

WENDELL C. HULL, PhD Eng. Sci., CFEI, CVFI, CFII

EDUCATION

Doctor of Philosophy, Engineering Science, University of Toledo, Toledo, Ohio, 1975

Master of Science, Mechanical Engineering, University of Toledo, Toledo, Ohio, 1971

Bachelor of Science, Mechanical Engineering, University of Toledo, Magna Cum Laude, Toledo, Ohio, 1970

PROFESSIONAL DEVELOPMENT

Certifications:

- Certified Auditor of European Directives: 97/23/EC Pressure Equipment Directive (PED); 99/36/EC Transportable Pressure Equipment Directive (TPED); and 93/42/EC Medical Device Directive (MDD) – Apragaz (European Notified Body) Brussels, Belgium (Certified to audit and test products and product manufacturing activities for US companies marketing in the European Community), March 2007
- Certified Fire Investigation Instructor, NAFI, 2006
- Certified in Fire Pattern Recognition and Identification, PATC, 2006
- Certified Fire and Explosion Investigator, NAFI, 2005
- Certified Vehicle Fire Investigator, NAFI, 2005

Fires and Explosions:

International Association of Arson Investigators

- Geographic Profiling; Firefighter Arson, K-9 Hydrocarbon Detection, 2006
- Unlocking the Mysteries of NFPA 921; basic methodology/fire science, fire patterns, electricity and fire, building fuel gas systems, documentation of investigation, physical evidence, explosions, incendiary fires, 2004
- NFPA 921 guidelines for fire and explosion investigation and reconstruction, electrical fire investigation, vehicle fire investigation, subrogation in arson and civil fire litigation, and fire and burglar alarm system data retrieval, Colorado, 2002
- 6th Annual Arson Conference covering explosions, NFPA 921, advanced arson techniques, post blast investigations, central station data, fire detection systems, 1995
- Fire and Explosions Investigation, New Mexico, 1988
- Mobile Home Fire Investigation, New Mexico, 1988

National Fire Protection Association and National Association of Fire Investigators

- Certified Fire Investigation Instructor Course, 2006
- National Fire, Arson and Explosion Investigation Training Program; Philosophy of Fire Analysis, the NFPA Code-making process and NFPA 921, Fire Chemistry and Fire Dynamics, Fire Dynamics and Pattern Analysis, Basic Electrical Fire Investigation, Evaluating Electrical Fire Causes, Searching, Note taking and Diagramming the Fire Scene, Photographing the Fire Scene, Determining Origin – Heat and Flame Vector Analysis, Determining Cause, Case Studies, Explosions, 2005
- National Seminar on Fire Analysis Litigation; NFPA 921 in the post Daubert Era, Management of Major Cases, Court Decisions and NFPA 921, Deposition and Trial Testimony, 2005

Public Agency Training Council

- Fire Pattern Recognition and Identification, 2006

University of Cincinnati

- Incendiary Fire Analysis and Investigation, 2006

Fire Findings

- Investigation of Gas and Electric Appliance Fires, 2001

Vehicle Accidents/Accident Reconstruction:

University of North Florida

- Inspection and Investigation of Commercial Vehicle Crashes, 2005
- CDR Tool Kit – User Certification Course, 2004
- Advanced Methods in Accident Reconstruction, 1984
- Advanced Methods in Vehicle Accident Analysis, 1983

ARC-CSI Crash Conference, 2004

- Vehicle Crash Testing
- Crash Data Retrieval (CDR) System Update
- Implications of CDR Data Retrieval and Use
- Crush Measuring Protocol
- Evaluating and Using Crash Test Data
- Commercial Vehicle EDR Systems
- Restraint Evaluation for Collision Analysis
- Field Measurements
- HVE Applications – Crash Test Simulations
- Momentum and CDR Output
- Crash Test Data Review and Analysis

Detroit Diesel Training Center

- Extracting and Analyzing Data from Electronic Control Modules and Prodrivers on Heavy Trucks, 2004

Southwestern Association of Technical Accident Investigators, Inc

- Vehicle Crash Tests, 2004, 2003, 2001, 2000, 1999, 1997, 1996, 1995, 1994, 1993, 1992, 1991, 1990, 1989, 1988, 1987, 1986
- Vehicle Crash Test and Data Collection, 2004
- Criminal versus Civil Investigations – Evidentiary Differences, 2004
- Crash Data Recorders, 2004
- Test Crash Data, 2004
- Vehicle Instability Due to Tire Tread Loss, 2003
- Computer Applications to Heavy Vehicle Accident Reconstruction, 2003
- Reverse Projection Photogrammetry, 2003
- Accuracy of Pre-Crash Speed Captured by GM Airbag Sensing and Diagnostic Module, 2003
- Low Speed Acceleration of Heavy Trucks, 2003
- Passenger Vehicle Rollover Reconstruction, 2003
- Rollover of Heavy Commercial Vehicles, 2003
- The Investigation of Automobile Collisions with Wooden Utility Poles and Trees, 2001
- Tire and Wheel Related Reconstruction, 2001
- Air Bag Computer/Module Readout, 2000
- Large Truck Accident Reconstruction, 1999
- Low-Speed Impacts, 3-D Photogrammetry, 1997
- Air Bag Systems, Motorcycle Accidents, 1996
- Seat Belt Effectiveness/Occupant Kinematics, 1991

- Grade Crossing Collision Investigation, 1991

ARC-CSI Crash Conference, 2003

- Vehicle Crash Testing
- Crash Data Retrieval (CDR) Systems
- Air Bag and Seat Belt Historical and Current Technology
- Reconstructing Airborne Event Analysis and Modeling
- Crush Analysis
- Collision Trauma Biomechanics
- Low Speed Collisions
- New Version CDR Systems
- Commercial Vehicle Event Data Recorders

Society of Automotive Engineers

- The Tire as a Vehicle Component, 2002
- Tire and Wheel Safety Issues, 2002
- Passenger Vehicle Rollover TOPTEC: Causes, Prevention and Injury Prevalence, 2002
- Air Bag Design and Performance, 1997
- Fundamentals of Crash Sensing in Automotive Occupant Restraint Systems, 1997
- Accident Reconstruction Using Conservation of Momentum and Energy, 1995
- Design and Safety of Vehicle Brakes, 1990
- Accident Reconstruction Photogrammetry Workshop, 1990

University of Akron

- Tire Mechanics; Developments of Tire Engineering, 2002

Association for the Advancement of Automotive Medicine

- Advanced Air Bag Technology in Frontal and Side Impacts, 2000
- Impact Biomechanics and Crash Performance Standards, 1990

40th Stapp Car Crash Conference, 1996

Northwestern University

- Traffic Signal Workshop-Traffic Actuated Control, 1996
- Identification and Treatment of High Hazard Locations, 1995
- Highway Capacity Workshop, 1995
- Intersection Design and Channelization Workshop, 1994
- Fundamentals of Geometric Design, 1992
- Traffic Control Devices, 1991
- Traffic Accident Reconstruction I, 1985
- Traffic Accident Reconstruction II, 1988

SAE International Congress and Exposition

- Society of Automotive Engineers (SAE) Accident Reconstruction Committee (with peer-reviewed publication): 1996, 1993, 1992

BH₂VK Engineering

- Crash Testing Seminar, 1992

Society of Accident Reconstructionists

- Vehicle Crash Tests, Computer Animation, Computer Reconstruction, 1990

San Jose State University

- Investigation of Motor Vehicle Fires, 1988

University of Wisconsin

- The Role of Warnings, 1987
- Electrical Fires (Buildings and Vehicles), 1987
- Vehicle Accident Analysis, 1983

Bendix Corporation

- Heavy Vehicle Brake Systems, 1986

TranSafety, Inc.

- Highway Hazard: Correlation, Prevention and Liability, 1985

Transportation Research Board Symposium

- Geometric Design for Large Trucks, 1985

Society of Experimental Mechanics

- Fatigue Analysis, 1979

Safety Engineering:

Hazard Information Foundation, Inc.

- Fourth Annual Conference, 2004
 - Safety Engineering
 - Accident Analysis
 - Neuro-anatomy and Human Behavior
 - Mobile Crane and Design Lifting Limitations
 - Construction Safety Programs

The Pipeline Group

- Pipeline Safety – Excavation Damage Prevention, 2001

American Society of Safety Engineers

- Safety Engineering, 1984

Oxygen Safety:

Wendell Hull & Associates, Inc. (WHA)

- State of the Art Testing and Fire Safety in Oxygen Systems and Components, 2006
- WHA and NASA Oxygen Summit

American Society for Testing and Materials

- Controlling Fire Hazards in Oxygen Handling Systems, 1992

General Engineering:

New Mexico Radiation Safety Standards and Protection X-Ray Training Course, May 2007

SEAK Conference, 2005

Vetronics Corporation

- Vetronics Master Tech Training Seminar, 2003

Rio Rancho Department of Public Safety

- Clandestine Laboratory Awareness

University of Michigan

- Applied Numerical Analysis Using the Personal Computer, 1986
- Human Factors Engineering, 1985
- Finite Element Methods in Mechanical Design, 1983
- Mechanics of Heavy Duty Trucks, 1982
- Failure Analysis and Prevention, 1976

University of Arizona

- Finite Elements: Basic Principles and Practical Aspects, 1980

United States Naval Service School

- Damage Control, Class C- 401, 1958
- Air Conditioning and Refrigeration, Class C-1, 1957
- Machinery Repairman, Class A, 1956

PROFESSIONAL EXPERIENCE

Forensic Consultant, Accident Reconstructionist and Fire Investigator (June 1987 - Present)

Wendell Hull & Associates, Las Cruces, New Mexico

- Owner/President
- Manager and CEO
- Forensic Engineering Consultant
- Engineering Consultant

Forensic Consultant, Accident Reconstructionist and Fire Investigator (June 1975 – June 1987)

Las Cruces, New Mexico

- Full-time consultant, 1984 – 1987
- Part-time consultant, 1975 – 1984

Associate Professor (June 1983 – August 1984)

New Mexico State University, Mechanical Engineering Department, Las Cruces, New Mexico

- Forensic and Engineering Consultant
- Fire Investigator

Director (September 1982 – June 1983)

New Mexico State University, Office of University-Industry Relations, Las Cruces, New Mexico

- Forensic and Engineering Consultant
- Fire Investigator

Associate Professor (August 1978 – September 1982)

New Mexico State University, Mechanical Engineering Department, Las Cruces, New Mexico

- Forensic and Engineering Consultant
- Fire Investigator

Assistant Professor (August 1974 – August 1978)

New Mexico State University, Mechanical Engineering Department, Las Cruces, New Mexico

- Forensic and Engineering Consultant

- Fire Investigator
- Undergraduate courses taught: Introduction to Design Kinematics of Machines, Dynamics of Machines, Dynamics, Machinery Design I and II, Solid Mechanics Laboratory, Vibrations, Automatic Controls, Mechanics of Deformable Bodies
- Graduate courses taught: Machinery Design, Theory of Elasticity, Theory of Plasticity, Vibrations, and Dynamics

Assistant Professor (April 1974 – August 1974)

Florida Institute of Technology, Mechanical Engineering Department, Melbourne, Florida

- Courses taught: Statics, Dynamics and Strength of Materials

Research Assistant (January 1970 – April 1974)

University of Toledo, Toledo, Ohio

- Participated in extensive combined stress high-cycle fatigue research program
- Designed and built special fatigue test machine
- Taught Machine Design, fall and spring quarters, 1973-74
- Graduate work partially supported through National Science Foundation Traineeship and the G.I. Bill

Project Engineer (January 1964 – January 1970)

American Chain and Cable Company, Research and Development, Adrian, Michigan

- Managed special research projects
- Developed new products and production machinery for government and industrial customers
- Designed, developed and produced (including new tooling) high strength torsion balanced electromechanical cables, balloon tether cables, high strength ocean floor explosive anchorage cables, flare fuse arming pay-out packages, anti-personnel razor wire pay-out packages
- Held government security clearance

Tool and Die Designer (October 1959 – December 1964)

American Chain and Cable Company, Adrian, Michigan

- Designed machines, tools, dies, jigs, fixtures, and plant layout
- Planned and laid out assembly lines, product sequencing, and material flow for a complete control-cable manufacturing and assembling plant

Machinery Repairman (September 1955 – September 1959)

United States Navy, Petty Officer 2nd Class

- Trained in the operation of all basic machine tools and repair of shipboard equipment
- Managed ship's machine shop fabricating and machine repair parts
- Operated and repaired main steering gear, emergency diesel generators, high and low pressure air compressors, diesel launch, laundry equipment, main refrigeration equipment, gallery and mess deck equipment
- Operated and stood engineering watches on Engine Room and Fire Room machinery
- Naval schools attended: Machinery Repair, Refrigeration, Damage Control, Fire Fighting, Fire Prevention and Analysis

Product Draftsman (June 1953 – September 1955)

American Chain and Cable Company, Adrian, Michigan

- Sketched, detailed and assembled product drawings, product advertisement illustration, patent drawings, and application of descriptive geometry techniques to engineering problems

PROFESSIONAL COURSES TAUGHT

“Crash Data Retrieval of Black Box Information,” New Mexico Claims Association, Las Cruces, New Mexico, February 2005

“Understanding Event Data Recorders,” presented to the New Mexico Claims Association, co-author C. Robertson, February 2005

“Black Boxes and a Summary of Modern Accident Reconstruction,” Dona Ana Bar Association, Las Cruces, New Mexico, March 2005

“Understanding Event Data Recorders (EDR) – A Vehicle’s ‘Black Box,’” seminar presented to attorneys, Las Cruces, New Mexico, June 2003

“Understanding Event Data Recorders (EDR) – A Vehicle’s ‘Black Box,’” seminar presented to insurance adjusters, Las Cruces, New Mexico, September 2003

“Understanding Crash Data Retrieval Systems – A Vehicle’s ‘Black Box,’” El Paso Claims Association Continuing Education, El Paso, Texas, January 2002

“How Computer Programs Can Aid in Reconstructing Vehicle Accidents,” El Paso Claims Association Continuing Education, El Paso, Texas, June 2000

“Electrical Fire Investigation,” presented to the Claims Association of El Paso, El Paso, Texas, co-presenter D.L. Pippen, March 1998

“Hazards Analysis and Risk Assessment in Oxygen Systems,” presented to the NFPA Committee for Hyperbaric and Hypobaric Facilities, Phoenix, Arizona, March 1997

“Low-Impact Collisions – Evidence Versus Theory and Conjecture,” presented at the New Mexico Defense Lawyers’ Association Continuing Education Seminar, Albuquerque, New Mexico, October 1997

“Accident Reconstruction Methods and the Uses of Computer Animation and Specialized Night Visibility Equipment in Accident Reconstruction,” US Randolph AFB, Central Circuit 1996 ADC Workshop, San Antonio, Texas, co-presenters C.R. Macaw and R.R. Miller, March 1996

“Accident Video Photography in Night and Low-Light Applications,” presented to Special Problems in Traffic Accident Reconstruction, IPTM, Jacksonville, Florida, co-presenter C.R. Macaw, April 1996

“Use of Animation in Litigation,” presented to the New Mexico Trial Lawyers Foundation, Albuquerque, New Mexico, March 1995

“Reconstruction at Its Best,” presented to the Annual Convention of New Mexico Claims Association, Las Cruces, New Mexico, co-presenter B.E. Newton, May 1995

“Current Trends in the Use of Animation in Litigation,” presented to Harry Phillips American Inn Of Court, Nashville, Tennessee, May 1995

“Accident Reconstruction,” presented to New Mexico State Highway Department, 1986

“Traffic Accident Reconstruction,” a one-week course for engineers and technicians of the New Mexico State Highway Department, Santa Fe, New Mexico, 1986

“Guarding Machines and Mechanisms,” safety seminar presented to the Supervisory Development Program, American Society of Safety Engineers (ASSE), El Paso, Texas, 1986

“Accident Reconstruction/Forensic Engineering: Case Studies,” presented to the Annual Meeting of the New Mexico Claims Association, Las Cruces, New Mexico, 1986

“Accident Reconstruction/Forensic Engineering: Case Studies,” presented to the Annual Spring Seminar of the El Paso Chapter of the American Society of Safety Engineers, El Paso, Texas, 1985

“Energy Analysis in Vehicle Accident Reconstruction,” seminar presented to the Southwestern Association of Technical Accident Investigators (SATAI), Tucson, Arizona, 1985

“Forensic Engineering,” presented to the Las Cruces Chapter of the Society of Professional Engineers, Las Cruces, New Mexico, 1984

“Engineer in Training Review (Statics and Dynamics)”, New Mexico State University, Las Cruces, New Mexico, Instructor: 1979-1984

PRESENTATIONS AND PUBLICATIONS

“Neon Transformer Electric Arcs as Viable Ignition Mechanisms for Wood Structural Members,” Proceedings of the International Symposium on Fire Investigation and Science (ISFI) Symposium, co-authors D. Pippen, J. Stradling and C. Robertson, June 2006

“Special Report Electric Blanket Fires: Part I,” Fire Findings, Volume 11, No. 1, co-author D. Pippen, 2003

“Electric Blanket Fires: Part II,” Fire Findings, Volume 11, No. 2, co-author D. Pippen, 2003

“Failure Investigation of a Welding Regulator Fire,” ASTM STP 1395, Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres: Ninth Volume, co-authors B.E. Newton and H. Beeson, 2000

“Failure Analysis of Aluminum-Bodied Medical Regulators,” ASTM STP 1395, Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres: Ninth Volume, co-authors B.E. Newton and J.S. Stradling, 2000

“A 6000 psig Gaseous Oxygen Impact Test System for Materials and Components Compatibility Evaluations,” ASTM STP 1319, Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres: Eighth Volume, co-authors B.E. Newton, A. Porter, R.R. Miller and J.S. Stradling, 1997

“A Database for Metallic and Nonmetallic Materials Commonly Utilized in Oxygen Service,” ASTM STP 1319, Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres: Eighth Volume, co-authors B.E. Newton and J.S. Stradling, 1997

Functional Classifications and Critique Methods for Litigation Support Forensic/Accident Reconstruction Animations,” SAE Paper #960651, the Society of Automotive Engineers (SAE) 1996 International Congress and Exposition, Detroit, Michigan, co-authors B.E. Newton, C.R. Macaw and R.R. Miller, February 1996

“Night Visibility Video for Accident Reconstruction,” SAE Paper #960895, the Society of Automotive Engineers (SAE), 1996 International Congress and Exposition, Detroit, Michigan, co-authors B.E. Newton, C.R. Macaw, D.L. Pippen, R.R. Miller and J.S. Stradling, February 1996

“Estimating Crush Stiffness When Reconstructing Vehicle Accidents,” SAE Paper #930898, the Society of Automotive Engineers (SAE), 1993 International Congress and Exposition, Detroit, Michigan, co-authors B.E. Newton and R.R. Miller, March 1993

“The Animation Computer as a 3-D Reconstruction Tool,” SAE Paper #920754, the Society of Automotive Engineers (SAE), 1992 International Congress and Exposition, Detroit, Michigan, co-author B.E. Newton, February 1992

“Cotton Combustion,” American Society for Testing and Materials (ASTM), International Symposium on Fire and Flammability of Furnishings and Contents of Buildings, Miami, Florida, co-authors B.E. Newton and L.N. Randall, December 1992

“Brake Overheating Versus Out-of-Adjustment Conditions in Large Truck Downhill Accident Reconstruction,” Proceedings of the Canadian Multidisciplinary Road Safety Conference VII, Vancouver, Canada, co-author B.E. Newton, June 1991

“Working with Technical Experts: Consult Early and Often,” the New Mexico Lawyer, New Mexico, November 1991

“Flexhose Failure Analysis,” NASA Test Facility, White Sands Missile Range, White Sands, New Mexico, co-author B.E. Newton, April 1990

“Human Factors in Litigation and Accident Reconstruction,” the New Mexico Claims Association, co-author M.P. Holt, Esq., April 1989

“Test Stand 302 Altitude Simulation Accumulator Vessel 316A Failure Analysis,” Esq. for NASA Test Facility, White Sands, New Mexico, September 1989

“Machine Design Fundamentals: A Practical Approach,” ISBN 0-471-04136-X, John Wiley and Sons, New York, co-author U. Hindhede, J. Zimmerman, R. Hopkins, R. Erisman, and J. Lang, 1983

“The Use of S/N Fatigue Life Gages to Compare the Severity of Loose Cargo Field and Laboratory Environments,” Western Region Strain Gage Committee Proceedings of S.E.S.A., Las Cruces, New Mexico, co-author L.N. Randall

“Projecting Costs and Benefits of Solar Power Systems,” Proceedings of the Institute of Gas Technology Symposium on Energy Modeling III: Dealing With Energy Uncertainty, Chicago, Illinois, co-authors D. Fenton, G. Mulholland and P. Smith, August 1980

“Analysis of a Cassegrain Solar Concentrator for Use with Photovoltaics,” Proceedings of Izmir International Symposium II on Solar Energy Fundamentals and Applications, Izmir, Turkey, co-authors M.H. Cobble, E. Lumsdaine and R.M. Wabrek, August 1979

“Concentration of Cassegrain Solar Furnace,” Proceedings, Institute of Environmental Engineers, co-authors M.H. Cobble and E.F. Thacher, 1979

“A Cassegrain Solar Furnace,” Proceedings of the Energy Symposia of the International Association of Science and Technology for Development, Montreux, Switzerland, co-author M. H. Cobble, June 1979

“Cassegrain Solar Concentrators for Photovoltaics,” Proceedings of the Commission of the European Communities Photovoltaic Conference, Berlin, Germany, co-authors M.H. Cobble, E. Lumsdaine and R.M. Wabrek, April 1979

“Concentration of Solar Energy Using a Cassegrain Type Solar Furnace,” Proceedings of the Fifth Annual UMR-DNR Conference on Energy, Rolla, Missouri, co-author M.H. Cobble, 1978

“Analysis of a Cassegrain Solar Furnace,” Society of Photo-Optical Instrumentation Engineers, vol. 161, pgs. 55-63, co-author M.H. Cobble, 1978

“Nuclear Thermal Pulse Shaper for the White Sands Solar Furnace,” Proceedings of American Defense Preparedness Association Symposium on Vulnerability and Survivability, San Diego, California, co-authors R.A. Hays and G.O. Griffiee, November 1977

“A Rational Failure Criteria for Combined Stress High-Cycle Fatigue,” the American Society of Mechanical Engineers (ASME), Failure Prevention and Reliability Conference Proceedings, Chicago, Illinois, pgs. 179-195, September 1977

“Fast Burst Reactor Glory Hole Enlargement Stress Analysis,” White Sands Missile Range Technical Evaluation Report, co-authors D.L. Welch, G.P. Mulholland and A. De La Paz, 1977

“Analysis of a Fast Burst Reactor Burst Rod Adaptor Failure,” WA/Mat-7, the Journal of Materials and Technology, by the American Society of Mechanical Engineers (ASME), presented at the Annual Winter Meeting of ASME, New York, co-authors A. De La Paz and D.L. Welch, December 1976

“Octahedral Shear and Normal Stresses and Their Effect in Combined Stress High-Cycle Fatigue,” Proceedings of the Second International Conference on Mechanical Behavior of Materials, Boston, Massachusetts, pgs. 855-859, co-authors W.R. Miller and J.D. Hansell, August 1976

“Multiple Regression Models in the Analysis of Combined Stress High-Cycle Fatigue,” Ph.D. Dissertation, University of Toledo, 1975

“Design Recommendations Report,” Fast Burst Nuclear Reactor Technical Evaluation Report, White Sands Missile Range, New Mexico, 1975

“Failure of Burst Rod Adapter,” White Sands Missile Range: Fast Burst Nuclear Reactor Technical Evaluation Report, co-authors A. De La Paz and D.L. Welch, 1975

“Fatigue Analysis Considering Rotating Principal Stress Axes for Aluminum Alloy 2024-T351,” Proceedings of the International Conference on Mechanical Behavior of Materials, the Society of Materials Science, Vol. 2, pgs. 501-509, co-author W.R. Miller, Japan, 1971

PROFESSIONAL ORGANIZATIONS

American Academy of Mechanics (AAM)

American Society of Mechanical Engineers (ASME), Member since 1973

American Society of Metals (ASM), Member since 1978

American Society of Safety Engineers (ASSE), Member since 1982

---Product Safety Committee

American Society for Testing and Materials (ASTM), Member since 1989

---Health and Safety Committee

---Strain Gauge Committee

Center for Auto Safety

Human Factors Society, Member since 1989

Institute of Transportation Engineers (ITE), Member since 1986

International Association of Arson Investigators (IAAI), Member since 1988

International Association of Arson Investigators (IAAI), New Mexico branch

International Conference of Building Officials
National Association of Fire Investigators (NAFI), Member since 2005
National Fire Protection Association (NFPA), Member since 1989
National Forensic Center
Society of Accident Reconstructionists (SOAR), Member since 1987
Society of Automotive Engineers (SAE), Member since 1987
---Accident Reconstruction Practices Task Group
Society of Experimental Mechanics (SEM), Member since 1985
Southwestern Association of Technical Accident Investigators (SATAI), Member since 1985
Phi Kappa Phi, University Honors, Scholastic Honor Society, Member since 1968
Pi Mu Epsilon, Mathematical Honors, Scholastic Honor Society
Pi Tau Sigma, Engineering Honors, Scholastic Honor Society, Member since 1974
Sigma Xi, Engineering Research Society
Tau Beta Pi, Mechanical Engineering Honors, Scholastic Honor Society, Member since 1967

AWARDS AND RECOGNITIONS

Technical Paper Reviewer for Fire Technology Journal, Kluwer Academic Publishers publication, 2002

Associated Western Universities Energy Research Development Agency, Summer Faculty Research Grants for Research at Nuclear Weapon Effects Branch, White Sands Missile Range, New Mexico, 1977, 1976, 1975

Mechanical Engineering Department Student Teaching Award, New Mexico State University, 1976

Junior Engineering Technical Society, New Mexico State Coordinator, 1975-1980

National Science Foundation Trainee: 1974-1979

Technical Paper Reviewer, Federal Highway Administration, Transportation Research Board: Heavy Truck Dynamics

Technical Proposal Reviewer, New Mexico State Energy Research Board: Oil Field Industrial Equipment Development

ADDITIONAL INFORMATION

Patents

Combination Valve and Regulator with Vented Seat for Use With Pressurized Gas Cylinders, Particularly Oxygen Cylinders, No. 7,234,680, co-inventor B.E. Newton, issued June 26, 2007

Cylinder Valve and Bayonet Check-Filter with Excess-Flow Protection Feature, No. 6,607,007, co-inventor B.E. Newton, issued August 19, 2003

Omni-Directional Compound Paraboloid Radiation Device, No. 4,270,844, co-inventors M. Cobble and R. Hays, issued June 2, 1981

Funded Research

Co-Principal Investigator

- **Waste Energy Inventory for the State of New Mexico**
New Mexico Energy Resources Board, ERG76-204, October 1976

Co-PIs E. Groth and D. Zallen

- **Instructional Scientific Equipment Program Grant**
National Science Foundation, NMSU-76-00166, January 1976
Co-PIs P.R. Smith, T. Mancini and D. Zallen
- **Economic Analysis of Small Scale Bioconversion Units in New Mexico**
New Mexico Energy Resources Board, NMSU-77-00456, September 1977
Co-PI E.E. Staffeldt

Principal Investigator

- **Ram-Site Solar Furnace Conversion**
D.O.D., U.S. Army, White Sands Missile Range

Principal Investigator

- **DAAD07-78-C-0009**
Supervision and technical management of 15 faculty and 15 graduate students;
Overall responsibility for engineering, task allocation and funding expenditures
October 1977 through October 1979
- **Certification of Loose Cargo Bounce Testing**
D.O.D., U. S. Army, White Sands Missile Range, DAA07-80-C-0025, January 1980
Co-PI L.N. Randall

Other Experience

Licensed private pilot