Darcey, D., Otto, D., Hudnell, H.K. and Boyes, W. International Neurotoxicology Association, June, 1993.

25. Time course of odor and irritation effects in humans exposed to a mixture of 22 volatile organic compounds. Hudnell, H.K., Otto, D.A. and House, D. Indoor Air93, July, 1993.

26. Neurobehavioral and subjective reactions of young men and women to a complex mixture of volatile organic compounds. Otto, D., Hudnell, K. and House, D. Indoor Air93, July, 1993.

27. Effect of GABA mediated inhibition on steady state VEP. Geller, A.M., Hudnell, H.K., Messenheimer, J.A., Vaughn, B.V. and Boyes, W.K. Assoc. Res. Vis. Ophthalmol., April, 1993

28. The effect of valproic acid in epileptic patients on steady-state visual evoked potentials elicited by complex stimuli. Geller, A.M., Hudnell, H.K., Messenheimer, J.A., Vaughn, B.V. and Boyes, W.K.Am. Epilepsy Soc., December, 1993.

29. Effects of GABA-mediated inhibition on steady-state VEP in humans and rats. Geller, A.M., Boyes, W.K. and Hudnell, H.K. Assoc. Res. Vis. Ophthalmol., April, 1994.

30. Neurobehavioral assessments of vision in two studies of Bohemian children: (I) Learning disabilities; (II) Areas of high and low air pollution. Hudnell, K., Skalik, I., Otto, D., House, D., and Sram, R. First International Congress on Environmental Medicine, Duisburg, Germany, February, 1994.

31. Are there additive or synergistic effects of volatile organic compound mixtures on human chemosensory perception? Hudnell, H.K., Cometto-Muniz, J.E., Cain, W.S., and Mason, M.A. EPA/HERL symposium on chemical mixtures and quantitative risk assessment, November, 1994.

32. The influence of vision on computerized-neurobehavioral test scores: A proposal for improving test protocols. Hudnell, H.K., Otto, D.A. and House, D.E. Computerized behavioral testing of humans in neurotoxicological research. Portland, OR, June 21-23, 1995.

33. Neurobehavioral evaluation system (NES2): Normative data from 2ND, 4TH and 8TH-grade children. Otto, D.A., Skalik, I., House, D., Tse, J. and Hudnell, K. Computerized behavioral testing of humans in neurotoxicological research. Portland, OR, June 21-23, 1995.

34. Feasibility and validity of three computer-assisted neurobehavioral tests in 7-year old children. Dahl, R., White, R.F., Weihe, P., Sorenson, N., Letz, R, Hudnell, K, Otto, D.A. and Grandjean, P. Computerized behavioral testing of humans in neurotoxicological research. Portland, OR, June 21-23, 1995.

35. Visual contrast sensitivity deficits in Bohemian children. Hudnell, H.K., Skalik, I., Otto, D.A., House, D.A., and Sram, R. International Neurotoxicology Association, Port Ludlow, WA, June 225-30, 1995.

36. Cognitive deficits in solvent-exposed microelectronics workers: Controlling for visual and motoric influences on computerized-test results. Hudnell, H.K., Otto, D.A., House, D.E., Darcey, D.J., Broadwell, D.O. and Boyes, W.K. NHEERL Open House, June, 1996.

37. Early nervous system dysfunction in adults associated with eating fish from the St. Lawrence river system. Health Conference ‘97: Great Lakes/St. Lawrence, Montreal, May, 1997.

38. Low-level mercury exposue and neurobehavioral performance in 7th-grade Czech children. Skalik I, Otto D, Bahboh R, Hudnell K, Dvorakova D and Sram R. International Conference

on Human Health Effects of Mercury Exposure, Faroe Islands, June, 1997.

39. Early nervous system dysfunction in adults associated with eating fish from the St. Lawrence river system: relationships with blood mercury. International Conference on Human Health Effects of Mercury Exposure, Faroe Islands, June, 1997.

40. Cognitive deficits in solvent-exposed microelectronics workers: Controlling for visual and motoric influences on computerized-test results. Hudnell, H.K., Otto, D.A., House, D.E., Darcey, D.J., Broadwell, D.O. and Boyes, W.K. International Neurotoxicology Association, Szeged, Hungary, June, 1997.

41. Neurobehavioral performance of Czech school children born in years of maximal air pollution. Otto D, Skalik I, Bahboh R, Hudnell K and Sram R. International Neurotoxicology Association, Szeged, Hungary, June, 1997.

42. Neurotoxicity associated with eating fish from the St. Lawrence river. Mergler D, Belanger S, Larribe F, Panisset M, Bowler R, Lebel J and Hudnell K. International Neurotoxicology Association, Szeged, Hungary, June, 1997.

43. Effects from environmental exposures: A review of the evidence from case studies and environmental studies. Hudnell K. 15th International Neurotoxicology Conference: Manganese - are there effects from long-term, low-level exposures? Little Rock, AR, October, 1997.

44. Bioindicator and exposure data for a population based study of manganese. Baldwin M, Mergler D, Larribe F, Belanger S, and Hudnell K. 15th International Neurotoxicology Conference: Manganese - are there effects from long-term, low-level exposures? Little Rock, AR, October, 1997.

45. Quantification of neuromotor function for detection of the effects of manganese. Beuter A, Edwards R, deGeoffroy A, Mergler D, and Hudnell K. 15th International Neurotoxicology Conference: Manganese - are there effects from long-term, low-level exposures? Little Rock, AR, October, 1997.

46. Neuropsychiatric effects of manganese on mood. Bowler RM, Mergler D, Sassine M-P, Larribe F and Hudnell K (1999). 15th International Neurotoxicology Conference: Manganese - are there effects from long-term, low-level exposures? Little Rock, AR, October, 1997.

47. Assessing residential exposure to tetrachloroethene using biomarkers and visual system testing in populations living above dry cleaning facilities. Schreiber J, Hudnell K and Parker J. Toxicol Sci (supplement), 42:132, 1998.

48. Research to improve human-health risk assessments: Neurobehavioral and

Neuropsychological Testing. HK Hudnell. American Psychological Association, San Francisco CA, August, 1998.

49. Human visual function in the North Carolina study on *Pfiesteria piscicida.* HK Hudnell. Society of Environmental Toxicology and Chemistry. Charlotte, NC. November, 1998.

50. Human visual function in the North Carolina study on *Pfiesteria piscicida*. HK Hudnell. Pfiesteria and the Environment: Convergence of Science & Policy. Washington, DC. December, 1998.

51. Human visual function in the North Carolina study on *Pfiesteria piscicida*. HK Hudnell. Behavioral Toxicology Society. Research Triangle Park, NC. May, 1999.

52. Neurobehavioral performance in lifelong orchard workers by age. WK Anger, HK Hudnell, M Keifer, KC Scott, SJ Grossman, DS Rohlmann. Seventh International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Stockholm, Sweden. June, 1999.

53. Neurobehavioral data to improve risk assessments of manganese neurotoxicity. Hudnell K, Mergler D, Baldwin M, Beuter A and Bowler RM. Seventh International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Stockholm, Sweden. June, 1999.

54. Visual contrast sensitivity: Useful in clinical and neurotoxicological studies. Hudnell K and Geller A. Seventh International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Stockholm, Sweden. June, 1999.

55. Fish-killing dinoflagellate toxins may reduce human visual contrast sensitivity. Hudnell K. Seventh International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Stockholm, Sweden. June, 1999.

56. Neurobehavioral and visual assessment of Prague school children living in districts with varying traffic density: Gender differences and lead effects. Hudnell K. Seventh International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Stockholm, Sweden. June, 1999.

57. Residential and recreational acquisition of possible estuary associated syndrome: A new approach to successful diagnosis and treatment. Hudnell K. and Shoemaker R. CDC National Conference on Pfiesteria: From Biology to Public Health, Stone Mountain, GA, October, 2000.

58. A study of Virginia waterman to examine the relationship between pfiesteria-like organisms and vision contrast sensitivity. Ingsrisawang L, Turf M, Johnson M, Hudnell K, Peipins L,

Turf E. CDC National Conference on Pfiesteria: From Biology to Public Health, Stone Mountain, GA, October, 2000.

59. Environmental manganese and Parkinsonism. Hudnell HK. Workshop on DOD Sponsored Parkinson's Related Research. Potomoc, MD, March 2001.

60. Adverse health effects from environmental manganese exposure. Hudnell K. Eight Meeting of the International Neurotoxicology Association. Estoril, Portugal. June, 2001.

61. Occupational chemical exposures: Relationships to vision, vibrotactile sensitivity, and postural stability. Hudnell K. Eight Meeting of the International Neurotoxicology Association. Estoril, Portugal. June, 2001.

62. Biotoxin-induced neurotoxicity: An emerging risk for human health and ecology. Hudnell K. Eight Meeting of the International Neurotoxicology Association. Estoril, Portugal. June, 2001.

63. Vibrotactile threshold and pin-prick sensitivity as indicators of subclinical changes in somatosensitivity function: effects of environmental exposure to arsenic in drinking water. Otto DA and Hudnell HK. 8th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Brescia, Italy. June, 2002.

64. Environmental manganese: guideline exposure levels, evidence of health effects & research needs. Hudnell HK. 8th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Brescia, Italy. June, 2002.

65. Sick building syndrome: possible association with exposure to mycotoxins from indoor air fungi. Hudnell HK and Shoemaker RC. 8th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Brescia, Italy. June, 2002.

66. Exposure to *Pfiesteria*-inhabited estuaries: symptoms, vision and therapy. Neurobehavioral Toxicology Society Annual Meeting, Philadelphia, June, 2003.

67. Visual contrast sensitivity: A sensitive indicator of neurotoxicity for risk assessment and clinical applications. HK Hudnell. 5th International Bioaerosols Conference, Saratoga Springs, NY. September, 2003.

68. Chronic, non-specific human illness and biotoxin exposure. HK Hudnell. Environmental Medicine Unit, Tokyo, Japan, 2004.

69. Cyanobacteria and their toxins. HK Hudnell et al., EPA Science Forum, Washington, DC. May, 2005.

70. Cyanobacteria and their toxins. HK Hudnell et al., EPA Drinking Water Program Review, Cincinnati, OH, June, 2005.

71. An Overview of the Interagency, International Symposium on Cyanobacterial Harmful Algal Blooms (ISOC-HAB): Helping to Meet the Mandates of HABHRCA & the Needs of EPA's Office of Water. HK Hudnell. RTP, NC, September, 2005.