



**D E S I G N  
R E S E A R C H  
E N G I N E E R I N G**

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## **MATTHEW WEBER**

### **Professional Specialization**

Accident analysis and reconstruction for passenger vehicles and heavy trucks, including computer simulation and photogrammetry. Failure and design analysis of motor vehicle systems, subsystems and components, including fuel systems, seating systems, restraint systems, and suspension systems. Vehicle crashworthiness evaluation. System and component testing, including instrumentation, data reduction and analysis. Statistical evaluation of vehicle and component field performance. Digitization and CAD rendering of accident scenes, vehicles, and vehicle components.

### **Professional Background**

B.S. (Mechanical Engineering), University of Michigan, 1989  
Graduate courses in Dynamics, Statistics, Physiology, and Biomechanics, University of Michigan  
Traffic Accident Reconstruction, Northwestern University Traffic Institute  
Engineering Dynamics EDSMAC Simulations Course  
Engineering Dynamics HVE Simulations Forums

### **Senior Project Engineer,**

Design Research Engineering  
1996 to Present

### **Senior Engineer,**

Failure Analysis Associates  
1989 to 1996

### **Publications**

“Seat Belt Retractor Performance Evaluation in Rollover Crashes,” SAE 2005-01-1702 (with M. Klima and D. Toomey).  
“Seat Belt Buckle Performance in High Energy Wheel-to-Ground Impacts,” SAE 2005-01-1709 (with M. Klima and D. Toomey).

### **Guest Lecturer**

“Occupant Motion in Traffic Accidents.” Michigan Association of Traffic Accident Investigators Fall Conference. Sterling Heights, MI, October 3, 2003.

“Seat Belt Buckle Performance in High Energy Wheel-to-Ground Impacts,” Society of Automotive Engineers, 2005 World Congress, Detroit, MI, April 2005.

Member, Society of Automotive Engineers

Member, SAE Congress Accident Reconstruction and Occupant Restraints Review Committees