# Ernest D. Lykissa, Ph.D.

Laboratory and Scientific Director, ExperTox, Inc.
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EDUCATION:

BS 1970 Microbiology, California State University, Long Beach, CA

MS 1971 Microbiology California State University, Long Beach, CA

Ph.D. 1979 Medicine and Experimental Surgery, Molecular Pharmacology, University of Montreal, Canada

PROFESSIONAL EXPERIENCE:

1980-1984 Associate Director of Clinical Laboratory, Institute of Laboratory Medicine, Northridge, CA

1984-1987 Toxicologist, Department of Pathology, Memorial Hospital, Long Beach ,CA

1987-1992: Director of Toxicology, SmithKline Beecham NIDA Forensic Toxicology Laboratory, Van Nuys, CA

1992-pres: Inspector, Department of Health and Human Services, And National Laboratory Certification Program

1992-1997: Director of Forensic Toxicology, Premier Analytical Laboratories, Houston, TX

1994-1995: Toxicology Consultant, Baylor College of Medicine, and Houston,TX

1996-present: Inspector, College of American Pathology, Forensic Laboratory Accreditation Program

1996-1998: Assistant Professor, Department of Pathology, Baylor College of Medicine, Houston, TX

1998-2000 Associate Professor, Department of Pathology, Baylor College of Medicine, Houston, TX

1996-2000 Scientific Director, Baylor Toxicology Services (Baytox Inc.) division of the Department of Pathology, Baylor College of Medicine, Houston, TX

The laboratory was established as a Houston community outreach effort on behalf of the Department of Pathology. It involved the establishment, totally equip a laboratory, and train the personnel, with ICP-MS ( Inductively Coupled Argon Plasma-Mass Spectrometry) for the detection of heavy metals to include lead, mercury, cadmium, arsenic, chromium, beryllium and platinum in human body fluids and tissue. In addition samples analyzed in the laboratory consisted of analyses for Drug Residues utilized in the clinical practice of the Texas Medical Center of Houston. The technologies utilized primarily in these functions were GC/MS and LC/MS, depending on the particular drug targeted in the analysis.

As a follow up to the positive detection of arsenic, chromium and platinum, speciation (establishment of the valence state) of the metal ions detected was performed. The establishment of the toxic risk assessment in these analyses was performed with ion chromatography coupled to the ICP-MS. In the other hand GC/MS detection was utilized with head - space analysis for the presence of organic solvent residue in human tissues and body fluids to establish the human toxic exposure in the industrial workplace. In addition, GC/MS was employed for the forensic confirmation of drugs of abuse, pesticides, and other industrial contaminants i.e., phthalates.

2000-present: Laboratory and Scientific Director, ExperTox, Inc., Analytical and Forensic Toxicology Laboratories, DeerPark, TX

Establishment of a fully accredited by College of American Pathologists (CAP) Clinical and Forensic Toxicology Laboratory. At the onset most of the drug analyses were performed by screening with EIA and confirmation by GC/MS. Presently we have transitioned most of the drug confirmations to LC/MSMS technology with prior screening for body fluids by EIA and hair by ELISA. Heavy metals are measured by ICP/MS in various biological and non biological matrices, liquid or solid.

HONORS AND AWARDS:

1976: Canadian Olympic Games Award for Meritorious Contribution, (Chief Mass Spectrometrist at the Doping Control Lab)
1986: Visiting Professor, International Association of Toxicology, and University of Athens, Greece
1989: Hewlett Packard award for Forensic Mass Spectrometry, American Association of Clinical Chemistry
1994: Main Speaker Award of Excellence at Houston's Business, Drug Free Initiative Conference, and Houston, TX
1995: Southwestern Association of Toxicologists, Annual Award for Merit

PROFESSIONAL SOCIETIES:

American Association of Clinical Chemistry
California Association of Toxicology
Society of Forensic Toxicology (SOFT)
Southwestern Association of Toxicology
American Chemical Society (ACS)
Society of Toxicology
American Society of Investigative Pathology

PUBLICATIONS:

- Lykissa, E.D., Kourounakis, P., and Selye, Hans. (1978). Hepatic Intracellular Distribution of Pregnenolone-16alpha-carbonitrile and its Influence on Adenyl Cyclase Activity in Rat Liver Cells. Research Communications in Chemical Pathology & Pharmacology. 19:173-176

- Lykissa, E.D., Kala, S.V., Hurley, J.B., and Lebovitz, R.M. (1997) Release of low molecular weight silicones and from Silicone Breast Implants. Anal. Chem. 69:4912-4916

- Kala, S.V., Lykissa, E.D., and Lebovitz, R.M., (1997) Detection and Characterization of Poly (dimethylsiloxanes) in Biological Tissues by GC/AED and GC/MS. Anal. Chem. 69:1267-1272.

- Kala, S.V., Lykissa, E.D., Neely, M.W., and Lieberman, M.W. (1998) Low molecular weight silicones are widely distributed after a single subcutaneous injection in mice. Am. J. Pathol. 152:645-649.

- Lieberman, M.W., Lykissa, E.D., Barrios, R., Ou, C.N., Kala, G., and Kala, S.V. (1999)

Cyclosiloxanes Produce Fatal Liver and Lung Damage in Mice. Envir. Health Prospectives 107:161-165

- Hanigan, M.H., Lykissa, E.D., Townsend, D.M., Ou, C.N., Barrios, R., and Lieberman, M.W. (2001) y-Glutamyl Transpeptidase-Deficient Mice Are Resistant to the Nephrotoxic Effects of Cisplatin. Am. J. Pathol. 159:1889-1894.

- Buchman, A.S., Neely, M., Grossie, B., Jr., Truong, L., Lykissa, E.D., Ahn, C. (2001) Organ heavy-metal accumulation during parenteral nutrition is associated with pathologic abnormalities in rats. Nutrition. 17:7/8, 600-606.

- Markaverich, B.M., Alejandro, M., Faith, R., Montgomery, C., Kala, S.V., Lykissa, E.D., and Lieberman, M.W. Cyclic Siloxane Interactions with Human Breast Cancer Cells: Interaction with Type II [3H] Estradiol Binding Sites and Modulation of Cellular Proliferation. Journal of Toxicology, 218, 2004).

- E.D. Lykissa, James D. Smith, Bhadra, R., Darcey Weimand, Christopher I. Prater, Matthew W. Neely, Jacqueline V. Shanks, Joseph B. Hughes. Comparative Toxicity of Phytoremediated Trinitrotoluene (TNT) by *Catharanthus roseus* Axenic Cultured Roots and *Myriophylum paludosa* plants, on *Pomacea paludosa* (Apple Snail), C57 Female Mice and Sprague Dawley Female Rats. Submitted to Environmental Health Perspectives .

- Cano C., Lykissa E.D., and L. Jambor. Cocaine and Benzoylecgonine in Whole Blood or Plasma by Quantitative GC-MS. Presented in the American Association of Clinical Chemistry annual meeting in 1990.

- E. D. Lykissa and I. H. Kaffity Frequency of Cocaethylene Detection in Blood and Urine during Routine Cocaine Confirmations by GC/MS. American Academy of Forensic Sciences. Boston 1993

- Lykissa, E.D. FDA testimony, October 14, 2003. Cyclosiloxane and Platinum Toxic Burden associated with aged silicone filled breast implants.

- Susan V.M. Maharaz & E.D. Lykissa. Platinum and Platinum Species in Explanted Silicone Gel Prosthetic Devices Using IC-ICP-MS. Presented at the 228$^{th}$ American Chemical Society Congress, Philadelphia, PA., August 26$^{th}$ 2004.

- Lykissa, E.D. and Maharaj, S.V.M. Total Platinum Concentration and Platinum Oxidation States in Body Fluids, Tissue, and Explants from Women Exposed to Silicone and Saline Brest Implants by IC-ICPMS. Published in Analytical Chemistry Volume 78, Number 9, Pages 2925-2933, May 1, 2006.

- Lykissa, E.D. User Profile: ExperTox Inc. Specialists in Toxicology Testing. Published in Agilent ICP-MS Journal January 2004; Issue 18, Page 4.

- Lykissa, E.D., Anderson, L.M., Gonzalez, C.A., Frink, B.M., Uretsky, B.F. With Arsenic, Things Are Not Always What They Seem. Presented at the Southwestern Association of Toxicologist, Albuquerque, NM, May 2-3 2003.

- Anding, K, Moody, C., & Lykissa, E.D, Comparison of Propranolol Quantitation Using GC/MS-EI vs GC/MS-PCI and GC/MS-NCI and the Optimization of Liquid-Liquid Extraction. Presented at the 39$^{th}$ Annual Oak Ridge Conference, Harnessing New Technology for Clinical Diagnostics. April 19-20 2007

- Lykissa, E.D., Anding, K., Cocaine, Phencyclidine, Opioids, Amphetamines in Hair by LC/MS.

Presented at the Society of Forensic Toxicology Conference 2006.

- Wentworth J.C., Hernandez B.,Tolliver S.S., & Lykissa E.D., A Robust, Reliable and Cost-Efficient Method to Extract and Detect Synthetic Cannabinoids in Urine by LC/MSMS. Presented at the Conference of the American Association of Clinical Chemistry July 2013

- Altered Reinstatement of Methamphetamine Place Conditioning in Mice Following administration of a Succinyl-Methamphetamine-Tetanus-Toxoid Vaccine. :In preparation Colin N. Haile [1,3,5*], Therese A. Kosten[1,3,5], Xiaoyun Y. Shen[2,3], Patrick W. O'Malley[1,3], Ernest D Lykissa, Berma M. Kinsey[2,3], Zhen Huang[4], Thomas R. Kosten[1,3], Frank M. Orson[2,3]

- Naga V. Naidu.; Joseph A. Cox & Ernest D. Lykissa. Quantitative Determination of Oxytocin in Blood & Pharmaceuticals by LC/MSMS. Presented at the Conference of the Society of Forensic Toxicologists, October 2015

- Joseph A. Cox,; Naga V. Naidu.; & Ernest D. Lykissa. Quantitative analysis of synthetic hallucinogen: 25-I NBOMe, 25C-NBOMe, and 25B-NBOMe in blood and urine by LC/MSMS. Presented at the Conference of the Society of Forensic Toxicologists, October 2015.