

Nancy B. Munro
Life Sciences Division
Oak Ridge National Laboratory
P.O. Box 2008
Oak Ridge, TN 37831-6201
Phone: (865)574-6641
Fax: (865)574-5353
MunroNB@ornl.gov

Research Interests

Application of advanced nonlinear analysis techniques to time serial data for biomedical endpoints; e.g., for forewarning of seizures from EEG data, forewarning of cardiac arrhythmia from ECG data, detection of sleep apnea from air flow data, etc.

Education/Background

Ph.D., Medical Physiology, 1971, University of Kentucky

Selected Technical Documents/Reports/Journals/Abstracts/Presentations:

Talmage, S. S., N. B. Munro, A. P. Watson, et al., "The Fate of Chemical Agents in the Environment," In: T. C. Marrs, R. L. Maynard, and F. R. Sidell, eds., *Chemical Warfare Agents: Toxicology and Treatment*, 2nd Ed. John Wiley & Sons: London. (Invited chapter), accepted 2005 (2006).

Talmage, S. S., A. P. Watson, V. Hauschild, N. B. Munro, and J. King, , "Chemical Warfare Agent Degradation and Decontamination," invited paper to be published in *Current Organic Chemistry*, 2006.

Hively, L.M., V.A. Protopopescu, and N.B. Munro, "Enhancements in Epilepsy Forewarning Via Phase-Space Dissimilarity," accepted, *J. Clin. Neurophysiol.*, Dec. 2005.

Leggett, R. W., N. B. Munro, and K. F. Eckerman. "A Proposed Revision of the ICRP's Model for Inhaled Mercury Vapor," *Health Phys.* 81(4):450-455 (2001).

Ward, R. C., K. L. Kruse, G. O. Allgood, L. M. Hively, K. N. Fischer, N. B. Munro, and C. E. Easterly, "Virtual Human Project" in *Visualization of Temporal and Spatial Data for Civilian and Defense Applications* (eds. G.O. Allgood and N. L. Faust) Proceedings of the SPIE, Vol. 4368 pp 158-167 (2001).

Ward, R. C., M. W. Yambert, R. J. Toedte, N. B. Munro, C. E. Easterly, E. P. Difilippo, and D. C. Stallings. "Creating a Human Phantom for the Virtual Human Program," *Proceedings of Medicine Meets Virtual Reality 2000*, IOS Press, Amsterdam, 2000.

Munro, N. B., S. S. Talmage, G. D. Griffin, L. C. Waters, A. P. Watson, J. F. King, and V. Hauschild. "The Sources, Fate, and Toxicity of Chemical Warfare Agent Degradation Products," *Environ. Health Perspect.* 107: 933-974 (1999).

Munro, N. B. and K. F. Eckerman. "Impacts of Physiological Changes During Pregnancy on Maternal Biokinetic Modeling," *Radiat. Protec. Dosim.* 79: 327-333 (1998).

Munro, N. B., K. R. Ambrose, and A. P. Watson. "Toxicity of the Chemical Warfare Agents GA, GB, and VX: Implications for Public Protection" *Environ. Health Perspect.* 102: 18-38 (1994).

Halbrook, R. S., L. R. Shugart, A. P. Watson, N. B. Munro, and R. D. Linnabary. "Biological Variability in Baseline Whole Blood Cholinesterase Activity in Livestock: Establishing a Biomonitoring Protocol." *J. Am. Vet. Med. Assoc.* 201: 714-725 (1992).

Uziel, M., N. B. Munro, D. S. Katz, T. Vo-Dinh, E. A. Zeighami, M. D. Waters, and J. D. Griffith. "DNA Adduct Formation by Twelve Chemicals with Populations Potentially Suitable for Molecular Epidemiological Studies." *Mutat. Res.* 227: 35-90 (1992).

Halbrook, R. S., C. E. Guyman, K. J. Wilkinson, A. P. Watson, N. B. Munro, and L. R. Shugart. "A Rapid Whole Blood Cholinesterase Assay with Potential Use for Biological Monitoring During Chemical Weapons Disposal." *J. Assoc. Off. Analyt. Chemists* 75: 549-553 (1992).

Munro, N. B., L. R. Shugart, A. P. Watson, and R. S. Halbrook. "Cholinesterase Activity Levels in Domestic Animals as a Potential Biomonitor for Nerve Agent and Other Organophosphate Exposure." *J. Am. Vet. Med. Assoc.* 199(1): 103-115 (July 1, 1991).

Munro, N. B., A. P. Watson, K. R. Ambrose, and G. D. Griffin. "Treating Exposure to Chemical Warfare Agents: Implications for Health Care Providers and Community Emergency Planning." *Environ. Health Perspect.* 89: 205-215 (1990).

Professional Activities/Honors

2005 Significant Event Award, ORNL, for SeizAlert technology.

R&D 100 Award, 2005, SeizAlert technology.

Distinguished Technical Communication Award from Society for Technical Communication, East Tennessee Chapter (1991) for : Integrated Environmental Assessment of a Major Project, S. A. Carnes, guest editor, et al., *The Environmental Professional* 11(4): 277-446 (1989).

Achievement Award from Society for Technical Communication, East Tennessee Chapter (1990) for: Uziel, M., N.B. Munro, D.S. Katz, T. Vo-Dinh, and E. Zeighami. *DNA Adduct Formation by Twelve Chemicals with Populations Potentially Suitable for Molecular Epidemiological Studies*. ORNL/TM-10849 (1989) 117 p.

DOE Young Scientist Award, ~1981

➤ National Institute of Health Pre-doctoral Fellowship, 1970.