



**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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## **TIMOTHY E. ANGELOS, M.S.**

### **Professional Specialization**

Automotive engineering; design, test and development of passenger car and truck components and systems; failure mode and effects analysis of mechanical systems; reliability analysis; component/system test parameters, engineering specifications, and quality control standards. Accident reconstruction and analysis of accident related issues for motor vehicles and automotive components. Database development for risk analysis and statistical evaluation of system and component field performance. Investigation and analysis of collision and non-collision fires in automotive vehicles. Manufacturing development and assembly processes of automotive components and systems; computer modeling and computer simulation of dynamic mechanical systems; vehicle vibration, ride and handling; vehicle crashworthiness, design/testing of automotive components for compliance to U.S. regulatory requirements; vehicle subsystem analysis: Steering system; universal joint and bearing design, steering column collapse systems and energy management, component fatigue and stress analysis, formed tubing design and manufacturing techniques, brake design; foundation brake and disc brake component design and testing.

### **Professional Background**

B.S. (Mechanical Engineering), Wayne State University  
M.S. (Mechanical Engineering), Wayne State University  
Traffic Accident Reconstruction, Northwestern University Traffic Institute

### **Principal Engineer,**

Design Research Engineering

### **Sr. Managing Engineer,**

Failure Analysis Associates, Inc.

### **Product Design Engineer, Chassis Engineering,**

Ford Motor Company

### **Cooperative Engineer, Passenger Car Brake Design,**

Kelsey-Hayes Company

Member, Engineering Society of Detroit

Member, Society of Automotive Engineers

Member, The National Fire Protection Association

### **Selected Publications**

“Enhanced Vehicle Identification in Motor Vehicle Accident Databases,” SAE 2004-01-1186

(with M. Vogler, B. Moroski-Browne and R. Firestone).

“Field Investigation of Motor Vehicle Collision-Fires,” SAE 1999-01-0088 (with Robert Scheibe and Leland Shields).

“Motor Vehicle Collision-Fire Analysis Methods and Results,” 17 November 1998,

National Fire Protection Association, Fall Meeting (with Leland Shields and Robert Scheibe).

“IM240 Emission Tests with a 2.2L Corsica TLEV,” SAE 942001, October 1994

(with Donald D. Beck, William A. Short and Ray R. Dills).

“Summary – Failure Analysis Associates Safety Research Concerning Competing Strategies for Control of Gasoline Emissions During Motor Vehicle Refueling Operations,” 16 January 1990, (with R. L. McCarthy, R. C. Lange, and G. E. McCarthy).

“A Study of the Time Duration of Automatic Transmission Gearshift Lever Movements by Light Duty Vehicle Driver,” October 1988 (with R. C. Lange and W. J. Butler).