



8315 South Wadsworth Blvd ~ P.O. Box 621519 Littleton, Colorado 80162-1519



Jerry S. Ogden, PhD, PE

President, OEC Forensics



Experience and Qualifications Record

~2017~

FORMAL EDUCATION

Doctor of Philosophy Engineering and Applied Science, University of Colorado Denver, Colorado; 2015. Multi-disciplinary doctorate with primary field of study in Civil Engineering and secondary field of study in Mechanical Engineering. Focus in Traffic and Transportation Engineering, Geographic Information System (GIS), Highway Design and Engineering Mechanics. Dissertation developed a broad-based generalized vehicle deformation and total velocity change analysis system of equations (G-DaTAV™).

Master of Science, Civil Engineering, University of Colorado Denver, Colorado; 1995. Graduate course work focus in Traffic Engineering, Traffic Safety, Motor Vehicle Collision Analysis, Occupant Kinematics and Engineering Biomechanics. Master's thesis topic in low-velocity, minor damage accident investigation, reconstruction and engineering bio-dynamics. College course work in Human Anatomy and Physiology.

Bachelor of Science, Chemistry (Analytical), Eastern Oregon University (formerly Eastern Oregon State College); La Grande, Oregon; 1988. Primary coursework focus in Physical and Inorganic Chemistry, Applied Physics and General Engineering.

PROFESSIONAL TRAINING

Professional education training courses covering basic through advanced Collision Investigation and Analysis, Planar Impact Dynamics, Collision Simulation and Animation, Motor Vehicle Dynamics, Rollover Dynamics, Motorcycle Collision Analysis and Dynamics, Crash Data Retrieval Supplemental Restraint System Download and Data Analysis, Tire/Wheel Design and Failure, Commercial Vehicle Collision Analysis, Heavy Vehicle Event Data Recorder Download and Interpretation, Heavy Vehicle Braking Systems and Dynamics, Occupant Kinematics,

Collision Biomechanics, Low Speed Impact Analysis, Highway Construction Zone Traffic Control and Highway Geometric Design.

ENGINEERING LICENSURES AND REGISTRATIONS*

Registered Professional Engineer, State of Colorado, Registration **32160**.

Registered Professional Civil Engineer, State of Hawaii, Registration **15123**.

Registered Professional Civil Engineer, State of Idaho, Registration **9710**.

Registered Professional Engineer, State of Indiana, Registration **PE11600216**.

Registered Professional Engineer, State of Iowa, Registration **23411**.

Registered Professional Civil Engineer, State of Nebraska, Registration **E-15824**.

Registered Professional Civil Engineer, State of Nevada, Registration **024081**.

Registered Professional Civil Engineer, State of North Carolina, Registration **043940**.

Registered Professional Civil Engineer, State of Oregon, Registration **59851PE**.

Registered Professional Engineer, State of Utah, Registration **9603691-2202 PE**.

Registered Professional Engineer, State of Wyoming, Registration **PE15410**.

****Active NCEES record***

PROFESSIONAL CERTIFICATIONS

Board Certified Diplomate in Forensic Engineering, National Academy of Forensic Engineers, a Chartered Affinity Group of the National Society of Professional Engineers and a Charter Member of the Council of Engineering and Scientific Specialty Boards. Board Certification Number **561F**

Fully Accredited Traffic Accident Reconstructionist, Accreditation Commission for Traffic Accident Reconstruction (ACTAR), Registration Number **581**

Certified Traffic Control Supervisor, American Traffic Safety Services Association (ATSSA), Certification **21716**

MultiRotor Service Drone G4 Aerial Surveying Robot Basic Operator Certification, April 2016.

PROFESSIONAL AFFILIATIONS

National Academy of Forensic Engineers (1998); ***Fellow; Board of Directors, Treasurer***

National Society of Professional Engineers; Professional Engineers of Colorado (1993); ***Member***

Institute of Transportation Engineers and ITE Expert Witness Council (1994); ***Member***

Society of Automotive Engineers (1992); ***Member***.

American Society of Civil Engineers (2002); ***Member***

American Society of Mechanical Engineers (2015); ***Member***

National Association of Professional Accident Reconstruction Specialists (1991); ***Member***.

EXPERIENCE

- Forensic Engineer and President of *OEC Forensics* (a division of Ogden Engineering & Consulting, LLC). Responsible for the investigation, analysis and reconstruction of motor vehicle collisions, occupant safety, highway design features and vehicle/machine component failures. Determine factors relating to collision or failure causation, occupant protection, driver actions, and highway design and traffic control contributions. Conduct research, complete engineering calculations and analysis, prepare expert records, develop conclusions and provide forensic engineering testimony relative to results, findings and conclusions. Provide quality assurance/control (QA/QC) services to highway design consulting engineering firms for highway plans, specifications and estimates (PS&E) (2000 to present).
- Special Topic presentations for the *National Academy of Forensic Engineers*, semi-annual special seminar series in Advanced Accident Reconstruction and Forensic Engineering Tools and Techniques. Develop instructional materials and present at semi-annual special seminar sessions (2010 to present).
- Adjunct faculty member with the Continuing Engineering Education Program at *The George Washington University*, K Street Center for Professional Education, Washington, DC. Develop and teach engineering professional development courses in Accident Investigation for Engineers (Course 2158DC), Accident Reconstruction for Engineers (Course 2137DC), and Low Velocity Accident Investigation and Reconstruction for Engineers (Course 2159DC) (1998 to 2007).
- Forensic Engineer with *Thomas L. Alcorn, PE & Associates*. Responsible for investigating and reconstructing motor vehicle collisions to determine factors contributing to collision causation. Conduct research, complete engineering calculations and analysis, prepare expert records, develop conclusions and provide forensic engineering testimony relative to results, findings and conclusions (1991 to 2000).
- Commissioned Regular Army Officer in the *United States Army* (Armored Cavalry Corps). Command combat personnel and equipment, develop operational/training plans. Supervise and coordinate heavy engineering equipment designed to maintain overland mobility and crew/combat vehicle survivability on the battlefield. Granted Top Secret security clearance during Regular Army Enlisted and Regular Army Commissioned Officer active duty military service (1982 to 1991, terminal rank of Captain/O3).
- Line of Duty Accident Investigation Officer, Safety Officer, Maintenance Officer, Driver Training Officer, Hazardous Cargo Inspection Officer and Nuclear/Biological/Chemical Officer duties while assigned to a heavy tank battalion of the 3rd Armored Division in the Federal Republic of Germany (1988 to 1991). Combat service in Saudi Arabia and Iraq during Operation Desert Shield and Operation Desert Storm (Persian Gulf War), as a commissioned officer assigned to the 1st Brigade, 3rd Armored Division, 7th Corps, US Army (1991).

PROFESSIONAL AND TRADE JOURNAL PUBLICATIONS

- 1) Ogden J., Martonovich M., Engle C., “Applications of the G-DaTAV™ System of Equations When Determining Total Velocity Change Resulting from Motor Vehicle Collisions”, IMECE2016-65013, 2016 American Society of Mechanical Engineers Congress and Exposition, ©ASME 2016.
- 2) Ogden J., Martonovich M., “Forensic Engineering Tools and Analysis of Heavy Vehicle Event Data Recorders (HVEDR)”, defended for publication before the National Academy of Forensic Engineers, June 2016.
- 3) Ogden J., Engle C., “Rules and Regulations for Commercial Drone Usage”, InterACTION, The National Academy of Forensic Engineers, Vol. 27, No. 1, Spring/Summer 2016.
- 4) Ogden J., “Forensic Engineering Applications of the G-DaTAV™ System of Equations to Real-World Collisions”, defended July 2015, The Journal of the National Academy of Forensic Engineers, Volume 32, No. 2, December 2015.
- 5) Ogden J., “Generalized Deformation and Total Velocity Change Analysis with Missing Vehicle Stiffness Coefficients; G-DaTAV™”, defended January 2015, The Journal of the National Academy of Forensic Engineers, Volume 32, No. 1, June 2015.
- 6) Ogden J., “Forensic Engineering Traffic Impact and Signalization Analysis”, defended July 2013, The Journal of the National Academy of Forensic Engineers, Volume 29, No. 2, December 2012 Edition, published April 2015.
- 7) Ogden J., Kloberdanz K., “Forensic Analysis of Motorcycle Impacts Using Rotational Mechanics and Fork/Vehicle Deformation”, defended July 2012, The Journal of the National Academy of Forensic Engineers, Volume 29, No. 1, June 2012 Edition, published November 2014.
- 8) Ogden J., “GIS for Forensic Engineering”, InterACTION, The National Academy of Forensic Engineers, Vol. 23, No. 2, Fall/Winter 2012.
- 9) Ogden J., Martonovich M., Weimer Z., Kloberdanz K., “Information Analysis for the Collision Analyst”, Collision Magazine, Volume 7, Issue 1, Spring 2012.
- 10) Ogden J., Martonovich M., “Current Issues Affecting Passenger and Commercial Vehicle Event Data Recorders”, InterACTION, The National Academy of Forensic Engineers, Vol. 22, No. 2, Fall/Winter 2011.
- 11) Ogden J., Weimer Z., Kloberdanz K., Martonovich M., “Event Data Recorders and Evidence Spoliation: Avoiding Exposure”, Colorado Claims, October 2011, Volume 9, Number 3.
- 12) Ogden J., “Forensic Engineering Analysis of a Bicycle Pickup Truck Accident”, defended July 2009, The Journal of the National Academy of Forensic Engineers, Vol. 27, No. 1, June 2010.
- 13) Ogden J., “Forensic Engineering Analysis of Multiple Vehicle Impact Sequences”, defended July 2008, The Journal of the National Academy of Forensic Engineers, Volume 25, No. 2, December 2008.
- 14) Ogden J., Kloberdanz K., “Introducing a Cost Effective, Real-Time Video Visualization for Depicting Accident Events”, Colorado Claims, 4th Quarter 2006, Volume 4, Number 3.
- 15) Ogden J., “Forensic Engineering Analysis of Damage and Restitution in Low Velocity Impacts”, defended July 1999, The Journal of the National Academy of Forensic Engineers, Volume 16, No. 2, December 1999.
- 16) Ogden J., Sprague D., “Forensic Methods for Investigating and Documenting Minor Damage Motor Vehicle Impacts”, Institute of Transportation Engineers, 1998 Compendium of Technical Papers, ITE District VI 68th Annual Meeting, 1998.
- 17) Ogden J., Sprague D., “Accident Reconstruction Methods for Determining the Severity Levels of Minor Damage Impacts”, Institute of Transportation Engineers, 1998 Compendium of Technical Papers, ITE District VI 68th Annual Meeting, 1998.
- 18) Ogden J., Sprague D., “Motor Vehicle Damage Force Balancing Methods for Accident Reconstruction”, Institute of Transportation Engineers, 1998 Compendium of Technical Papers, ITE District VI 68th Annual Meeting, 1998.

- 19) Ogden J., Alcorn T., Scott J., “Acceleration Levels and Occupant Kinematics Associated with Vehicle-to-Curb Impacts”, Accident Reconstruction Journal, Volume 7, Number 3, May/June 1995.

BOOKS, CHAPTERS, INSTRUCTIONAL MATERIALS AND SCHOLARLY TEXTS

- 1) Ogden J., “Generalized Deformation and Total Velocity Change Analysis System of Equations (G-DaTAV™)”, an Engineering & Applied Science Doctor of Philosophy dissertation, University of Colorado Denver, ProQuest No. 3739580, Published by ProQuest LLC (2015), ©2015 Jerry Scott Ogden.
- 2) Traffic Engineering Handbook 7th Edition, Chapter 14 “Work Zone Maintenance of Traffic and Construction Staging”, technical review for publication, Draft Text June 6, 2014, Institute of Transportation Engineers, 2014.
- 3) Ogden J., “Practical Planning and Execution Procedures for Effective Forensic HDS Scanning”, SPAR International 2014, Forensic and 3D for Legal/Court Division, Colorado Springs, Colorado, April 15, 2014.
- 4) Ogden J., Weimer Z., Forensic Engineering Methods for the Analytical Analysis of Low Speed Impacts with Mathematical Appendix, National Academy of Forensic Engineers Education Committee Special Seminar, “Advanced Topics in Accident Reconstruction”, Minneapolis, Minnesota, July 2013.
- 5) Ogden J., Conflict of Interest, Affidavits, Motions in Limine & Other Legal Filings, National Academy of Forensic Engineers Education Committee Special Seminar, “Forensic Engineering Tools and Techniques Series”, Miami, Florida, January 2012.
- 6) Ogden J., Forensic Analysis of Photographic Evidence, National Academy of Forensic Engineers Education Committee Special Seminar, “Advanced Topics in Accident Reconstruction”, Las Vegas, Nevada, July 2011.
- 7) Ogden J., Martonovich M., “Forensic Engineering & Collision Analysis: Tools, Techniques and Applications in Criminal Justice”, Warren Technical Institute, lecture for Criminal Justice, October 2011.
- 8) Ogden J., Subpoenas, Depositions and Discovery Requests of the Forensic Engineer, National Academy of Forensic Engineers Education Committee Special Seminar, “Forensic Engineering Tools and Techniques Series”, Tucson, Arizona, January 2011.
- 9) Ogden J., Forensic Engineering Principles of Motorcycle Accident Analysis, and Motorcycle Impact Speed Analysis Mathematics Appendix and Applied Problems, National Academy of Forensic Engineers Education Committee Special Seminar, "Advanced Topics in Accident Reconstruction", Orlando, Florida, July 2010.
- 10) Ogden J., Accident Reconstruction, training manual for the Accident Reconstruction for Engineers (Course 2137DC), The George Washington University Continuing Engineering Education Program, K Street Center for Professional Education, Washington, DC., 1998.
- 11) Ogden J., Methods of Investigating and Reconstructing Minor Damage, Low-Velocity Motor Vehicle Accidents, a Master of Science thesis, University of Colorado Denver, Denver, Colorado, defended October 13, 1995.