

Mark A. Rhodes, Ph.D., PE

Electrical and Electronic Consulting, Forensic Engineering, and Expert Witness

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Qualifications Summary

- ❑ Ph.D. from UCLA and Licensed Professional Electrical Engineer in California
- ❑ Expert witness and forensic engineer since 1992
- ❑ Substantial testimony experience at depositions and trials
- ❑ Research and Development Engineering since 1982
- ❑ Instructor at the 2011 Wildland Fire Litigation Conference

Core Technologies

Electrical, Electronic and Electro-Mechanical Forensic Engineering, Electric Shocks, Electric Arcs and Explosions, Grounding, Shielding, Electrical Interference (EMI, RFI), Power-Line Wildland Fires, Industrial Controls, Equipment and Machinery, Electro-mechanical equipment failure and accidents, Crane, Lift and Hoist controls, Electric power, Photonics, RF and Microwaves, Plasma Devices, Lasers, Pulsed Power, High-Voltage, Material Science, Microelectronics, Microfluidics, Vacuum Systems

Professional Memberships

Institute of Electrical and Electronic Engineers (IEEE)
American Physical Society (APS)

Expert Witness and Forensic Engineering Experience

Cases through **Rhodes Engineering**, **TASA**, **SVEWG**, and **Boster Kobayashi**: 1992 to present, providing forensic engineering and expert witness services with a specialization in electrical and electronic matters.

- ❑ Electric shocks, arcs, electric power, transformers, motors
- ❑ Power-line caused wildland fires
- ❑ Electromechanical equipment failures and accidents (cranes, lifts, hoists, electric doors)
- ❑ Technology IP (lasers, semiconductor equipment, fiber optics, electronics)
- ❑ Good balance of Plaintiff and Defense cases
- ❑ Experienced testifying at depositions and trials
- ❑ Mixture of Liability, Intellectual Property, and Insurance Claims type cases

Research and Development Engineering Experience

Lawrence Livermore National Laboratory, 1989-Present, Laser Inertial Fusion Energy Program (LIFE), Beam Research Program, National Ignition Facility (NIF), Plasma Electrode Pockels Cell (PEPC).

Signature BioScience, 1999-2001, **VP of Engineering**, Led development of microwave spectroscopy technology for drug discovery.

Maxwell Laboratories Inc., 1986-1989, Project Engineer in the Advanced Power Technology Group. Developed inductive energy storage technology for new generation of flash x-ray generators in support of Defense Nuclear Agency's nuclear weapons effects simulator program.

TRW, 1984-1986, Accelerator RF Power Systems Project Manager, Developed high average power, superconducting electron accelerators and storage rings for free electron lasers (FEL) in support of Strategic Defense Initiative (Star Wars)

UCLA, 1976-1984, Research Assistant and Research Engineer in the Applied Plasma Physics Laboratory, Experimental plasma physics research including RF heating of Tokamak plasmas, microwave-plasma interactions, and advanced fusion plasma confinement schemes

Education

- ❑ **Ph.D. in Engineering**, University of California, Los Angeles, Major Field: Applied Plasma Physics, Minor Fields: Quantum Electronics, Microwave Electronics
- ❑ **MS in Engineering**, University of California, Los Angeles, Major Field: Applied Plasma Physics
- ❑ **B.S.E.E.**, Tufts University, Magna Cum Laude, Eta Kappa Nu, and Tau Beta Pi, Major: Electrical Engineering, Minor: Music composition

Patents, Publications, and References

- ❑ Several issued patents and several more in various stages of application.
- ❑ Numerous publications and presentations at conferences and in respected journals such as Physical Review Letters and a cover feature in Applied Optics (list available)
- ❑ Professional references are available on request.