

ED BARLEY



FORENSIC TOXICOLOGY

CONSULTANT / EXPERT WITNESS



CURRICULUM VITAE

EDUCATION

California State University, Long Beach	1987 - 1990	B.S. Biochemistry
University of California, Riverside	1986 - 1987	Biomedical Studies

PROFESSIONAL WORK EXPERIENCE

Forensic Toxicologist (2013 to Present)

Self-Employment

- Toxicology Consultant and Expert Witness

Senior Criminalist (1993 to 2012)

Scientific Services Bureau, Los Angeles County Sheriff's Department

- Forensic Alcohol Unit
- Controlled Substance Unit
- Clandestine Laboratories Unit

Criminalist (1991 to 1993)

Scientific Services Bureau, Los Angeles County Sheriff's Department

- Toxicology Unit

FORENSIC TOXICOLOGY CONSULTING & EXPERT WITNESS EXPERIENCE

Toxicology involves understanding the adverse effects of drugs and other chemicals on the human body, especially the effects on biological systems. Forensic Toxicology involves the application of toxicology in the application of law or in medicolegal context. The field of Forensic Toxicology involves three main sub-disciplines: postmortem, human performance, and drug testing.

I have testified extensively and been qualified in the field of Forensic Toxicology in the following areas as it relates to drugs and alcohol toxicology; sobriety testing, driving while intoxicated with drugs or alcohol, NHTSA's standardized field sobriety testing (SFST), drug recognition expert evaluations (DRE), drug and alcohol analytical testing procedures, and chain of custody. I testify in both Civil and Criminal matters relating to driving under the influence, homicide, and other violent non-driving related crimes.

I have testified more than 600 times on behalf of the prosecution and defense within the Criminal Courts of California. I have testified as an expert witness in the following Counties: Alameda, Contra Costa, Fresno, Humboldt, Imperial, Kings, Los Angeles, Marin, Mariposa, Monterey, Napa, Orange, Placer, Riverside, San Bernardino, San Diego, San Francisco, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, San Louis Obispo, Stanislaus and Ventura. I have testified as an expert witness outside of California within the Criminal Courts in the States of Alaska, Colorado, Idaho, Iowa, Wyoming, and Virginia.

I have testified more than 600 times as a toxicology expert witness in Department of Motor Vehicle's Administrative Per Se Hearings, on behalf of the Department Motor Vehicles and the Respondent.

I have extensively consulted in the area of forensic toxicology for both civil and criminal attorneys. I have consulted in matters concerning sobriety testing, driving under the influence of alcohol or drugs, analytical testing methods, postmortem toxicology, human performance toxicology, NHTSA's Standardized Field Sobriety Testing, breath alcohol testing with infrared and fuel cell technologies, blood alcohol testing, both and reverse extrapolation and forward extrapolation of alcohol levels.

I have extensively consulted within the States of Alaska, California, Colorado, Florida, Indiana, Kentucky, New York, Nevada, Oregon, Idaho, New Hampshire, Pennsylvania, Washington and Wyoming.

Appointment: County of Los Angeles Superior Court's "*Panel of Expert Witnesses*"

MCLE Provider for Attorneys in the area Forensic Toxicology

CERTIFICATIONS

California Department of Health Services (2010)

- *Forensic Alcohol Supervisor*

California Department of Health Services (2006)

- *Forensic Alcohol Analyst*

Department of Justice - Bureau of Narcotics Chico, CA (1995)

- *Clandestine Laboratory Safety Certification*

County of Los Angeles (JUN 1992)

- *Emergency Medical Technician 1 Ambulance, Certification: #18182A*

American Red Cross - Los Angeles (1992)

- *Adult CPR Instructor*

WORKSHOPS

CONFERENCE - National College for DUI Defense [NCDD] Newport Beach, CA (JUL 2024)

- *Voir Dire, Openings, SFST, Blood Analysis and Brath Analysis*
– Various Presenters

Webinar - National College for DUI Defense [NCDD] (MAY 2024)

- *Finding Flaws Forensically*
– Peter Johnson

Webinar - Society of Forensic Toxicologists [SOFT] (DEC 2023)

- *Navigating the Current Challenges in Postmortem Toxicology*
– Joe Kahl, Graham Jones, Diane Moore, Joshua Seither, Jan Gorniak, Sarah Buxton de Quintana, & Erin Worrell

CONFERENCE - California DUI Lawyers Association [CDLA] Los Angeles, CA (AUG 2023)

- *“BAD”: Blood Analysis Discovery How to Navigate and Defend*
– Suzanne Perry
- *Venipuncture and AMP*
– Jeanne Normandeau

Webinar - California DUI Lawyers Association [CDLA] (JUN 2023)

- *A California Firearms Primer*
– David J. Salvin

Webinar - California DUI Lawyers Association [CDLA] (JAN 2023)

- *How to Challenge the THC Evidence in Every Case*
– Dr. Stefan Rose

Webinar - National College for DUI Defense [NCDD] (OCT 2022)

- *Blood, Breath & THC: What you Need to Know*
– John Menzel, Jay Norton & Greg Ohlson

CONFERENCE - California DUI Lawyers Association [CDLA] San Francisco, CA (AUG 2022)

- *Cannabis-Impaired Driving*
– Dr. Marilyn Huestis
- *Drugs & SFSTs*
– Robert LaPier

Webinar - Wyoming Trial Lawyers Association (FEB 2022)

- *A Critical Evaluation of the Scientific and Statistical Validity of the Drug Evaluation Program (DRE)*
– Dr. Fran M. Gengo
- *Why Science Does Not Support "per se" Drug Measurements to Prove Drug Impairment*
– Dr. Jimmie L. Valentine
- *How Law Enforcement Use ARIDE and Drug Recognition Evaluator/Expert (DRE) Training to Detect Drug Impairment and How This Training Lacks Scientific Validity*
– Dr. Lance A. Platt

Webinar - North Carolina Court System (NOV 2020)

- *Laboratory Drug Testing: Principles, Methods, and Limitations*
– Dr. Kiran Dhakal

Webinar - National College for DUI Defense [NCDD] (SEP 2020)

- *Cannabis & Cars*
– George Bianchi

CONFERENCE - California DUI Lawyers Association [CDLA] San Francisco, CA (JUL 2019)

- *The Science of Defending Marijuana DUIs*
– Dr. Stefan Rose

CONFERENCE - National College for DUI Defense [NCDD] Los Angeles, CA (JAN 2019)

- *Drug Combinations*
– Dr. Fran Gengo
- *The Drug Recognition Expert (DRE) Overview*
– Anthony Palacios & Ron Lloyd,
- *The Drug Recognition Expert (DRE) Live Examinations*
– Anthony Palacios, Ron Lloyd & Dr. Lance Platt, Ph.D.

CONFERENCE - California DUI Lawyers Association [CDLA], San Francisco, CA (2018)

- *The Expert Witness as Educator*
– Jan Semenoff
- *Establishing Reliability Standardized Acts, Practices & Conditions in Forensic Testing*
– Jan Semenoff

- *Are All People Too Impaired to Drive Safely at 0.05%?*
– Ronald Moore

CONFERENCE - California DUI Lawyers Association [CDLA] Fresno, CA (2017)

- *Pharmacology of DUI*
– Dr. Alan Donelson

CONFERENCE - California DUI Lawyers Association [CDLA] San Diego, CA (2016)

- *Beyond the GC Peak*
– Suzanne Perry

- *Marijuana DUI*
– Manny Daskal

CONFERENCE - California DUI Lawyers Association [CDLA] Fresno, CA (2015)

- *Laryngopharyngeal Reflux “LPR”*
– Dr. Bret Sherman

CONFERENCE - California DUI Lawyers Association [CDLA] Newport Beach, CA (2014)

- *Understanding Blood Gas Chromatography*
– Dr. Stefan Rose

- *Proper Forensic Blood Draw Evidence*
– Ron Lopez R.N.

- *Forensic Breath Testing*
– James Wigmore

CONFERENCE - California DUI Lawyers Association [CDLA] Fresno, CA (2014)

- *Marijuana and DUI Issues*
– Paul Armentano,

- *DRE Evaluation*
– Middlebrook

CONFERENCE - California Association of Toxicologist [CAT] Sacramento, CA (2010)

- *Toxicology Sleep and Driving Under the Influence Workshop*

CONFERENCE - American Academy of Forensic Sciences [AAFS] Seattle, WA (2010)

- *AAFS 62nd Annual Scientific Meeting*

CONFERENCE - International Association Chemical Testing (IACT) Anchorage, AK (2009)

- *IACT 22nd Annual Conference*
- *NPAS’s Program Manager’s Meeting*

CONFERENCE - California Association of Criminalist [CAC] Devore, CA (2009)

- *Drinking and Driving Simulator*

CONFERENCE - Clandestine Laboratory Investigating Chemist [CLIC] San Diego, CA (1997)

- *Technical Seminar (Methamphetamine)*

CONFERENCE - Clandestine Laboratory Investigating Chemist [CLIC] Alexandria, VA (1996)

- *Technical Seminar (Fentanyl)*

CONFERENCE - Clandestine Laboratory Investigating Chemist [CLIC] Vancouver, B.C (1994)

- *Technical Seminar (MDA)*

CONFERENCE - California Association of Toxicologist [CAT] Irvine, CA (1992)

- *CAT - Toxicology Training Colloquium*

CONFERENCE - California Association of Toxicologist [CAT] San Diego, CA (1991)

- *CAT - Toxicology General Meeting*

CONFERENCE - California Association of Criminalist [CAC] Huntington Beach, CA (1991)

- *CAC - Toxicology Workshop*

PRESENTATIONS & TRAINING PROVIDED

California DUI Lawyers Association [CDLA] (APR 2024)

Webinar Title: *Chemical Breath Test Machines*

(MCLE credit) Minimum Continuing Legal Education offers attorneys education the California State Bar requires to help stay current with new laws or expand their legal expertise.

California DUI Lawyers Association [CDLA] (FEB 2023)

Webinar Title: *Cross Examination of the State's Expert*

(MCLE credit) Minimum Continuing Legal Education offers attorneys education the California State Bar requires to help stay current with new laws or expand their legal expertise.

SoCal Cannabis Affinity Group ProVisors Los Angeles Valley (AUG 2022)

Webinar Title: *Cannabis impairment facts vs fiction, how law enforcement establishes driving impairment from marijuana, utilizing the Drug recognition process and toxicological examination of a biological sample.* (Group of attorneys, CPAs, Valuation Experts, supply chain experts, human resources, insurance brokers, IT, business coach, business sales, etc.)

Medical Forensic Group (APR 2021 to JAN 2023)

Webinar Title: *THC / Cannabis Toxicology: Recognizing Impairment*

(MCLE credit) Minimum Continuing Legal Education offers attorneys education the California State Bar requires to help stay current with new laws or expand their legal expertise.

Alameda County Bar Association AUG 2021)
Webinar Title: *Untangling the Web Part 2 - How to prepare for Administrative Per Se DMV hearings*
(MCLE credit) Minimum Continuing Legal Education offers attorneys education the California State Bar requires to help stay current with new laws or expand their legal expertise.

Los Angeles County Deputy Public Defender's Office, Metropolitan Courthouse (DEC 2019)
Training Topic: *DRE 12 Step Process*

San Luis Obispo County Criminal Defense Bar (AUG 2019)
Training Topic: *D.U.I. & Voodoo Science*

The Kavinoky Law Firm (JUN 2019)
Training Topic: *Breath Alcohol Issues*

Los Angeles County Deputy District Attorney's Office - Beverly Hills, CA (2011)
Training Topic: *Forensic Alcohol Basics*

South Bay Bar Association Substance Abuse Meeting Redondo Beach, CA (2008)
Training Topic: *Forensic Alcohol Basics*

Judges DUI Conference Los Angeles, CA (2007)
Training Topic: *Forensic Alcohol Basics*

South Bay Bar Association Substance Abuse Meeting Torrance, CA (2006)
Training Topic: *Forensic Alcohol Basics*

Cal State Northridge Microbiology Students Northridge, CA (2005)
Training Topic: *Crime Lab Introduction*

Los Angeles County Sheriff's Department, Los Angeles, CA (1996)
Training Topic: *Function of The Crime Lab*

Redondo Beach Police Department Redondo Beach, CA (1996)
Training Topic: *Methamphetamine Manufacturing*

Monterey Park Police Department Monterey Park, CA (1996)
Training Topic: *Methamphetamine Manufacturing*

El Camino College Criminal Justice Department (1996)
Training Topic: *Function of The Crime Lab*

Cal State Long Beach Criminal Justice Program Long Beach, CA (1994)
Training Topic: *Crime scene Investigation*

Cal State Long Beach Criminal Justice Program Long Beach, CA (1992)
Training Topic: *Crime scene Investigation*

PROFESSIONAL TRAINING

ARIDE Impaired Driver Education Torrance, CA (Mar 2019)

- *ARIDE (16-hour training focusing on ARIDE curriculum)*
– Christian Martorana

Los Angeles County Sheriff's Department Downey, CA (2011)

- *DataMaster DMT: Theory of Operation and Instructor (NPAS)*
- *Uncertainty of Blood Measurements for Blood Alcohol Levels*

Los Angeles County Sheriff's Department Downey, CA (2009)

- *Alcohol Correlation Study (Ed Barley Role - Coordinator)*

California Criminalistics Institute Los Angeles, CA (2008)

- *Pharmacokinetic Processes, Pharmacology and Pharmacokinetics of Amphetamines and Cocaine*
- *Unlocking the Significance of Forensic Toxicology & Neurobiology & Pharmacokinetics of Cannabinoids*

NPAS, Mansfield, OH (2008)

- *DataMaster cdm: Theory of Operation, Supervisory Functions, Maintenance, Calibration and Repair*

Dräger Safety Diagnostic Downey, CA (2006)

- *Dräger Alcotest 6510 – Instructor*

NHTSA's SFST, Santa Anna, CA (2006)

- *Standardized Field Sobriety Testing (16 hours)*

PAS Coordinator Course El Segundo, CA (2006)

- *Alco-Sensor IV – Operator, Maintenance and Calibration*

Robert F. Borckenstein Indiana University, IN (2005)

- *Course on Alcohol and Highway Safety*

Los Angeles County Sheriff's Department Downey, CA (2005)

- *DataMaster cdm, Officer Instructor Training*

Lifeloc Technologies, Factor Authorized Instructor Downey, CA (2005)

- *Lifeloc FC, Operator, Maintenance and Calibration Course for the FC Series*

Los Angeles County Sheriff's Department Pomona (1995)
● *Emergency Vehicle Operations Center – Patrol vehicle drivers training*

Nicolet, Woodland Hills, CA (1997)
● *Fourier-transform infrared spectroscopy (FTIR) Workshop*

California Criminalistics Institute Sacramento, CA (1994)
● *Clandestine Laboratory Analysis and Synthesis*

Drug Enforcement Agency (DEA) McLean, VA (1994)
● *DEA - Forensic Chemist Seminar*

California Criminalistics Institute, Sacramento, CA (1994)
● *Mass Spectra Theory and Interpretation*

Los Angeles County Sheriff's Department, Los Angeles, CA (1994)
● *Emergency Operations Center – 480 Radio Training*

Los Angeles County Sheriff's Department, Los Angeles, CA (1992)
● *Controlled Substances - Identification of Steroids*
● *Identification of Controlled Substances*
● *Toxicology - PCP Blood Confirmation*

Los Angeles County Sheriff's Department, Los Angeles, CA (1991)
● *Alcohol Correlation Study (Ed Barley Role - Monitor)*
● *Toxicology EMIT & RIA Screening for Controlled Substances*

DETAILED EMPLOYMENT HISTORY

Forensic Toxicologist (2013 to Present)

Toxicology professional experience is furthered by the courtroom testimony and observations of Police Officers, Standardized Field Sobriety Test Instructors, Drug Recognition Experts, and other Forensic Witnesses. Additionally, my experience is furthered with review of the scientific literature on forensic topics and continued participation in available workshops, seminars, and online training.

Senior Criminalist (Retired 2012)

Los Angeles County Sheriff's Department – Scientific Services Bureau
- Medical Retirement

Senior Criminalist - Forensic Alcohol Unit (2005 – 2012)

Professional experience with the Los Angeles County Sheriff's Department; included testing around a thousand blood and urine samples for alcohol content, with headspace gas chromatography. Reviewing and co-signing of the blood alcohol analysis of the section's laboratory technicians; including clerical, administrative, and technical reviews of case reports and documentation. Responsible for the maintenance, programming and

software installation, configuration, customization, and testing of the Perkin Elmer Clarus 500 gas chromatograph, with headspace attachment.

Developed and designed crystal web reports and integration of the Perkin Elmer Clarus 500 gas chromatograph with the Laboratory Information Network (LIMS). Assisted in the development and design of a web database for files and records associated with the Blood Alcohol Section's records website – LASD.org

Provided training for Deputy District Attorneys, and Public and Private Defense Attorneys in forensic alcohol topics. Trained and assisted law enforcement officers in breath analysis with the DataMaster and calibration of the Alco Sensor IV as required by Title 17 of the California Code of Regulations. Manufacturers product demonstration of the Lifeloc's FC10 & FC20, Dräger's Alco-Test 7510, and Intoximeters' Alco-Sensor FST & Alco-Sensor Vxl.

Worked with DataMaster software engineer on the testing of the software configuration, customization, and communication of the DataMaster DMT. Development and design of crystal web reports for the maintenance, accuracy, usage, and subject data logs.

Ride along with Law Enforcement Officers to observe individuals under the influence of alcohol and drugs. Trained and certified in NHTSA Standardized Field Sobriety Testing

Senior Criminalist

Service-Connected Disability & Medical Absence **(1999 – 2005)**

Senior Criminalist - Narcotics and Clandestine Lab Unit (1993 – 1999)

Professional experience with the Los Angeles County Sheriff's Department; included assignments in the analyses of evidentiary substances (narcotics, steroids, and other drugs) utilizing microscopic techniques, chromatography, and spectrograph.

Testimony in the areas of narcotics, and clandestine labs. Clandestine laboratories analysis and field response. Repaired and maintained laboratory instrumentation such as the gas chromatograph, mass spectra and IR instrumentations. Provided training in analytical methods, instrumentation, and procedures.

Trained law enforcement officers in the manufacturing methods of clandestine drug laboratories. Assisted in the development of new analytical methods. Worked with the Toxicology section to co-author a paper on drug detection in urine.

Senior Criminalist/Criminalist – Toxicology Lab Unit (1991 – 1993)

Professional experience with the Los Angeles County Sheriff's Department; included the screening of evidentiary blood and urine sample for drugs of abuse. Responsible for the analysis of blood to determine the presence and quantity of Phencyclidine (PCP). Responsible for the analysis of blood and urine for controlled substances by enzyme multiplied immunoassay technique and radioimmunoassay technique.

Ride along with California Highway Patrol (CHP) to observe individuals under the influence of drugs. Testimony in the area of toxicology.

PROFESSIONAL ASSOCIATIONS

(Pending Memberships)

American Academy of Forensic Sciences [AAFS]
Society of Forensic Toxicologists [SOFT]

(Past Law Enforcement Memberships)

American Academy of Forensic Sciences [AAFS]
International Association for Chemical Testing [IACT]
California Association of Toxicologist [CAT]
Clandestine Laboratory Investigating Chemist [CLIC]

AWARD

Los Angeles County Sheriff's Department's
– 2012 Distinguished Service Award –
“Recognition of outstanding efforts in contributing to the Department's goals, which reflect a high degree of personal initiative, regarding the DataMaster DMT project”

Los Angeles County Sheriffs' Department
– Commendation (Multiple) –
“Recognition of outstanding efforts in contributing to the Department's goals, regarding forensic alcohol training, alcohol testimony, narcotics training, and narcotic evidence processing.”

PUBLICATIONS

“Identification of Phencyclidine Analogs Using Thin Layer Chromatography.”
Toxilab News : Winter 1994, Vol. 13.

“LSD blotter case of special interest, Technical Note”, DEA Microgram :
January 9, 1993.