

A R TECH Forensic Experts, Inc
18075 Ventura Blvd, Suite 209
Encino CA 91316

Tel. 818-344-2700
Fax 818-344-3777

Martin M. Balaban, PhD, PE
818-389-2062 (direct cell)
martin.balaban@yahoo.com

Summary of Background and Experience

Martin M Balaban, PhD, PE

Consulting Engineer
Licensed Safety Engineer



EDUCATION

PhD Mechanical Engineering, University of California at Berkeley
MS Mechanics, Illinois Institute of Technology
BS Civil Engineering, Cooper Union

FORENSIC ENGINEERING EXPERIENCE AND EXPERTISE

General

- Extensive expert testimony experience in trials, arbitrations, depositions and hearings.
- Retention by law firms for plaintiffs, defendants, intervenors, criminal defendants
- Direct retention by major insurance carriers.
- Court-appointed expert as well as private attorney retention in Criminal cases.
- Expertise and credentials on the witness stand based on:
 - Highest educational degrees and licensing in the applicable technical subject areas
 - Technical knowledge and experience acquired over a 30-year period of engineering in industry.

Vehicular Accident Reconstruction & Occupant Biomechanics

Collision and time-motion analysis and simulations, including multi-vehicle collisions and accidents involving bicycles or pedestrians. Skid mark analysis. Damage-matching analysis and impact estimates from damage. Occupant biomechanics. Visibility and line-of-sight analysis. Traffic signal phasing and other control issues. Vehicle Code compliance analysis. Vehicular types include cars, motorcycles and mopeds, vans, pickups, bobtail trucks, tractor-trailer rigs, off-road vehicles, RVs, utility vehicles, catering trucks, armored trucks, dumpster trucks, converter gears, passenger buses, forklifts and other industrial vehicles, construction and agricultural vehicles.

Vehicular System or Component Defects

Brakes and brake hydraulics (including skid testing); wheels; axle assemblies, chassis; suspension; steering; seats (including seat backs and head rests); seat belts; air bags; engine; fuel system; transmission; windshield; vehicle stability and roll-over; hydroplaning; run-away acceleration, lamp and filament examination.

Premises Liability (including Code Compliance)

Slip-and-fall (including coefficient-of-friction testing), trip-and-fall, stairway and ramp accidents, glass injuries, guardrails; illumination issues; manual and electronic gates, door closing mechanisms, hot water heater temperature control issues, falling objects, structural failures, swimming pools and spas. Safety and human factors issues. Time-motion biomechanical analysis. Code compliance (CBC, IBC, LABC, LAMC); failure-to-maintain; failure-to-warn; etc. Occupancies include single- and multi-family residences, retail establishments (including department stores), office buildings, garages, public streets, sidewalks, parks and other public access.

Industrial, Construction and Office

Workplace, construction site and office accidents. Cal-OSHA code compliance analysis. Walking-working surfaces (including ramps); hoisting and conveying; machine guarding; forklifts and other industrial vehicles; powered lifts and work platforms; construction vehicles; materials handling and storage (including hazardous materials); ladders; scaffolding; trenching and shoring; noise levels; illumination; workplace safety; lockout/tagout; Illness and Injury Prevention Programs (IIPP); human factors and ergonomics issues.

Products Liability

Negligence and strict liability assessments regarding design defects, manufacturing defects, improper maintenance, failure to warn. Conclusions and opinions based on general engineering principles and on codes or standards where they exist.

Applications to hand and portable power tools; heavy machinery (e.g., woodworking, metal working, cutting, shearing, power and hydraulic presses, die casting, injection molding, food machinery); personal protective equipment (e.g., safety goggles); consumer products (e.g., chairs, tables, water dispensers, pot handles, exercise equipment, lawnmowers); conveyors; fasteners and connections (e.g., bolts, welds, handles); mechanisms; etc.

Criminal Cases

Vehicular homicide; hit and run; assault with deadly weapon, assault with great bodily harm intent; gross negligence assessments; shooting reconstruction (including drive-by); DUI-related accidents; vandalism; other cases requiring expertise in engineering and the physical sciences.

Patent and Trade Secret Litigation

Technical consultant to attorneys on patents and trade secrets

FULL-TIME PROFESSIONAL EXPERIENCE

AR TECH Forensic Experts, Inc.
Senior Consulting Engineer and Principal

von Haenel & Associates Accident Reconstruction Engineers.
Forensic Engineer Consultant

RAND Corporation.
Engineer, Senior Engineer

Research and Development Associates (RDA)
Senior Scientist

TRW, Science & Technology Division.
Staff Engineer, Dynamics Department, Applied Mechanics Laboratory

Hexcel Corporation.
Manager of Structures Research

Sandia National Laboratory.
Member of Technical Staff

PART-TIME ACADEMIC & CONSULTING EXPERIENCE

State of California, Board for Professional Engineers & Land Surveyors.
Expert Examiner, Safety

**Engineers Review (Professional Engineer Exam).
Mechanical Engineering Instructor & Civil Engineering Instructor**

**UCLA, College of Engineering.
Visiting Lecturer, Thermodynamics**

**University of California at Berkeley, Department of Mechanical Engineering.
Teaching Assistant, Research Assistant, Teaching Fellow**

**Illinois Institute of Technology, Mechanics Department.
Teaching Assistant & Research Assistant**

**Xerad, Inc.
Consultant**

**RAND Corporation.
Consultant**

**Rotoflow Corporation.
Consultant**

**Wm Brobeck & Associates, Consulting Mechanical Engineers.
Design Engineer (full-time summer job prior to PhD)**

**Douglas Aircraft Company.
Design Engineer (full-time summer job prior to PhD)**

**Union Carbide Corporation, Linde Division.
Design Engineer (full-time summer job prior to PhD)**

**U.S. Navy Civil Engineer Corps.
Engineer Trainee (full-time summer job prior to PhD)**

PROFESSIONAL & HONOR SOCIETIES (CURRENT & PAST)

**American Society of Mechanical Engineers (ASME)
American Academy of Mechanics (AAM)
Society of Automotive Engineers (SAE)
National Association of Professional Accident Reconstruction Specialists (NAPARS)
American Society of Civil Engineers (ASCE)
International Conference of Building Officials (ICBO)
American Society of Safety Engineers (ASSE)
Human Factors and Ergonomics Society (HFES)
American Society for Testing and Materials (ASTM)
Society of Manufacturing Engineers (SME)
National Fire Protection Association (NFPA)
Operations Research Society of America (ORSA)
National Society of Professional Engineers (NSPE)
Chi Epsilon (honorary civil engineering fraternity)
The Society of Sigma Xi (honorary scientific research fraternity)
American Association for the Advancement of Science (AAAS)**

PATENTS, PUBLICATIONS

Listing of patents and open literature publications available upon request.