

Curriculum Vitae

Donald J. Fournier Jr., P.E., ACTAR



Mr. Fournier's work experience includes mechanical engineering positions in industry, academia, and consulting firms. In industry, he has been responsible for project engineering, design, product development, research, testing, safety, and has received patents for commercialized products. As a university professor, he has incorporated his industrial and consulting experience into classroom lectures on design, engineering analysis, and safety. As a mechanical engineering consultant, he applies the principles of design, analysis, testing, and safety to the forensic evaluation of industrial and consumer products, traffic accident investigation and reconstruction, and premises liability claims.

Licensure and Certification

- Licensed Professional Engineer in Florida, #47588
- Board Certified Diplomate in Forensic Engineering by NAFE, a CESB Member Board, #626
- ACTAR Accredited Traffic Accident Reconstructionist, #1614
- Certified Fire and Explosion Investigator, National Association of Fire Investigators, #7646-3058
- Certified XL Tribometrist, English XL Variable Incidence Tribometer
- Certified Crash Data Retrieval System Technician and Data Analyst

Formal Education

- Master of Engineering in Mechanical Engineering, University of Florida, 1988
- Bachelor of Science in Mechanical Engineering, with High Honors, University of Florida, 1986

Professional Development

- Symposium on Traffic Safety, Institute of Police Technology and Management, Orlando, FL, 2017
- World Reconstruction Exposition, Orlando, FL, 2016
- Applications of Engineering, Analytical Techniques, NAFE Winter Annual Meeting, 2016
- Applying Automotive EDR Data to Traffic Crash Reconstruction, SAE International, 2014
- Accessing and Interpreting Heavy Vehicle Event Data Recorders, SAE International, 2013
- Heavy Vehicle Event Data Recorders, Lake Mary, FL, 2013
- Human Factors for Accident Reconstruction, Lake Mary, FL, 2010
- CDR Summit, ARC Network, 2015, 2010
- Special Problems in Traffic Crash Reconstruction, Institute of Police Technology and Management, 2009, 2001
- Basic/Advanced Diagramming and Animation, Visual Statement, 2007
- Crash Data Retrieval System Technician and Data Analyst Course, Collision Safety Institute, 2006
- Crash Data Retrieval System User Certification Course, Institute of Police Technology and Management, 2005
- Americans with Disabilities Act/Florida Accessibility Code for Building Construction, Professional Access Services, 2004
- Accident Reconstruction Network Crash Conference, 2004, 2002
- Bendix Comprehensive Air Brake Systems Training Program in the Operation and Maintenance of Heavy Duty Vehicle Air Brake Systems and Components, 2003
- Florida Building Commission – Core Training, Building/Fire Technical Core, 2002
- English XL Variable Incidence Tribometer Certification Program, 2002
- National Advanced Fire, Arson, and Explosion Investigation Science and Technology Program, 2015, 2011, 2001

Curriculum Vitae

Donald J. Fournier Jr., P.E., ACTAR



- Investigation of Motorcycle Crashes, Institute of Police Technology and Management, 2001
- OSHA Industrial Safety 30 Hour Certificate Course, University of Southern Mississippi, 1998
- Post Graduate Education, University of Florida (1993-1994), Human Anatomy for Engineers, Biometrics, Codes and Standards, Mechanical Vibrations, Finite Element Analysis
- Commercial Vehicle Accident Investigation and Reconstruction, Arkansas State University, 1994

Professional Affiliations

- National Academy of Forensic Engineers, Senior Member (2001 – present)
- Human Factors and Ergonomics Society, Member (2004 – present)
- The Society of Accident Reconstructionists, Member (2004-present)
- National Society of Professional Engineers, Member (2002 – present)
- Florida Engineering Society, Professional Engineer (2002 – present)
- International Code Council, Professional Member (2001 – present)
- Accident Reconstruction Network, Member (2000 – present)
- American Society of Safety Engineers, Professional Member (2000 – present)
- National Association of Fire Investigators, Member (2000 – present)
- National Fire Protection Association, Member (2000 – present)
- International Process Technology Alliance Board of Directors, Board Member (1999)
- Mississippi Manufacturer's Association, Member (1999 – 2000)
- American Society for Engineering Education, Member (1998 – 2000)
- Society of Automotive Engineers, Member (1992 – present)
- American Society of Mechanical Engineers, Member (1988 – present)
- Air and Waste Management Association, Member (1988 – 2000)
- American Society for Testing and Materials, Member (1987 – present)
 - E58 Forensic Engineering, F09 Tires, F13 Pedestrian/Walkway Safety and Footwear

Professional Experience

- Project Manager, Forensic Engineering Technologies, LLC, Orlando, FL, 2009 – Present
- Vice President/Senior Associate/Project Manager, Kimley-Horn and Associates, Inc., Orlando, FL, 2003 – 2009
- Project Manager, Zook, Moore and Associates, Inc., Orlando, FL, 2000 – 2002
- Adjunct, Assistant Professor, The University of Southern Mississippi, School of Engineering Technology, Hattiesburg, MS, 1997 – 2000
- Vice President, President, Spectrum Design & Consulting International, Inc., Orlando, FL and Hattiesburg, MS, 1996 – 2009
- Combustion Engineer, Combustion Tec, Inc., Orlando, FL, 1995 – 1996
- Mechanical Engineer, Forensic Engineer, Accident Reconstructionist, Proctor Engineering Research and Consulting, Inc., Gainesville, FL, 1992 – 1995
- Research Engineer, Acurex Environmental, Inc., USEPA Incineration Research Facility, Jefferson, AR, 1988 – 1995
- Graduate Research Assistant, University of Florida Combustion Laboratory, Department of Mechanical Engineering, Gainesville, FL, 1985 – 1988

Curriculum Vitae

Donald J. Fournier Jr., P.E., ACTAR



- Mechanical Engineering Cooperative Education Student, Gulf Power Company, Pensacola, FL, 1982 – 1984

Patents

- Method and Apparatus for Producing Reformed Gases, with Marvin Tester and Greg Hughes, #6,524,356. Issued 2/25/03. Assigned to Midrex Direct Reduction Corporation, Inc.
- Oxygen-Fuel Boost Reformer Process and Apparatus, with Mahendra Joshi and Marvin Tester, # 5,997,596. Issued 12/07/99. Assigned to Midrex Direct Reduction Corporation, Inc. International patent under PCT, #WO 99/11571.
- Swirl-Stabilized Oxygen Fuel Burner for Low Firing Rates, with Mahendra Joshi, #6,029,910. Issued 02/29/00. Assigned to American Air Liquide, Inc. Application made for international patents under PCT.
- Flue Gas Recirculation for NOx Reduction from Glass Melting Furnaces, with Mahendra Joshi and Pat Mohr. Assigned to Combustion Tec, Inc. patent pending.

Honors and Awards

- Melvin Jones Fellow for Humanitarian Services from Lions Clubs
- USEPA STAR Award for Excellence in Research
- University of Florida President's Recognition Award
- Florida Graduate Scholar Fund Fellowship
- Tau Beta Phi and Pi Tau Sigma Engineering Honor Societies
- Who's Who in Science and Engineering, Who's Who in America, Who's Who in the World

Teaching and Curriculum Development

University of Southern Mississippi School of Engineering Technology

- Mechanical Engineering Technology – Courses Taught: Applied Dynamics; Engineering Design & Graphics; Solar Heating and Cooling; Mechanical Engineering Design Lab while at the University of Florida
- Environmental Compliance and Safety – Graduate and Undergraduate Courses Taught: Pollution Control; Environmental Sampling Methods; Environmental Management Systems and Quality Control; Ergonomics and Human Factors

Publications

Peer Reviewed Papers, Conference Proceedings, and Presentations

- "Data Collection and Simulation Methods Used in Motor Vehicle Accident Reconstruction," Vaghar, M. Reza and D.J. Fournier, Jr. Florida Engineering Society Journal, Volume 60, Number 6, February 2007.
- "Analysis of Acceleration in Passenger Cars and Heavy Trucks," Proctor, Charles L., II, W. Grimes, D.J. Fournier, Jr., J. Rigol, Jr., and M.G. Sunseri, presented at 1995 SAE International Congress and Exposition, Detroit, Michigan, February 1995.
- "The Debate Over Land Farming Naturally Occurring Radioactive Material (NORM). Generated by the Oil and Gas Industry in Mississippi," Fournier, D.J. and J.K. White. Presented at and published in the conference proceedings of the 2000 American Society for Engineering Education Annual Conference and Exposition, St. Louis, Missouri, June 2000.
- "The National Renewable Energy Laboratory Research Participation Program-Student Internship," Bagwell, W.S. and D.J. Fournier. Presented at and published in the conference proceedings of the 2000 American Society for Engineering Education Southeast Section Annual Meeting, Roanoke, Virginia, April 2000.
- "Industry Partnerships for Workforce Training and Development," Gaudet, C., D.J. Fournier, and D. Kemp. Published in the conference proceedings of the 2000 Conference for Industry and Education Collaboration sponsored by the American Society for Engineering Education, Orlando, Florida, February 2000.

Curriculum Vitae

Donald J. Fournier Jr., P.E., ACTAR



- "Technology Discovery: Environmental Module Supplemental Resources and Activities," Fournier, D.J. Workshop presentations to Technology Discovery Teachers in Jackson, Tupelo, Hattiesburg, and Gulfport, Mississippi, October 1999.
- "Development of an ISO 14001 Environmental Management System for a Pulp Plant," Fournier, D.J., J. Cervantes, and C. Gaudet. Presented at and published in the conference proceedings of the 1999 American Society for Engineering Education Annual Conference and Exposition, Charlotte, North Carolina, June 1999.
- "Developing Relationships with Industry That Advance Program Development," Fournier, D.J. and C. Gaudet. Poster presentation and published in the conference proceedings of the 1999 American Society for Engineering Education Annual Conference and Exposition, Charlotte, North Carolina, June 1999.
- "ISO 14001 Environmental Management System for a Pulp Plant," Fournier, D.J. Invited presentation at the Mississippi Water Environment Association's Annual Meeting, Jackson, Mississippi, June 1999.
- "Workforce Training and Development and Environmental Science at USM," Fournier, D.J. and C. Gaudet. Invited presentation to the Hattiesburg Lions Club, Hattiesburg, Mississippi, November 1998.
- "Bench-Scale Testing of Sorbent Additives for Trace Metal Capture and Retention," Venkatesh, S., D.J. Fournier, Jr., G.J. Carroll, and L.R. Waterland, presented at the 1995 Incineration Conference, Bellevue, Washington, May 1995.
- "Control of Mercury Emissions from Hazardous Waste Incinerators," Carroll, G.J., R.C. Thurman, and D.J. Fournier, Jr., presented at the Air and Waste Management Association Annual Meeting, Cincinnati, Ohio, June 1994.
- "Potential Surrogate Metals for Incinerator Trial Burns," Waterland, L.R., D.J. Fournier, Jr., G.J. Carroll, and M.K. Richards, presented at the 1993 Incineration Conference, Knoxville, Tennessee, May 1993.
- "Metals Partitioning Resulting from Rotary Kiln Incineration of Hazardous Waste," Richards, M.K. and D.J. Fournier, Jr., presented at the EPA Eighteenth Annual Hazardous Waste Research Symposium, Cincinnati, Ohio, April 1992.
- "The Fate of Trace Metals in a Rotary Kiln Incinerator: Tests with Two Different Wet Scrubber Systems," Fournier, D.J., Jr., L.R. Waterland, J.W. Lee, G.J. Carroll and R.C. Thurnau, presented at the Western States Section of the Combustion Institute, Los Angeles, California, October 1991.
- "The Behavior of Trace Metals in Rotary Kiln Incineration: Results of Incineration Research Facility Studies," Fournier, D.J., Jr., L.R. Waterland, J.W. Lee and G.J. Carroll. Presented at the EPA Seventeenth Annual Hazardous Waste Research Symposium, Cincinnati, Ohio, April 1991.
- "Size Distribution of Trace Metals in Flue Gas Particulate from a Pilot-Scale Rotary Kiln Incinerator," Fournier, D.J., Jr. and L.R. Waterland. Presented at The American Flame Research Committee International Symposium on NOx Control, Waste Incineration and Oxygen Enriched Combustion, San Francisco, California, October 1990.
- "Trace Metal Fate in a Rotary Kiln Incinerator with an Ionizing Wet Scrubber," Waterland, L.R., D.J. Fournier, Jr., J.W. Lee, and G.J. Carroll. Presented at the 1990 Incineration Conference, San Diego, California, May 1990.
- "Parametric Evaluation of Metal Partitioning at the U.S. EPA Incineration Research Facility," Carroll, G.J., D.J. Fournier, Jr., and L.R. Waterland. Presented at the EPA Sixteenth Annual Hazardous Waste Research Symposium, Cincinnati, Ohio, April 1990.
- "The Partitioning of Metals in Rotary Kiln Incineration," Carroll, G.J., D.J. Fournier, Jr., R.C. Thurnau, L.R. Waterland, R.E. Mournighan, and J.W. Lee. Presented at The Third International Conference on New Frontiers for Hazardous Waste Management, Pittsburgh, Pennsylvania, September 1989.
- "Pilot-Scale Testing to Evaluate the Fate of Trace Metals in Rotary Kiln Incineration," Fournier, D.J., Jr., L.R. Waterland, and W.E. Whitworth. Presented at the 1989 Summer National AIChE Meeting, Philadelphia, Pennsylvania, August 1989.
- "Incineration Surrogate Rationing Technique," Joshi, S., D.J. Fournier, Jr., C.L. Proctor II, and S. Roychoudhury. Presented at the 1988 Incineration Conference, San Francisco, California, May 1988.

- "An Empirical Correlation Relating Sulfur Hexafluoride Destruction to Mixing Conditions in a Turbulent Diffusion Flame," Fournier, D.J., Jr., C.L. Proctor II, and S. Joshi. Presented at the 1987 ASME/JSME Thermal Engineering Joint Conference, Honolulu, Hawaii, March 1987.
- "Correlating the Destruction Removal Efficiency of Hazardous Waste Surrogates and Tracers," Roychoudhury, S., D.J. Fournier, Jr., C.L. Proctor II, and S. Joshi, 86-WA/HT-25. Presented at the 1986 ASME Winter Annual Meeting, Anaheim, California, December 1986.
- "Sulfur Hexafluoride Destruction in a Laboratory Turbulent Diffusion Flame," Fournier, D.J., Jr., C.L. Proctor II, M. Berger, and S. Joshi, 86-WA/HT-24. Presented at the 1986 ASME Winter Annual Meeting, Anaheim, California, December 1986.

Contract Reports

- "The Fate of Trace Metals in a Rotary Kiln Incinerator with a Calvert Flux-Force/Condensation Scrubber System, Project Summary," Fournier, D.J., Jr. and L.R. Waterland. Acurex report prepared under EPA Contract 68-C9-0038, January 1993.
- "The Fate of Trace Metals in a Rotary Kiln Incinerator with a Calvert Flux-Force/Condensation Scrubber System," Fournier, D.J., Jr. and L.R. Waterland. Acurex report prepared under EPA Contract 68-C9-0038, January 1993.
- "Pilot Scale Incineration of Contaminated Soil from the Chemical Insecticide Corporation Superfund Site," Siag. A., D.J. Fournier, Jr., and L.R. Waterland. Acurex report prepared under EPA Contract 68-C9-0038, April 1992.
- "The Fate of Trace Metals in a Rotary Kiln Incinerator with a Single-Stage Ionizing Wet Scrubber, Project Summary," Fournier, D.J., Jr. and L.R. Waterland. Acurex report prepared under EPA Contract 68-C9-0038, September 1991. EPA/600/S2-91/032.
- "The Fate of Trace Metals in a Rotary Kiln Incinerator with a Venturi Scrubber/Packed Column Scrubber, Project Summary," Fournier, D.J., Jr., W.E. Whitworth, J.W. Lee, and L.R. Waterland. Acurex report prepared under EPA Contract 68-03-3267, February 1991, EPA/600/S2-90/043.
- "Treatability of Caldwell Trucking Superfund Site Soils by Low Temperature Desorption," Fournier, D.J., Jr., J.W. Lee, J.D. Cullum, and L.R. Waterland. Acurex report prepared under EPA Contract 68-C9-0038, February 1991.
- "Archive Sample Analysis for Trace Metals," Fournier, D.J., Jr. Acurex report prepared under EPA Contract 68-C9-0038, October 1990.
- "The Fate of Trace Metals in a Rotary Kiln Incinerator with a Single-Stage Ionizing Wet Scrubber," Fournier, D.J., Jr. and L.R. Waterland. Acurex report prepared under EPA Contract 68-C9-0038, April 1990. NTIS #PB91-223388 and #PB91-223396.
- "The Fate of Trace Metals in a Rotary Kiln Incinerator with a Venturi Scrubber/Packed-Column Scrubber," Fournier, D.J., Jr., L.R. Waterland, and W.E. Whitworth. Acurex report prepared under EPA Contract 68-03-3267, April 1989. NTIS #PB90-2638641/AS and #PB90-263872/AS.
- "Pilot-Scale Boiler Study of Sulfur Hexafluoride, and Emissions of CO, CO₂, O₂ and Unburned Hydrocarbons as Surrogates for Verification of Hazardous Waste Destruction Removal Efficiency," Proctor, C.L., II, D.J. Fournier, Jr., S. Roychoudhury, and M. Hopmeier. U.S. Air Force Final Technical Report, ESL-TR-88-30, November 1988.
- "Sulfur Hexafluoride as a Tracer for the Verification of Waste Destruction Levels in an Incineration Process," Proctor, C.L., II, M. Berger, D.J. Fournier, Jr., and S. Roychoudhury. U.S. Air Force Final Technical Report, ESL-TR-86-47, April 1986.

Journal Articles

- "Mercury Emissions from a Hazardous Waste Incinerator Equipped with a State-of-the-Art Wet Scrubber," Carroll, G.J., R.C. Thurnau, and D.J. Fournier, Jr. Journal of the Air and Waste Management Association, Volume 45, No. 9, September 1995.
- "The Behavior of Arsenic in a Rotary Kiln Incinerator," Thurnau, R.C. and D.J. Fournier, Jr. Journal of the Air and Waste Management Association, Volume 42, No. 2, February 1992.
- "Trace Metal Fate in a Rotary Kiln Incinerator with an Ionizing Wet Scrubber," Waterland, L.R., D.J. Fournier, Jr., and J.W. Lee. Waste Management, Volume 11, pp. 103-109, June 1991.

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- "Incineration Surrogate Ratioing Technique," Joshi, S., D.J. Fournier, Jr., C.L. Proctor II, and S. Roychoudhury. Waste Management, Volume 9, pp. 115-123, April 1989.