



FORCON INTERNATIONAL

JOHN P. LEFFLER, PE

EDUCATION

Bachelor of Mechanical Engineering, Georgia Institute of Technology, 1993 - emphasis: mechanical design

- Pi Tau Sigma - Honorary Mechanical Engineering Fraternity

REGISTRATIONS & CERTIFICATIONS

Licensed Professional Engineer (Mechanical) in GA, FL, AL, NC, SC, PA, VA, MS, HI

Board Certified Diplomate in Forensic Engineering through NAFE, a CESB Member Board

Certified Automobile Technician - ASE

Child Passenger Safety Technician - NHTSA / Safe Kids USA

Powered Access Licensed-Registration: Operator, Mobile Vertical & Mobile Boom personnel lifts - IPAF / AWPT

Certified Forklift Operator - OSHA

PROFESSIONAL ASSOCIATIONS

American Society of Mechanical Engineers (ASME)

American Society of Safety Engineers (ASSE)

- Member, A1264 Accredited Standards Committee on Slip and Trip Prevention

ASTM International (formerly American Society for Testing and Materials)

- Executive Committee Member-at-Large, Technical Committee F13 - Pedestrian/Walkway Safety & Footwear
Chair, Subcommittee F13.10 - Traction

Primary author: ASTM F2948 - *Standard Guide to Walkway Auditor Qualifications*

- Member and Former Chair, Technical Committee E58 - Forensic Engineering

Primary author: ASTM E2713 - *Standard Guide to Forensic Engineering*

- F13 Liaison to Subcommittee F15.03 - Safety Standards for Bathtubs & Shower Structures

National Academy of Forensic Engineers (NAFE) - Senior Member

- Past President, Board of Directors

- Chair, Technical Review Committee - *Journal of the NAFE*

National Council of Examiners for Engineering & Surveying (NCEES) - Mechanical PE test preparation committee

National Society of Professional Engineers (NSPE)

Society of Automotive Engineers (SAE)

CAREER HISTORY - ENGINEERING

FORCON International, Atlanta GA: Forensic Mechanical Engineer (2/03-present). Conduct forensic engineering investigations and provide expert witness testimony related to:

- Vehicle mechanical issues: analysis of brake, driveline, suspension, wheel/hub, steering, and other systems.
- Consumer products and mechanical equipment: analysis of design, manufacturing, installation, maintenance, usage, and codes/standards compliance issues. Specialties: machinery, power tools, furniture, powered lifts.
- Pedestrian walkway safety: analyze slip resistance, fall hazards, other extrinsic factors, and codes/standards compliance. Researcher in pedestrian safety, bathing surface safety, and walkway tribometer reliability.
- Recreational boat construction, equipment, and usage.
- Development and administration of technical consensus standards.
- Workplace accidents and injury causation: analysis of extrinsic factors & standards compliance.

Slip-Test Inc., Atlanta GA: Consultant (8/10-present). Responsible for engineering, R&D, and production coordination for the manufacturing, sales, and servicing of Robert Brungraber-designed walkway traction testing tribometers.

Precistems, Incorporated: Owner of product engineering consulting company (9/98-12/06). Conducted PDM database implementations for numerous large manufacturers. Lead designer of four Sears Craftsman power tools.

- Created the "industrial design" of each product: user interface, ergonomics, and aesthetics.
- Used advanced master-surface 3D CAD solid modeling to design plastic housings, gears & internal components.
- Ensured compliance with applicable UL and customer safety & durability standards.

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CAREER HISTORY - ENGINEERING - continued

Panasonic Wireless / MMCD: (5/98-9/98) Contracted to transition company from one 3D CAD system to another one, and set up an engineering data management system. Configured new CAD workstations and related peripherals. Created all CAD and data management process infrastructure. Created detailed user guides and trained users.

Motorola Energy Systems Group: (9/97-5/98) Designed AC power supply enclosures for cellular phones. Designed an international, interchangeable AC adapter system used on several power supplies. Additional design tasks included extensive research into applicable safety standards (UL, ISO, IEC, BS, AS) for England, Germany, Australia, USA, and the European Union. Designed the power supply housings for the high-volume StarTAC and V-series phones.

Firearms Training Systems: (10/96-9/97, 4/93-4/94) Design of training weapon simulators. Responsible for production release of a military mortar simulator line, with over 80 manufactured components. Designed three firearm simulator conversions. Wrote the mechanical engineering sections of a winning proposal for an \$8M ship simulator.

Decibel Products, Inc.: (3/96-9/96) Responsible mechanical engineer for modular panel antenna production line. Extensively involved with quality troubleshooting. Initiated many process improvements.

Herman Miller, Incorporated: (5/94-3/96) Design of custom office furniture system products. Developed a line of modular bank teller gates, with 20 unique versions. Participated in process improvement teams.

Woods Hole Oceanographic Institution: (6/91-9/91) Summer employment during college. Assisted with mechanical and CAD design of the prototype Autonomous Benthic Explorer (ABE), an autonomous deep-sea research submarine.

CAREER HISTORY - AUTOMOTIVE

Ohio State University – College of Mechanical Engineering: created a complete & competitive design for the school's Formula SAE racecar during sophomore year of college (1990), prior to transferring to Georgia Tech. Project leader for the construction of the racecar and its entry in the 1991 intercollegiate competition. Design tasks:

- Designed 95% of the car - selected all components, materials, and fabrication processes.
- Fabricated the frame and numerous other components of the racecar.
- Designed the highly adjustable suspension, which featured custom-cast aluminum suspension uprights, pullrod-actuated rising-rate spring/shock actuation, and carefully controlled roll centers, bump steer, and camber gain.

Porsche Club of America: Racecar driving instructor at Road Atlanta racetrack in Braselton, Georgia, 1997 - 2001. Raced a sponsored Porsche at Road Atlanta and Atlanta Motor Speedway.

Sports Car Club of America (SCCA): National competitor in the Pro Solo professional series and Central Division Championship autocross series, 1986 -1990. Trophied in 40+ events. Sponsored by Goodyear.

Budweiser/Truesports Racing: Winning team of the 1986 Indy 500 and the 1986 -1987 Indy Car championships. Employed from 1986 -1989 as a mechanic, fabricator, and machinist.

- Extensive mechanical experience with maintenance, repair, and inspection of suspension, steering, braking, tire/wheel, chassis, clutch, transaxle, differential, cockpit, and engine subsystems.
- Fabrication of suspension parts, wings, and other components using shears, brakes, rollers, forms, presses, and other sheetmetal working tools on steels, aluminum, and titanium.
- Fabrication of wings and body panels using vacuum-bagged carbon/Kevlar composites.
- Extensive welding experience with TIG, MIG, and gas welding of steels and aluminum.
- Machining experience using lathes, mills, and grinders on steels, aluminum, and titanium.

Mechanic & fabricator for a racing school and four racecar preparation shops, 1982 -1985. Worked on SCCA racecars in the Production, GT, Showroom Stock, Formula Ford, Formula Atlantic, and Sports 2000 classes. Crewed on Super Vee and Trans-Am professional series racecars. Built racing ATVs and street rods. Restored and maintained several vintage racecars. Graduate of the Jim Russell School Of Motor Racing at Laguna Seca Raceway, Salinas, CA, 1983.

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CAREER HISTORY - ACADEMIA

Georgia Institute of Technology, School of Industrial Design, College of Design: (8/04-present) Lecturer. Instructor for junior/senior and masters level 3-credit hour courses entitled "Materials & Processes".

CONTINUING EDUCATION

Engineering & Design

- Design for Manufacture and Assembly (DFMA) - University of Wisconsin
- Designing Plastic Parts for Assembly - University of Wisconsin
- Plastic Injection Molded Part Design & Molding Processes Workshops - GE Plastics
- Geometric Dimensioning and Tolerancing - Clemson University
- Advanced Plastic Gear Design - Universal Technical Systems
- The Bolted Joint - American Society of Mechanical Engineers

Safety

- Occupational Safety & Health Standards for General Industry (30 hour) - OSHA Training Institute / Georgia Tech
- National Standardized Child Passenger Safety Training - NHTSA / Safe Kids USA
- Child Passenger Safety Technician Update Training - Georgia Traffic Injury Prevention Institute
- Certified XL Tribometrist training course - ESIS / International Safety Academy
- Understanding Slip & Fall Events: A Biomechanical Perspective - University of Southern California
- Participant, ASTM F13 Interlaboratory Study on slip resistance testing - University of Southern California
- Multifactorial Analysis of Slip and Fall Events: Implications for Forensic and Safety Professionals - ASTM

Vehicles

- Injuries, Anatomy, Biomechanics & Federal Regulation - Society of Automotive Engineers (SAE)
- Occupant and Vehicle Kinematics in Rollovers - SAE
- Commercial Vehicle Braking Systems - SAE
- Forensic Analysis of Medical Records in Injury Biomechanics and Accident Reconstruction Studies - SAE
- Air Brake Training School - Bendix Commercial Vehicle Systems

Miscellaneous

- General Topics in Forensic Engineering - National Academy of Forensic Engineers
- Advanced Dynamics of Machinery (graduate level 3 credit hour course) - Georgia Tech
- Machine Tools (undergraduate level 2 credit hour course) - Columbus State Community College

SPEAKING ENGAGEMENTS

Topic: "***Extrinsic Analysis of Same Level Fall Incidents***" presented to:

- Acordia - Intercontinental Hotels Group - ESIS / Ace - Risk Enterprise Management, Ltd - Liberty Mutual - Gallagher Bassett - FCCI Insurance Group - Broadspire - Hertz - Southern States Insurance Exchange

Topic: "***Product Failures and Subrogation***" presented to:

- National Association of Subrogation Professionals - Jacksonville Claims Association - Crawford University - Risk Enterprise Management, Ltd - FCCI Insurance Group

Topic: "***Effective Use of Surrogates in Investigating Bodily Injury Claims***" presented to:

- Georgia Defense Lawyers Association - FCCI Insurance Group

Topic: "***Forensic Analysis of Alleged Child Restraint Failures***" presented to:

- Childrens Healthcare of Atlanta

Topic: "***Slip Resistance Testing - Something to Consider***" presented to:

- State Bar of Georgia, Advanced Slip & Fall Seminar

Topic: "***Vehicle and Occupant Response in Evasive Maneuvers***" presented as guest speaker to:

- Society of Automotive Engineers seminar "*Forensic Analysis of Medical Records in Injury Biomechanics and Accident Reconstruction Studies*"

SPEAKING ENGAGEMENTS - continued

Topic: “**Walkway Traction Testing - Friction and Fiction**” presented to:

- Institute of Continuing Legal Education: Premises Liability Seminar, State Bar of Georgia

Topic: “**Subrogation: Who Else Should Be At The Table?**” panel discussion, presented to:

- FCCI Insurance Group

Topic: “**Subrogating the Slip and Fall Claim**” presented to:

- National Association of Subrogation Professionals, via national webinar and at 2012 national conference

Topic: “**The Changing World of Slip-and-Fall Defense**” presented to:

- Georgia Defense Lawyers Association

Topic: “**Pedestrian Slips - Proactive & Reactive Things to Consider**”, “**Pedestrian Fall Intrinsic Analysis**”, “**Pedestrian Safety - Specific Exposures**” presented to:

- Wells Fargo Insurance Services

Topic: “**Use and Misuse of Codes, Standards, and Regulations**” presented to:

- National Academy of Forensic Engineers - Special Seminar

Topic: “**Forensic Engineering Lessons: Plan versus Reality**” panelist in “**Successful Product Design and Execution: Innovative New Product Development**” panel discussion, presented to:

- International Consumer Product Health & Safety Organization, Product Safety Training Workshop (June 2016)

Topic: “**Forensic Engineering Analysis of Design and Manufacturing Practices for an Automotive Spring**” presented to:

- National Academy of Forensic Engineers; NAFE Journal article publication pending

Created and co-presented 8-hour class entitled: “**Walkway Auditor Training Course: ASTM F2948**”, Houston TX, January 2014 - Anaheim CA, June 2015 - Greenville NC, November 2016

Ongoing presentations to middle-school and high-school students regarding engineering & technology careers

PATENTS

“Combination Line Trimmer and Edger”, US Patents 6,769,494 (August 3, 2004) and 7,131,499 (November 7, 2006)

PUBLICATIONS

Leffler JP. Effects of Evidence Spoliation on Forensic Engineering Analysis of Alleged Brake Servicing Defects. *Journal of the National Academy of Forensic Engineers*, Volume 33, No. 2, December 2016, 13-21.

Leffler JP, Blanchette MS. Forensic Considerations Regarding Traction and Tribometry of Bathing Surfaces. *Journal of the National Academy of Forensic Engineers*, Volume 33, No. 1, June 2016, 37-45.

Leffler JP. Slip & Fall Continuing Education “E-course”. Claims & Litigation Management Alliance. Accessed 8/24/2015. <https://www.theclm.org/Event/ShowECourseDescription/4018>.

Leffler JP. The Changing World of Slip-and-Fall Analysis. Paper presented at: Safety 2015. Proceedings of the American Society of Safety Engineers (ASSE) Professional Development Conference; June 7-9, 2015; Dallas TX.

Leffler JP, Barré KM, Reneau AP. The Changing World of Slip-and-Fall Defense. *For The Defense*, Defense Research Institute, Chicago IL, Volume 55, No. 2, February 2013, 18-24.

Leffler JP. Creating Technical Standards for the ASTM E58 Forensic Engineering Technical Committee. *InterACTION* Newsletter of the National Academy of Forensic Engineers, Volume 23, No. 1, Spring/Summer 2012.

Leffler JP. Forensic Engineering Investigation of Vehicle Hub Separations. *Journal of the National Academy of Forensic Engineers*, Volume 28, No. 1, June 2011, 95-111.

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PUBLICATIONS - continued

Leffler JP, Schlender EH. Forensic Engineering Analysis of Reliance on Standards in a Multi-Defendant Cross Claim Case. *Journal of the National Academy of Forensic Engineers*, Volume 27, No. 2, December 2010, 41- 54.

Leffler JP. Forensic Engineering Investigation of an Alleged Plastic Chair Failure. *Journal of the National Academy of Forensic Engineers*, Volume 27, No. 2, December 2010, 55-64.

Leffler JP, Robinson JH. Forensic Engineering Investigation of Lumber Temporary Guardrails. *Journal of the National Academy of Forensic Engineers*, Volume 27, No. 1, June 2010, 15-20.

Leffler JP, Schlender EH. Forensic Engineering Investigation of a Fall from a Construction Machine. *Journal of the National Academy of Forensic Engineers*, Volume 26, No. 2, December 2009, 63-73.

Leffler JP. Forensic Engineering Investigation of Vehicle Wheel Separations. *Journal of the National Academy of Forensic Engineers*, Volume 26, No. 1, June 2009, 11-48.

Leffler JP. Forensic Engineering Use of Walkway Traction Testing. *Journal of the National Academy of Forensic Engineers*, Volume 26, No. 1, June 2009, 121-138.

Leffler JP. Forensic Engineering Use of Surrogates in Injury and Fatality Cases. *Journal of the National Academy of Forensic Engineers*, Volume 24, No. 2, December 2007, 25-38.