Gary R. Rogers

MSME, PE

Principal, Director of Commercial Vehicles

Mr. Gary Rogers is a Principal for Engineering Systems Inc. (ESi) in Charlotte, North Carolina. Mr. Rogers has broad experience in design, test and analysis, safety, and manufacturing. He has directed and conducted projects in the automotive, watercraft, aerospace, and communications industries. At General Motors, he served as Vehicle Safety Integration Engineer in the Vehicle Systems Synthesis and Analysis group. Mr. Rogers performed finite element analyses for vehicle structural integrity, NVH, durability, crashworthiness and occupant protection. As a Vehicle Safety Integration Engineer, he was responsible for all vehicle crashworthiness and occupant protection analysis and testing for the minivan family, as well as compliance to NHTSA and in-house standards. He has managed an analysis group responsible for predicting structural and crash performance of commercial aircraft seating for compliance with FAA and Federal regulations. Mr. Rogers also directed the R&D group responsible for simulating fiber optic cabling processes, as well as developing next generation fiber optic processes and equipment. His background also includes extensive experience in automatic transmission design for passenger car and heavy-truck applications. He also holds a B.S. degree in agriculture and has significant experience in agricultural equipment and farm processes.

Education

MS, Mechanical Engineering, University of Michigan.

BS, Mechanical Engineering, North Carolina State University.

BS, Animal Science, Michigan State University.

Licenses & Certifications

- State of Michigan P.E. License 6201051198
- State of Illinois P.E. License 062-058102
- State of North Carolina P.E. License 030601
- State of Ohio P.E. License E-69916
- State of South Carolina P.E. License 27255
- State of Virginia P.E. License 0402047596

Contact Information

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ESi Charlotte

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Areas of Specialization

- Machinery design and industrial processes
- Vehicle dynamics, computer simulation
- Vehicle body structure design, crashworthiness and occupant protection issues
- Manlift and crane accident investigations
- Structural fatigue and durability
- Automotive transmissions
- Agricultural, off-road and mining equipment
- Vehicle and heavy truck accident reconstruction
- Finite Element Analysis (FEA)
- Automotive and commercial aerospace seat design for crashworthiness and durability
- Recreational vehicle accident investigations
- Farm premises investigations
- Fiber optic cable loss investigations
- Hydraulics, fluid systems and plumbing systems

Positions Held

Engineering Systems Inc., Aurora, Illinois

- Principal & Director of Commercial Vehicles, 2021-Present
- Principal, 2016-2021
- Senior Managing Consultant, 2014-2016
- Senior Consultant, 2011-2014
- Manager of North Carolina Operations, 2011-2018

Packer Engineering, Inc., Charlotte, North Carolina

- Vice President, Engineering Mechanics, 2002-2010

Alcatel Telecommunications, Inc., Claremont, North Carolina

- Group Leader - Process Modeling Group, 2000-2002

B/E Aerospace, Inc., Winston-Salem, North Carolina

- Manager - CAE/Simulation, Synthesis and Analysis, 1997-2000

General Motors Corporation, Warren, Michigan

- Vehicle Safety Integration Engineer, 1990-1997

Rockwell International, Troy, Michigan

- Project Engineer, 1988-1990

General Motors Corporation, Ypsilanti, Michigan

- Project Engineer, 1985-1988

North Carolina Dairy Herd Improvement Association, Raleigh, North Carolina

- Computer Programmer & Lab Technician, 1982-1985

Jay Landis Farms, Homer, Michigan

- Dairy Farm Manager, 1981-1982

Continuing Education

- **Motor Vehicle Accident Reconstruction** – SAE, 2002
- **PC-Crash Advance Training** – 2003
- **PC-Rect Training** – 2003
- **Heavy Vehicle Accident Reconstruction** – Northwestern University, 2003
- **The Role of the Rear Seat in Crash Safety** – SAE, 2004

- **Traffic Accident Reconstruction II Course** – Northwestern University, 2004
- **HVE Accident Reconstruction Software Training** – 2005
- **HVE Accident Reconstruction Software Advanced Training Forum** – 2006
- **Product Liability and the Engineer** – SAE, 2006
- **Occupant and Vehicle Kinematics in Rollovers** – SAE, 2006
- **HVE Accident Reconstruction Software Advanced Training Forum** – 2008
- **SAE Vehicle Dynamics for Passenger Cars and Light Trucks e-Seminar** – 2010
- **SAE Introduction to Heavy Truck Tire, Steering, and Suspension Dynamics** – 2012
- **HVE Accident Reconstruction Software Advanced Training Forum** – 2014
- **CSI-Collision Safety Institute, Crash Data Retrieval Specialist – Technician Level 1** – 2014
- **HVE Accident Reconstruction Software Advanced Training Forum** – 2016
- **Human Factors in Traffic Crash Reconstruction** – Institute of Police Technology & Management (IPTM), 2017
- **PC-Crash Advance Training** – 2018
- **Applied Vehicle Dynamics Course** – PowerTrain Technology & Precision Auto Research, 2018
- **Engineering Ethics for Ohio Professional Engineers** – Continuing Education & Development, Inc., 2019
- **HVE Forum** – Engineering Dynamics Corporation, 2020
- **Traffic Signal Timing Records Interpretation & Analysis** – Traffic Signal Academy, University of Tennessee, 2020
- **TurboCAD Professional 2D/3D Training** – 2021
- **Engineering Ethics for Ohio Professional Engineers** – Continuing Education & Development, Inc., 2021
- **HVE Forum** – Engineering Dynamics Corporation, 2025
- **Hyundai-Kia & Tesla EDR Tools Technician** – University of North Florida Institute for Police Technology and Management (IPTM), 2025
- **Passenger Restraint Safety Systems** – University of North Florida Institute for Police Technology and Management (IPTM), 2025

Professional Affiliations/Honors

Durability Integration Team for U-Van Vehicle Family, General Motors Corporation

- Organizer, Developer & Leader, 1995

General Motors NAO Noise and Vibration Conference

- Discussion Panel Member, 1996

ANSI Z245 Standards Committee

- Member, 2014 - Present

SAE Data Collection and Archiving Standards Committee

- Member, 2017 - Present

Publications

"Comparison of a Tractor-Semitrailer Rollover Test and HVE Simulations," Honeycutt, D., **Rogers, G.**, Yang, S., and Chinni, J., SAE Technical Paper 2024-01-2487, 2024, https://doi.org/10.4271/2024-01-2487.

“Best Safety Practices for Stability of PVC Pipe Bundles During Transportation,” Brickman, D., Shah, A., **Rogers, G.**, Rewers, L., Petersen, J., The XXXVth Annual International Occupational Ergonomics and Safety Conference, Munich, Germany, 2023.

“Commercial Vehicle Skid Distance Testing and Analysis,” Bedsworth, K., Butler, R., **Rogers, G.**, Breen, K., and Fischer, W., SAE International 2013-01-0771, 2013.

“Integrating CAE into the B/E-SPG Design Process - A Modified 4-Phase EWIPP Approach,” **Rogers. G.**, Internal Process Standard Publication, 1998.

“Input Mobility Analysis Procedure and Techniques Developed To-date. Observed Analysis Limitations and Recommended Future Activities,” **Rogers, G.**, General Motors, Vehicle Systems Synthesis and Analysis Group, Internal Analysis Procedure Publication, 1996.

“Sheet Molding Compound (SMC) Design Considerations for Door Structures,” **Rogers, G.**, General Motors, Vehicle Systems Synthesis and Analysis Group, Technical Review Publication and Presentation, 1995.

“Front and Rear Chassis Interface Input Mobility Simulation Techniques as Developed for the GMX170 SLA Vehicle,” **Rogers, G.**, General Motors, Vehicle Systems Synthesis and Analysis Group, Internal Analysis Procedure Publication, 1994.

Presentations

““Best Safety Practices for Stability of PVC Pipe Bundles During Transport,” 12th Annual World Conference for the Society for Industrial and System Engineering, D. Brickman, **G. Rogers**, A. Shah, L. Rewerts and J. Petersen, 2023.

“Commercial Truck AR,” ASTM Occupational Health & Safety Committee Meeting, **G. Rogers**, 2021.

“Automotive Failure Analysis: How they Crash, How they Break,” Continuing Education Technical Presentation at Crane Engineering (ESi) “Smart Sessions” Event, H. Mercado-Corujo, **G. Rogers**, 2019.

“Automotive Failure Analysis: How They Crash, How They Break,” Continuing Education Technical Presentation for attorneys, Quintairos, Prieto, Wood & Boyer, P.A., Roswell, GA, **G. Rogers**,2018.

“Automotive Failure Analysis: How they Crash, How they Break,” Continuing Education Technical Presentation for attorneys and insurance professionals, ESi-Ann Arbor, MI Open House Event, **G. Rogers** and J. Sprague, 2012.

“Accident Reconstruction & Injury Analysis,” Chartis Insurance, Atlanta, GA, **G. Rogers**, 2012.

“Engineering Consulting as a Career,” University of North Carolina-Charlotte, William States Lee College of Engineering, Engineering Multi-Disciplinary Professional Development Class, **G. Rogers**, 2011.

“Engineering Ethics and the Professional Engineer," University of North Carolina- Charlotte, William States Lee College of Engineering, ENGR 3295, **G. Rogers**, 2009.

“FEA Evaluation of the Frontal Danner (VDS)/Thatcham Performance of the 1997 Opel Sintra Minivan,” General Motors North American Operations CAE Conference, **G. Rogers**, 1997.

“Offset Barrier Strategies,” Presentation of Analysis and Barrier Test Results to Chairman, NAO-Live, General Motors Desert Proving Grounds, **G. Rogers**, 1997.