

EXPERT WITNESS SERVICES, INC.

Daniel W. Vomhof, Ph.D.

Career Summary

FORENSIC CONSULTANT - U.S. Customs 1969-74, Independent 1974-Present (3000+ cases)

COURT QUALIFIED - Several hundred cases-CA, NV, AZ, CT, MA, State/Federal

CERTIFICATIONS - Traffic Accident Reconstructionist, Forensic Examiner, Forensic Medicine,
Document Examiner, Professional Chemist, Forensic Engineering & Technology

PROFESSIONAL RECOGNITION - Commendation for Research - National Bureau of Standards;
Fellow - American Institute of Chemists; Fellow - American College of Forensic Examiners; Diplomate -
American Board of Forensic Engineering and Technology; Diplomate - American Board of Forensic Medicine

EDUCATION:

Ph.D. Biochemistry/Physiology, Genetics	University of Arizona	1967
M.S. Analytical Chemistry	University of Arizona	1966
M.S. Occupational Safety & Health	National University	1986 (Jan)
B.S. Manufacturing Engineering	National University	1986 (Jul)
B.A. Chemistry, Physics	Augsburg College	1962

Post Graduate (Academic Institutions ONLY):

- Accident Reconstruction

Grossmont College - 1979 (Fire & Arson)
Arizona State University - 1980 (Vehicle & Aircraft, Reconstruction & Biomechanics)
Univ. No. Fla - Several 3-5 day courses 1983-1998, American Society of Metals - 1978, 1983
Georgetown University -- 1992 (Recon., Seatbelts, Airbags, Biomechanics of Injury)
Ryerson Polytech. (Toronto, Canada) - 1992, Texas A&M (San Diego) - 1995 (Bicycles)

- Biomechanics

National Institute for Forensic Studies, Orange, CA - 1996, (*See also* Accident Reconstruction, Medicine)

- Psychology/Human Factors

SDSU - 1983, UC - Berkeley - 1990 (Ontario, CA), I Univ. No. Fla (IPTM) - 1989

- Medicine

NYU Post-Graduate Medical School - Forensic Medicine 1979, 1980

- Neuropsychology

UCSD - (Brain, Intro. Clinical Neuropsychology) 1976, **1981**

- Toxicology/DUI

Univ. No. Fla. - 1984, 1989, 1993, UCSD - 1977, 1978

- Questioned Documents

Grossmont College - 1978

TEACHING:

Coleman College (1998-99) - Chair, Graduate Studies and Director of Distance Education;
Taught Systems Analysis, developed new M.S. programs
National University (1982-1994) - Chemistry for Safety Prof., Physical Hazards & Human Factors, Product
Safety & Liability, OSHA & ADA Laws, Research, Machine Design
Coleman College (1986-89 Chair), to Pres. (Adj.) - Physics (mechanics, optics, sound), Psychology,
Algebra, Artificial Intelligence, Data Center Management,
Emerging Technologies, Developing Knowledge Base Systems

OTHER:

Director of Software Design and Development, 4N6XPRT Systems (1989-2000)
Director of Regional Laboratory, U.S. Customs Region IX (Chicago, IL) (1969-1974)
Safety Committees - Honeywell, Pillsbury, National. Bureau of Standards, U.S. Customs (1959-1974)

Published over a dozen scientific papers in peer reviewed journals; contributed chapters in books

10-N-2000

EXPERT WITNESS SERVICES, INC.

FORENSIC RESEARCH LABORATORIES

8387 UNIVERSITY AVE., LA MESA, CA 91941

(619) 464-3477

RESUME' of Daniel W. Vomhof, Ph.D.

PROFESSIONAL EXPERIENCE SUMMARY:

TECHNICAL. Broad-based training and experience in the application of psychology/human factors, biomechanics, physics [including acoustics, optics, and heat], chemistry, mechanical engineering, and biological sciences to the evaluation, analysis, and resolution of real-world problems in industry and in litigation.

The principal Forensic Science Consultant in over 3400 litigation cases requiring the application of human factors, biomechanics, physical and biological sciences, and engineering to the evaluation of physical evidence, event reconstruction, design vs. manufacturing defects, failure analysis, and accident causation/ prevention.

Peer review of my knowledge, expertise, skills, and abilities has been accomplished through the presentation of papers at professional meetings, publication of technical papers, technical reports and depositions reviewed by opposing experts, and court testimony heard and evaluated by juries which have often included engineers, scientists, and technologists from a variety of fields. This knowledge has also been continuously evaluated by many hundred working adult college students.

The ability to communicate technical concepts to non-technical individuals has also been evaluated by over 1000 jurors, and over 6000 attorneys and judges.

EXPERTISE CATEGORIES:

Biomechanics - walking, tripping, falling, force to produce injury, soft-tissue injury mechanisms, kinematics and dynamics of injury, Accident reconstruction and injury causation, seatbelts and injury causation/mitigation

Engineering - statics, dynamics, strength of materials, mechanical and electro-optico-mechanical design, materials, failure analysis and design considerations, Accident reconstruction-evaluation-analysis, seatbelts/airbags

Human Factors - perception, response, interpretation of visual and acoustic cues, warnings, interpretation of safe vs. dangerous, normal vs. abnormal behavior or response to a situation, Accident reconstruction and role of human factors

Physics - mechanics, heat, sound/acoustics, light/optics, accident reconstruction, biomechanics

Safety & Ergonomics -facilities design and maintenance, lighting, signs and warnings, audition, task and workplace design, product design and manufacture, risk analysis and prevention, Accident reconstruction-evaluation-prevention/ mitigation

Chemistry - analytical, physical, biochemistry, toxicology, environmental/pollution Systems - Analysis, Design, Requirements Planning

Experimental Design

Management of technical personnel and activities

Technical<->Legal<->Nontechnical communication bridge

EDUCATION:

Ph.D. (Biochemistry-Physiology, Genetics), University of Arizona, Dept. Agricultural Chemistry & Soils, Tucson, Arizona, 1967. Thesis: "Inter-relationships Between Carbohydrate and Nitrogen Availability and Boll Shedding in Gossypium".

M.S. (Occupational Safety), National University, San Diego, CA, 1986.

M.S. (Analytical Chemistry), University of Arizona Dept. Agricultural Chemistry & Soils, Tucson, Arizona, 1966. Thesis: "Separation and Quantitative Determination of Simple Sugars Using Thin-Layer Chromatography".

B.S. (Manufacturing Engineering Technology), National University, San Diego, CA, 1986. (Magna Cum Laude)

B.A. (Chemistry), Augsburg College, Minneapolis, Minnesota, 1962.

(Engineering Physics), South Dakota State University, Engineering College, Brookings, S.D., 1955-56, 1957-60.

(Engineering, U.S. Coast Guard Academy, New London, Connecticut, 1956-57.

PROFESSIONAL CERTIFICATION:

- Certified Questioned Document Examiner, certification by the Independent Association of Questioned Document Examiners, Inc., 1975 - Present.
- Professional Chemist - Accredited, American Institute of Chemists, 1963-78. - Certified Professional Chemist, American Institute of Chemists, 1978 - Present. - Certified Instructor and Advanced Maintenance on the Gas Chromatograph Intoximeter, Intoximeters, Inc., 1982.
- Certified Accident Reconstructionist, The Accreditation Commission for Traffic Accident Reconstruction, 1993, Registration #483
- Diplomate Board Certified Forensic Examiner, The American Board of Forensic Examiners, #3422
- Diplomate Board Certified in Forensic Medicine, The American Board of Forensic Medicine, #1214

PROFESSIONAL SOCIETY MEMBERSHIPS:

Human Factors/Biomechanics:

- San Diego Human Factors Society -

Chemistry:

- Fellow, American Institute of Chemists
- Member, American Chemical Society, and Divisions of Analytical Chemistry, Chemical Education, Professional Activities

Engineering:

- Institute of Industrial Engineers and the divisions of Ergonomics, Facilities Management, and Consulting
- Society of Automotive Engineers (SAE)
- American Society for Testing and Materials, and its committees on Traveled Surfaces Characteristics, Safety and Traction for Footwear, Consumer Product Safety, Fire Tests of Materials, Forensic Science
- American Society for Materials (formerly Metals)

Forensic Sciences:

- Life Fellow of the College, American College of Forensic Examiners
- National Association of Professional Accident Reconstruction Specialist, Inc. (NAPARS)
- National Association of Traffic Accident Reconstructionist and Investigators (NATARI)
- Southwest Association of Traffic Accident Investigators (SATAI)
- Forensic Consultants Association of San Diego (FCA){Founder, 1978}

General Scientific:

- American Association for the Advancement of Science
- Sigma Xi, Research Honorary
- New York Academy of Sciences

Former Member:

Association of Official Analytical Chemists (AOAC)
American Society of Plant Physiologists
Society of Applied Spectroscopy
National Fire Protection Association
Society of Fire Protection Engineers
Independent Association of Questioned Document Examiners
Evidence Photographers International Council
San Diego Psychology & Law Society

Computers:

- American Association for Artificial Intelligence
- Association for Computer Machinery (ACM)
- IEEE Computer Society
- International Association for Artificial Intelligence and Law

International Society for Biomechanics

PROFESSIONAL EMPLOYMENT:

- 1974-Present, Forensic Science Consultant and President, Expert Witness Services, Inc., La Mesa, CA.
- 1989-Present, President, 4N6XPRT SYSTEMS, La Mesa, CA.
- 1989-1998, Adjunct Professor, Artificial Intelligence, Knowledge-base Systems Development, Emerging Technologies, and Data Center Management, Coleman College, La Mesa, CA.
- 1998-1999, Chair, Graduate Studies and Director of Distance Learning, Coleman College, La Mesa, CA.
- 1986-1989, Professor and Chairman, Department of General Education, Coleman College, La Mesa, CA.
- 1986-March-October, Adjunct Professor, Physics, Coleman College, La Mesa, CA.
- 1982-1994, Adjunct Professor, Graduate and Undergraduate Colleges, Occupational Safety, National University, San Diego, CA.
- May-Nov., 1974, Director, Laboratory Division, U.S. Customs Service - Region IX, Chicago, IL.
- 1972-1974, Forensic Scientist, U.S. Customs Service, San Diego, CA.
- 1969-1972, Director, Laboratory Division, U.S. Customs Service - Region IX, Chicago, IL.
- 1967-1969, CIRF Research Associate, National Bureau of Standards, Washington, D.C.
- 1967-1969, Technical Consultant, Corn Refiners Association, Washington, D.C.
- 1963-1964, Head Resident, Apache Hall, University of Arizona, Tucson, AZ.
- 1962-1963, Teaching Assistant (Half-time), Chemistry Dept., University of Arizona, Tucson, AZ.
- 1960-1962, Senior Research Technologist, R&D Center, Pillsbury Company, Minneapolis, MN.

PROFESSIONAL RECOGNITION & HONORS:

Special Citation for scientific achievement, National Bureau of Standards, 1969.

Special Achievement Awards, U.S. Treasury Department, 1971, 1973, & 1974.

Certified Questioned Document Examiner, certification by the Independent Association of Questioned Document Examiners, Inc., 1975 - Present.

Professional Chemist - Accredited, American Institute of Chemists, 1963-78.

Certified Professional Chemist, American Institute of Chemists,
1978 - Present.

Certificate of Appreciation, Lecturer on Evidence Photography,
Evidence Photographers International Council and Institute of Safety and Systems Management,
Univ. of So. Calif, Los Angeles, CA, 1984.

Certificate of Appreciation, Lecturer on Accident Reconstruction
San Diego Trial Layers Association, San Diego, CA, 1983.

Certified Instructor and Advanced Maintenance on the Gas Chromatograph Intoximeter,
Intoximeters, Inc., 1982.

Biographical Listings in: American Men and Women in Science, Dictionary of International
Biography, Who's Who in the West, Men of Achievement.

Certified Accident Reconstructionist, The Accreditation Commission for Traffic Accident
Reconstruction, 1993, Registration #483.

Diplomate & Board Certified Forensic Examiner, American Board of Forensic Examiners, 1996,
Registration #3422.

Diplomate & Board Certified in Forensic Medicine, The American Board of Forensic Medicine,
#1214

Diplomate of the American Board of Forensic Engineering and Technology, #5866

OTHER RECOGNITION:

Invited lecturer on accident reconstruction, human factors and accident causation, collision
forces and soft tissue injuries, and slip/trip/fall dynamics at seminars sponsored by the San Diego,
Orange County, and California Trial Lawyers Associations, and to the San Diego Chapter of the
American Society of Safety Engineers.

An invited presentation on issues of DUI Accident Reconstruction, Human Factors,
and Biomechanics to the World Reconstruction Exposition 2000 (WREX 2000)

Recipient of the Russ Ahrend Award from U of N FL & IPTM 2015 for "Outstanding Achievement in Highway Safety & Distinguished Contribution in the Training of Traffic Safety Professionals"

COURT TESTIMONY:

I have testified in the Courts as an Expert Witness on over 350 criminal and 300 civil cases. Testimony has been given in:

Federal District Court in San Diego, Las Vegas, Tucson, Phoenix, and New Haven;
Superior Courts in San Diego, Imperial, Orange, Los Angeles, and Butte Counties in California, and Boston, Mass.;
Municipal Courts in San Diego, Orange, Riverside, San Bernardino and Los Angeles Counties in California, and Clark County, Nevada;
U.S. Customs Court - Los Angeles
California DMV Hearings - San Diego
Worker's Compensation Hearings - San Diego and Long Beach
Juvenile Court - San Diego
Military Courts Marshall - USMC, San Diego

The subject areas in which human factors and biomechanics expert testimony has been given in criminal and civil cases include:

- . Accident Dynamics
 - Driver and pedestrian visibility
 - Time problems
 - Hydroplaning on wet pavement
 - Road design, signing, and driver perception
 - Night visibility
 - Driver I.D. through hair and blood comparison
 - Component design defects
 - Crash forces causing occupant injuries
 - Soft tissue injury causation
 - Seat belt use vs. injuries received
 - Use of videotape for demonstrative purposes
 - Human Factors contributions to causation
 - Normal driver behavior
 - Alcohol and Drug effects on driver behavior
 - Vehicle manslaughter vs. unavoidable accident
- . Cause of Injuries
 - Biomechanics of Injury
 - Instruments
 - Dynamics and Kinematics
 - Human Factors and Biodynamics
- . DUI/DWI
 - Alcohol level significance
 - Methods of analysis
 - Alcohol tolerance
 - FST significance and interpretations
 - Scene contribution to driving performance
- . Homicide Event Reconstruction
- . Lighting Levels & visibility

Feasibility of Witness Observations

. Narcotics/Controlled Substances, I.D., Symptomology, Potential Precursors,
Manufacture

COURT TESTIMONY:(contd.)

- . Product Liability
 - Design vs. Manufacturing defects
 - Misuse or abuse vs. proper usage
 - User manual adequacy
 - Failure to warn
 - Human Factors engineering
 - Mode of failure
 - Materials
- . Questioned Documents
 - Forgery
 - Authorship/Author intoxication
 - Sequence of writings
 - Ink comparisons
 - Writing comparisons
 - Typewriting
 - Erasures
- . Sexual Assault Event Reconstruction
- . Slip and Fall
 - Lighting
 - Coefficient of Friction
 - Adequacy of stairs, ramps and railings
 - Footwear materials
 - Perception of safe walking surface and visual cues
- . Sound Measurements, Acoustics, Ability to Discriminate Sounds .
- Tape Recording Authenticity
- . Time and Cause of Death
- . Toxicology
 - Analysis and preservation of body fluids
 - Interpretations of toxicity
 - Carbon monoxide in blood
 - Identification of toxic materials
 - Workplace safety
 - Symptomology
- . Workers Compensation
 - Air particulates and safe behavior
 - Alcohol involvement
 - Machine design and perception of proper useage
 - Workplace safety practices
 - Workplace design and safety
 - Noise levels
- . Witness Credibility by comparison of physical evidence with statements of what was thought to have occurred.

PUBLICATIONS:

Developed and authored or co-authored seven computer programs sold to law enforcement and private sector professionals in the U.S., Canada, South America, and Europe. Authored the manuals for three of these programs.

Over a dozen technical articles published in refereed (peer reviewed) professional journals, several publication through the National Bureau of Standards, and have delivered over seventy-five technical papers at professional society national and regional meetings.

Contributed a chapter to an American Chemical Society monograph on "Careers for Chemists", and have served as a reviewer of technical publications for AOAC and ASTM.

OTHER ACTIVITIES:

I was the first expert to use videotape for demonstrative evidence of driver visibility in the Courts of San Diego County. I also conduct individual studies of alcohol tolerance relative to driver performance; videotapes of individual performance after drinking have been shown in Court on numerous occasions.

Since entering private practice I have provided technical support and consultation to such governmental agencies as the U.S. Attorney's Office (San Diego), U.S. Customs, San Diego Narcotics Task Force, USN and USMC Legal Officers, the Maine Deputy Attorney General's Office, Santa Ana Police Department, and the City of Chula Vista.

I have been appointed to serve as a defense expert in criminal cases by both the Federal and California State Courts.

During the period from October, 1969, through November, 1974, I prepared in excess of twenty confidential in-depth technical reports for the management of U.S. Customs Service. The subjects of these reports ranged from "Identification of Geographic Origin of Marihuana" and "Comparison of Trace Elements Composition of Homicide Scene Soil with Soil on Suspect's Automobile" to food, alcohol, and drug analyses methodology, and redesign and remodeling of the U.S. Customs Laboratory in Chicago, Illinois.

From November, 1974, to the present I have prepared over 3500 technical reports on the evaluation of physical evidence in litigation matters, both criminal and civil. I have consulted, evaluated, and advised on more than 400 additional cases where no written report was desired.

In all of these cases, it was necessary to both interpret the technical information and explain the results of the evaluation in the social and behavioral contexts of the parties involved, the courts and attorneys, and of the jurors when testimony was required.