

CURRICULUM VITAE

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EDUCATION

B.S., Chemistry, East Carolina University, 1968.
M.S. & Ph.D., Chemistry, Emory University, 1973.
Postdoctoral, Medicinal Chemistry, Kansas University, 1974.

PUBLISHED BIOGRAPHICAL INFORMATION

Who's Who in Frontiers of Science and Technology.
American Men and Women of Science.

MEMBERSHIPS

American Chemical Society.
American Association for the Advancement of Science.

LICENSE & CERTIFICATES

Researcher License, State of Tennessee Board of Pharmacy License No. 10410 for activities regarding Scientific Research, Chemical Analysis of Controlled Substances, and Training of Odor Detection Animals.

Controlled Substances Registration Certificates, United States Department of Justice, August 1989 through May 1997, for Analytical Lab Activities regarding testing of controlled substances in Schedules 1, 2, 3, 3N, 4, 5. From June 1997 to present, am permitted to conduct independent examinations and testing of controlled substances on a case-by-case basis in licensed laboratories.

Drug Recognition and Evaluation Overview Course on NHTSA Manual, Certificate of Completion, Atlanta, Georgia, May 20-22, 2004.

Medical Review Officer (MRO) Federal Health & Human Services Training Course, Certificate of Completion, Chicago, Illinois, November 1-3, 1996.

FORENSIC WORK

Examined and tested a large variety of controlled substances at New Scotland Yard's Forensic Sciences Laboratories in London, England; as a visiting scientist, focused on forensic laboratory testing methods, October 1975.

For 40+ years have conducted numerous examinations of evidence and testing for controlled substances at various American crime laboratories and police station evidence rooms.

Researched marijuana cultivation, laboratory testing, and smell identification in the Bibliographic Area of the Institute of Pharmaceutical Sciences (United States government marijuana farm), in Oxford, Mississippi, May 1980.

Conducted laboratory studies regarding the GC/MS testing method for marijuana at the United States Army Forensic Drug Testing Laboratory, Wiesbaden, West Germany, July 1986.

Observed odor-detection K-9s in action with their police handlers in Croatia, Hungary & Poland, July 1999.

For about 15 years studied and worked with Thomas A. Knott, retired Baltimore police K-9 trainer and handler who was also a K-9 trainer/handler consultant for the FBI, HRT (Hostage Rescue Team), and the White House K-9 Corps. Observed his use of K-9s and his demonstrations with K-9s many times. He gave me access to his vast library on the subject of K-9 training and handling. Collaborated with other police K-9 trainers and advised handlers regarding K-9 training for smell-detection of controlled substances.

Participant variable surface tracking (VST) K-9 certification sessions, American Kennel Club, Athens, GA, October 1994.

ACKNOWLEDGMENTS

What the Nose Knows; the Science of Scent in Everyday Life, Crown Publishers, NY, pages 31-33, 71-72, 2008. Subject: odor identifications of marijuana and cocaine.

Criminal Practice Report, Who Really Knows What a Dog's Nose Knows? Pike & Fischer, Inc. (subsidiary of The Bureau of National Affairs) Volume 12, No. 23, page 462, 1998. Subject: methyl benzoate; the actual odor of cocaine.

Indoor Air Pollution and Health, Marcel Dekker, Inc., Chapter 15, page 337, 1996. Subject: Biological markers for volatile organic compound (VOC) odors from indoor air exposures. Co-contributor with scientists from the Oregon Health Sciences University in Portland, Oregon and the Centers for Disease Control (CDC) in Atlanta, Georgia.

American Bar Association Journal, August issue, page 22, 1993. Subject: cocaine traces on currency produce methyl benzoate, the odor of cocaine.

Scientific Evidence (Cumulative Supplement), The Michie Company, page 128, 1989. Subject: By testing a woman using the male scale, she will inevitably score as though she had consumed more alcohol than in fact she has.

Electronic Supervisor (United States Congress Office of Technology Assessment), Document OTA-CIT-333, pages 133-4, 1987. Subject: GC/MS tests for marijuana.

Journal of Immunological Methods, Volume 101, page 50, 1987. Subject: contribution to the U.S. Public Health study by the Centers for Disease Control (CDC) regarding improving laboratory equipment for drug testing based on immunoassays.

Substance Abuse Report, April issue, page 7, 1986. Subject: marijuana testing.

Bigger Secrets, Houghton Mifflin Co., Boston, Chapter 10, page 77, 1986. Subject: detection of cocaine residues on United States Currency in general circulation.

Designer Drugs, CompCare Publications, Minneapolis, Chapter 5, page 111, 1986. Subject: "Woodford/Vogt Test"; a detection method for a neurotoxin by-product in "designer drugs"; co-developed with Dr. Robert Vogt, laboratory scientists at the Centers for Disease Control (CDC) in Atlanta, Georgia.

The Champion, Volume IX (4), page 4, 1985. Subject: Equipment and testing method for determining

human lung breath-to-blood ratios.

Substance Abuse: Pharmacologic and Clinical Perspectives, John Wiley and Sons, New York, page 63, 1983. Subject: chemical definition of "Cocaine Freebase".

Analytical Chemistry Reviews, Volume 51 (5), page 258R, 1979. Subject: *Screening Procedures for Drugs*, *Journal of Chromatography*, Volume 115 (2), page 678, 1975. Subject: Evaluation of crime laboratory testing methodology for drug testing.

AUTHORED WORK

Expert Evidence in Criminal Law: The Scientific Approach, Published by Irwin Law, Inc., Pages 120-121, 2009. Subject: Mathematical analysis of Police observations of drug detection.

Endogenous Alcohol in Blood Can Add to BAC Levels, *Proceedings of the 51st Annual Meeting of the American Academy of Forensic Sciences*, Abstract No. E-10, page 133, 1999. Subject: dietary alcohol volatilizes upon heat incubation prior to headspace gas chromatograph testing of blood.

Crime Lab Shortcuts Make for Bad Chemistry in Court, Bureau of National Affairs, *Criminal Practice Manual*, Volume 9 (12), page 281, 1995. Subject: Interview regarding common errors made by crime laboratories during the testing of controlled substances.

Guidelines for DRE (Drug Recognition Evaluation, co-author), American Academy of Forensic Sciences, 40th Annual Meeting, San Antonio, Abstract No. E-15, page 124, 1994.

Affidavit, Drug Testing Legal Manual, Clark Boardman Co., page B8-1, 1989. Subject: testing for controlled substances.

Detection of the Parkinsonism-Producing Neurotoxin, MPTP, Academic Press, New York, page 543, 1986. Subject: co-developed assay method for neurotoxic impurity in controlled substances with scientists at the Centers for Disease Control (CDC) in Atlanta, Georgia.

The Relation Between Paraquat Spills and Brain Damage, *DEA Final Environmental Impact Statement*, Ace-Federal Reporters, Washington, D.C., page 282, 1986.

Assay for Neurotoxin, Symposium on MPTP, Department of Neurology, Uniformed University of the Health Sciences, Bethesda, Maryland, page 61, 1985. Subject: method for detecting neurotoxic impurity in controlled substances; co-developed with scientists at the Centers for Disease Control (CDC) in Atlanta, Georgia.

How to Interpret Breath Alcohol Reports, Library of Congress 83-51151, 1983.

Synthesis of 5-substituted 2'-deoxyuridines, *Journal of Medicinal Chemistry*, (co-author) Volume 19, page 909, 1976. Subject: Cancer therapeutic drug.

Screening Procedures for Drugs, *Journal of Chromatography*, Volume 115 (2), page 678, 1975. Subject: crime laboratory method of testing controlled substances.

Synthesis of the Alpha and Beta Anomers of 1- (2-deoxy-D-ribofuranosyl)-4'-pyridone, *Journal of Medicinal Chemistry*, (co-author), Volume 17, page 1027, 1974. Subject: Cancer therapeutic drug.

Synthesis and Cyclization. An Approach to pseudo-santonin; *Dissertation Abstracts International*, Volume 34 (2), page 603, 1973. Subject: The odor ingredient in Absinthe and the effect of coiling.

The Gas-phase Synthesis and Reactions of Bromamine, Inorganic Chemistry, (co-author) Volume 8 (4), page 998, 1969. Subject: Bromamine in human breath is a biological marker for asthma, bronchitis and emphysema (i.e., chronic obstructive pulmonary disease, COPD).

RESEARCH GRANTS

United States Public Health Service (Department of Health & Human Services) CA54401 and CA55401.

PATENTS

United States Patent No. 4,260,517, My patented formulation of methyl benzoate, the odor of cocaine, was tested and found effective for human and canine smell-training and proficiency testing; available to K-9 trainers and handlers from Sigma Chemical Co., Forensic Chemistry Catalog No. P2423-100G. *Mimicking the Odor of Cocaine for Police Use, New York Times, April 11, 1981. Confirmed as the actual odor of cocaine that canines alert and indicate to (Odor confirmed by other scientists: Proceedings of the 51st Annual Meeting of the American Academy of Forensic Sciences, Abstract No. B-28, page 33, 1999).*

United States Patent No. 4,843,020, Improved GC/MS method for u/a testing of marijuana.