



Failure Analysis Associates®

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Jeffrey J. Croteau **Principal**

Professional Profile

Mr. Jeffrey J. Croteau is a Principal in Exponent's Vehicle Engineering practice. He joined Exponent in 1994 and specializes in reconstructing motor vehicle accidents and evaluating the performance of vehicle roof structures in a rollover. While stationed at Exponent's Test and Engineering Center, he has conducted over 150 full-scale vehicle tests that have been used to validate accident reconstructions, understand occupant kinematics, and assess restraint systems. He has expertise in a wide variety of vehicle testing, including vehicle crash and sled tests, vehicle handling tests, automotive component testing, and restraint system evaluations. He is familiar with the Federal Motor Vehicle Safety Standards (FMVSSs) and the testing required to evaluate compliance with those standards. Mr. Croteau was involved in the early development and fabrication of Exponent's Controlled Rollover Impact System (CRIS) and has conducted a number of subsequent tests with the machine. His testing experience complements his overall technical expertise and enhances his consulting contributions to the reconstruction of motor vehicle accidents. Mr. Croteau has demonstrated technical capabilities in computer-aided engineering and analysis of electromechanical, hydraulic, and pneumatic systems. He has experience in designing automatic control systems using analog and digital techniques. Mr. Croteau has experience in instrumentation system design, installation, and calibration, as well as computer-based data acquisition and processing.

Academic Credentials and Professional Honors

M.S., Mechanical Engineering, University of New Hampshire, 1993

B.S., Mechanical Engineering, University of New Hampshire, 1991

Publications

Lange R, Iyer M, Pearce H, Jacuzzi E, Croteau J. Rollover injury science and rollover crash typology. 22nd Enhanced Safety Vehicles Conference, Washington DC, June 2011.

Croteau J, Frank B, Peterson D, Bare C, Kyanka G. Timber utility pole fracture mechanics due to non-deformable and deformable moving barrier impacts. SAE Technical Paper Series, 2011-01-0288, 2011.

Heller M, Newberry W, Smedley J, Eswaran S, Croteau J, Carhart M. Occupant kinematics and injury mechanisms during rollover in a high strength-to-weight ratio vehicle. SAE Technical Paper Series, 2010-01-0516, 2010.

Croteau J, Zolock J, Larson R, Bare C, Peterson D, Parker D. Dynamic response of vehicle roof structure and ATD neck loading during dolly rollover tests. SAE Technical Paper Series, 2010-01-0515, 2010.

Raddin J, Cormier J, Smyth B, Croteau J, Cooper E. Compressive neck injury and its relationship to head contact and torso motion during vehicle rollovers. SAE Technical Paper Series, 2009-01-0829, 2009.

Luepke P, Carhart M, Croteau J, Morrison R, Loibl J. An evaluation of laminated side window glass performance during a rollover. SAE Technical Paper Series, 2007-01-0367, 2007.

Gloeckner DC, Bove RT, Croteau J, Corrigan CF, Moore TLA. Timing of head-to-vehicle perimeter contacts in rollovers. SAE Technical Paper Series, 2007-01-0370, 2007.

Raphael E, Piziali R, Le H, Hinger J, Cooper E, Croteau J. Physical evidence associated with seatbelt entanglement during a collision. SAE Technical Paper Series, 2007-01-1501, 2007.

Newberry W, Carhart M, Lai W, Corrigan CF, Croteau J, Cooper E. A computational analysis of the airborne phase of vehicle rollover: occupant head excursion and head-neck posture. 2005-01-0943, SAE 2005 World Congress, Detroit, MI, April 11–14, 2005.

Moffatt EA, Cooper ER, Croteau JJ, Orłowski KF, Marth DR, Carter JW. Matched-pair rollover impacts of rollcaged and production roof cars using the Controlled Rollover Impact System (CRIS). 2003-01-0172, SAE 2003 World Congress, Detroit, MI, March 3–6, 2003.

Carter JW, Habberstad JL, Croteau J. A comparison of the Controlled Rollover Impact System (CRIS) with the J2114 Rollover Dolly. 2002-01-0694, SAE 2002 World Congress, Detroit, MI, March 4-7, 2002.

Johnson L, Croteau JJ, Golliher J. Accelerations and shock load characteristics of tail lamps from full-scale automotive rear impact collisions. 2002-01-0548, SAE 2002 World Congress, Detroit, MI, March 4-7, 2002.

Croteau JJ, Werner SM, Habberstad JL, Gollhofer J. Determining closing speed in rear impact collisions with offset and override. SAE Technical Papers Series, 2001-01-1170, SAE 2001 World Congress, Detroit, MI, March 5–8, 2001.

Leonard MM, Croteau JJ, Werner SM, Tuskan SM. HVE EDSMAC4 Trailer model simulation comparison with crash test data. SAE Technical Paper Series, 2000-01-0468, SAE 2000 World Congress, Detroit, MI, March 6–9, 2000.

Moffatt EA, Cooper ER, Croteau JJ, Parenteau C, Togliola A. Head excursion of seat belted cadaver, volunteers, and Hybrid III ATD in a dynamic/static rollover fixture. 41st Stapp Car Crash Conference, SAE Technical Paper Series, 1997.

Croteau JJ. Control of a four wheel drive-steer wheelchair. Master's Thesis, University of New Hampshire, 1993.

Presentations

Croteau JJ. The accuracy of photogrammetry in accident reconstruction applications. SAE Accident Reconstruction Symposium, Ventura, California, November 8–9, 2005.

Croteau JJ. Mock trial—Houseman v Wheeler Motors. Accident reconstruction expert for Wheeler Motors, American Bar Association (ABA), Phoenix, AZ, March 18–19, 2004.

Croteau JJ. New tools in rollover testing and the Controlled Rollover Impact System (CRIS). Defense Research Institute (DRI), Las Vegas, NV, February 12, 2003.

Croteau JJ. Controlled Rollover Impact System—New technology to analyze old issues—Roof strength and rollover. American Bar Association (ABA), Detroit, MI, October 24, 2002.

Croteau JJ. Controlled Rollover Impact System—New technology to analyze old issues—Roof strength and rollover. ABA Products Liability Issues in the Automotive Industry, Detroit, MI, October 24, 2002.

Croteau JJ. Vehicle rollover testing methodologies and simulations in action. SAE Passenger Vehicle Rollover TOPTEC: Causes, Prevention and Injury Prevalence, Scottsdale, AZ, April 22–23, 2002.

Croteau JJ. Determining closing speed in rear impact collisions with offset and override. SAE Accident Reconstruction TOPTEC: Special Topics, Tempe, AZ, May 22–23, 2001.

Professional Affiliations

- American Society of Mechanical Engineers (member)
- Society of Automotive Engineers (member)