Curriculum Vitae

Jerome Welner, M.S.

Human Factors, Ergonomics, Safety, and Organizational Consulting

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EDUCATION

- M.S. (1961) Engineering, Specialization in Electronics
  University of California, Los Angeles
- B.S. (1957) Engineering
  University of California, Los Angeles

CURRENT POSITION

Senior Scientist, Vredenburgh & Associates, Inc.
Carlsbad, CA (1998 – present)
Serves as a forensic (the application of science to law) engineering consultant for product liability, personal injury cases. Collects and reviews case material, inspects accident sites and equipment, and performs testing and evaluation. Issues include hazard management; product/equipment design; and visibility, conspicuity, and lighting.

PATENTS

Slip Friction Measurement and Recording Apparatus (5,736.630)
A compact, portable apparatus for measuring coefficients of both static and sliding friction between two objects. Automatic detection, measurement, and digital recording for permanent record keeping.
System and Method for Detection and Identification of Laser Wavelengths (5,123,744)
System to detect, and determine identity of laser radiation. Immune to broadband radiation and lightning.

Spectral Analyzer and Direction Indicator I (4,624,566)
Spectral Analyzer and Direction Indicator II (4,674,871)
Spectral Analyzer and Direction Indicator III (4,682,888)
Systems to detect and determine direction, amplitude and spectral characteristics of radiation from IR to UV.

OTHER INVENTIONS AND PATENT DISCLOSURES

Continuously Focusable Implant Lens
An implantable eye lens for people who have had cataract surgery. May be focused continuously as with a normal lens.

Segmented Bi-Focal Implant Lens
A bifocal implantable eye lens to be used during cataract surgery so patients may focus their eyes near and far, relieving the need for glasses.

Closed-Loop Jamming of Missile Seekers
A system to defeat certain types of anti-aircraft missile seekers that are otherwise very effective.

N-Scope, N-Line Detection, ID System using 3-Line Filters
Two-Axis SADI with One Grating and Two Mirrors
Two or Three Element Grating Analyzer System
Three systems for detection, identification, and analysis of radiation in the IR through UV bands.
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Many disclosures in Classified and Unclassified areas of intelligence gathering, space technology, counter infiltration, and undersea surveillance.

EMPLOYMENT HISTORY

Engineering Consultant
Error Analysis, Inc.
La Mesa, CA (1995 –1998)
Consulted in engineering areas for product liability and personal injury cases. He also developed and validated research instruments.

Senior Scientist
Hughes Aircraft
El Segundo, CA (1971-1994)
Responsible for conceptualization, initial analysis, and technical direction of systems, primarily electronic, optical, and electro-optical, to meet the requirements of various governmental agencies. These systems were typically one-of-a-kind and conceived to meet a special purpose, though they sometimes could be, and were, generalized.

Conducted threat and countermeasure analyses for certain military circumstances and situations.

Engineer, Systems Analyst
TRW
El Segundo, CA (1966-1971)
On-Site consultant for development of new Health Science Center (HSC) for the University of Alberta at Edmonton, Alberta. Responsible for determination of communication requirements, both internal and external of HSC. Interface between TRW staff in El Segundo and HSC staff in Alberta.

Conducted study of safety of used vehicles.

Developed counter infiltration and counterinsurgency models and systems for military.

Participated in space technology programs.

Member Technical Staff
Aerospace Corp.
El Segundo, CA (1963-1966)
Space technologist. Studied requirements for manned space exploration. Developed orbital parameters for satellites. Analyzed boosters and space vehicles.

Engineer
RCA
Van Nuys, CA (1958-1966)
Developed techniques for detecting objects submerged in the ocean.

MEMBERSHIPS
Life member, Institute of Electrical and Electronic Engineers (IEEE)

RELATED SKILLS
Photography, still and video - used for demonstrations, explanations, and off-site analysis.
Model construction - usefulness similar to photography.

COMMUNITY SERVICE

Associate concertmaster, Beach Cities Symphony Orchestra

PUBLICATIONS

Welner, J.M. (May, 1978) A FLIR Model and Its Use in Evaluating Optical Hardening Techniques (U), *Proceedings - 16th IRIS Symposium on Infrared Countermeasures*

Welner, J.M., Schrader, D.E., Torres, A.F. (August, 1976) Passive IR OPTINT Study and Measurements (U), *24th National IRIS , Naval Training Center*

Welner, J.M. (Winter, 1975) EO Countermeasures: Off-Axis Deception Techniques and System Considerations (U), *Journal of Defense Research, Winter, 1975*

[Very many unavailable highly classified documents 1980 - 1994. Could not be published for or presented to general audience.]

INVITED LECTURES AND SYMPOSIA

Systems Engineering. Presented at the Engineering Institute of Canada, Edmonton, Alberta, April, 1967

Instrumentation System for Detection of Surface Effects Produced by Submerged Submarines(U), Presented at the 10th Annual West Coast Research Reserve Seminar, Office of Naval Research, Dept. of the Navy, November, 1962

[Many classified presentations to groups from various military and other governmental agencies.]