PRINCIPIA®

Eric Rossetter, Ph.D., P.E.

Principal Engineer

Principia Engineering, Inc.
220 Sansome Street, Suite 500
San Francisco, California 94104
(415) 398-3018
(415) 398-3088 facsimile

Experience

Dr. Eric Rossetter is a Mechanical Engineer and one of the founders of Principia. His areas of expertise include automotive handling, vehicle systems, electronic control systems, electro-mechanical systems, vibration, and acoustics. Dr. Rossetter specializes in accident reconstruction and failure analysis of mechanical systems. He is proficient in digital data acquisition for measurement and analysis of acceleration, vibration, and acoustics. He also has expertise using computer simulation software for accident reconstruction and analysis.

Prior to working at Principia, Dr. Rossetter was a Senior Engineer in the vehicle group at Exponent, Inc. (formerly Failure Analysis Associates). He received his doctorate in Mechanical Engineering at Stanford University, where he designed an advanced automotive safety system to prevent unintended lane departures. He also has experience teaching vehicle dynamics to undergraduate and graduate students at Stanford University. In addition, Dr. Rossetter has completed a course on traffic accident reconstruction at Northwestern University's Center for Public Safety.

Education and Credentials

- Ph.D., Mechanical Engineering, Stanford University, 2003
- M.S., Mechanical Engineering, Stanford University, 2000
- B.S., Mechanical Engineering, University of California, Davis, June 1998
- Registered Professional Mechanical Engineer, California, #M33422
- 3D Fellowship, Stanford University
- Co-recipient of the best paper award at the 2002 International Symposium on Advanced Vehicle Control, Hiroshima, Japan
- Member: American Society of Mechanical Engineers (ASME)
- Member: Society of Automotive Engineers (SAE)
- Tau Beta Pi Engineering Honor Society
- PADI Certified Open Water Diver 1990
- FAA Licensed Private Pilot 2005, Instrument Rating 2009

(Last updated: September 2012)

Continuing Education

- HVE forum on computer simulation for accident reconstruction, 40 hours, February 2012
- SAE Seminar, Accessing and Analyzing Crash and Injury Data from Online Databases, 16 hours, October 2006
- HVE forum on computer simulation for accident reconstruction, 40 hours, February 2005
- Traffic Accident Reconstruction 1, Northwestern University Center for Public Safety, 80 hours, April 2004
- TIG welding, vocational training at The Crucible, 2004

Publications

"Using HVE to Simulate a Nine Vehicle Accident Involving a Heavy Truck", *Engineering Dynamics Corporation*, HVE Forum, February 2012 (with Benjamin Ewers III, Bradford Coburn, Yomi Agunbiade)

"Experimental Measurement of Selected Snowboard Properties", *Journal of ASTM International*, Vol. 3, No. 8, July 2006 (with D. Grewal* and C. Lund).

"Lyapunov Based Performance Guarantees for the Potential Field Lane-keeping Assistance System", *ASME Journal of Dynamic Systems*, Measurement, and Control Volume 128, Issue 3, pp. 510-522, September, 2006 (with J.C. Gerdes)

"Handwheel Force Feedback for Lanekeeping Assistance: Combined Dynamics and Stability", *ASME Journal of Dynamic Systems*, Measurement, and Control Volume 128, Issue 3, pp. 532-542, September, 2006 (with Joshua P. Switkes*,Ian A. Coe, and J.C. Gerdes)

"A Gentle Nudge Towards Safety: Experimental Validation of the Potential Field Driver Assistance System,"Proceedings of the American Control Conference, June 2003 (with J.P. Switkes and J.C. Gerdes).

"Performance Guarantees for Hazard Based Lateral Vehicle Control," Proceedings, International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 2002 (with J.C. Gerdes).

"A Study of Lateral Vehicle Control Under a 'Virtual' Force Framework," Proceedings, International Symposium on Advanced Vehicle Control, Hiroshima, Japan, September 2002 (with J.C. Gerdes).

(Last updated: September 2012)

"Vehicle Sideslip and Roll Parameter Estimation using GPS," Proceedings, International Symposium on Advanced Vehicle Control, Hiroshima, Japan, September 2002 (with J. Ryu and J.C. Gerdes).

"Combining Lanekeeping and Vehicle Following with Hazard Maps," *Vehicle System Dynamics*, November 2001 (with J.C. Gerdes and U. Saur).
"A Unified Approach to Driver Assistance Systems Based on Artificial Potential Fields," *Journal of Dynamic Systems*, Measurement, and Control, September 2001 (with J.C. Gerdes).

"The Role of Handling Characteristics in Driver Assistance Systems with Environmental Interaction," Proceedings of the American Control Conference, Chicago, IL, June 2000 (with J.C. Gerdes).

"A Unified Approach to Driver Assistance Systems Based on Artificial Potential Fields," Proceedings of the International Mechanical Engineering Congress and Exposition, Nashville, TN, November 1999 (with J.C. Gerdes).

Presentations

"Computer Modeling for Vehicle Accident Reconstruction", The State Bar of California approved MCLE

- Presented at Jenkins, Goodman, Neuman & Hamilton, July 14, 2010
- Presented at Law Offices of McDowell, Meshot & Shaw, March 26, 2008
- Presented at Crosby & Rowell, LLP, March 14, 2007
- Presented at Kern, Noda, Devine & Segal, August 4, 2006

"Using HVE to Simulate a Nine Vehicle Accident Involving a Heavy Truck",

- Presented at Engineering Dynamics Corporation, HVE Forum, February 2012

(Last updated: September 2012)