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Curriculum Vitae

Timothy A. Moebes, B.A.Sc., P.E.

Professional Engineer

Qualifications

Mr. Moebes studied for five years in the Faculty of Applied Science at the University of British Columbia. The degree of Bachelor of Applied Science in Mechanical Engineering was conferred with honors in May 1984.

Mr. Moebes has been a licensed Professional Engineer since 1987 when the Province of British Columbia first licensed Mr. Moebes. Since 1992, Mr. Moebes has been licensed by the State of Washington to practice Professional Engineering.

Mr. Moebes is a current member of the Society of Automotive Engineers (S.A.E.), the American Society of Mechanical Engineers (A.S.M.E.), the Southwestern Association of Technical Accident Investigators (S.A.T.A.I.), the Washington Association of Technical Accident Investigators (W.A.T.A.I.), and the National Association of Professional Accident Reconstruction Specialists (N.A.P.A.R.S.). Mr. Moebes was elected to serve as President of W.A.T.A.I. from 2000 to 2002. Mr. Moebes is a former member of the Forensic Accident Reconstructionists of Oregon (F.A.R.O.)

Experience

Over his professional career spanning more than thirty years, Mr. Moebes has specialized in aspects of motor-vehicle collision analysis.

From 1985 to 1991, Mr. Moebes worked as a project engineer for MacInnis Bigg Associates, a Vancouver, British Columbia, consulting mechanical engineering firm active in technical investigations involving motor vehicle collisions. He first worked as an Engineer-in-Training supporting the principals of the firm until he was licensed as a Professional Engineer and able to work independently. Mr. Moebes then provided professional engineering services to the insurance and legal communities, police departments and government agencies. He also worked on special projects through affiliated companies, one of which was Trantech Corporation.

In February 1991, Mr. Moebes joined Trantech Corporation on a full-time basis. Trantech Corporation is a Washington State corporation that specializes in motor vehicle collision analysis. Trantech Corporation has also offered training in collision reconstruction and developed and marketed its ARSoftware computer software programs to law enforcement and collision consultants. Mr. Moebes is currently President of Trantech Corporation.

Mr. Moebes has been personally involved in over twenty-five hundred projects involving various aspects of collision reconstruction. Collisions involving passenger cars, light trucks, motorcycles, bicycles, pedestrians, and commercial vehicles are typical of the cases Mr. Moebes has been asked to evaluate.

Mr. Moebes has performed the following types of evaluations:

- Vehicle speed and trajectory analysis.
- Damage matching between vehicles.
- Assessment of collision severity.
- Analysis of the potential for the vehicle operator to have avoided collision.
- Interpretation of information from vehicle event data recorders ("black boxes").
- Investigation of mechanical failures.
- Analysis of occupant motion and impact.
- Analysis of seat belt use and effectiveness.
- Inspection of vehicle light filaments to determine whether they were on at impact.

During his career, Mr. Moebes has worked on a variety of special projects.

Mr. Moebes assisted with the investigation of commercial vehicle suspension and handling characteristics for a study establishing the accuracy and reliability of government weigh scales.

Mr. Moebes participated in a study of the braking performance of "bobtailed" tractors (that is, without trailers) to understand the effect of front brakes, which at the time were not mandatory. The Insurance Corporation of British Columbia sponsored this study.

Mr. Moebes was involved in a study that compared different methods of measuring vehicle deceleration during emergency braking. The study was a joint effort of Trantech Corporation and the Bellevue Police Department.

Trantech Corporation, through ARSoftware, developed commercial computer software for the reconstruction of automobile and truck collisions. One of the programs, WinCRASH, calculates the pre-impact speeds of two colliding vehicles based on a trajectory model, correlation between vehicle crush deformation and collision velocity change, and the principle of conservation of linear momentum. Mr. Moebes co-authored the technical reference manual to accompany WinCRASH.

In addition to attending technical conferences on a regular basis, Mr. Moebes has been invited to lecture on a variety of topics related to collision analysis. In August 2001, he was invited to speak at the Fourth International Conference on Accident Investigation, Reconstruction, Interpretation and the Law.

Mr. Moebes also prepared two short courses entitled "The Investigation of Child Restraint and Seat Belt Injuries" and "Occupant Kinematics and Injury Mechanics in Vehicle Crashes" for the Institute of Police Technology and Management (I.P.T.M.) at the University of North Florida. These courses addressed occupant kinematics and aspects of the biomechanics of impact. Course participants included police officers and consultants with law enforcement, engineering, and medical backgrounds.

Mr. Moebes has been qualified to offer expert testimony as a professional mechanical engineer with collision analysis expertise in the Superior and District Courts of the State of Washington, in the Supreme Court of the Province of British Columbia, in Superior and City Courts of Arizona, and in US Federal Court. He has offered sworn testimony in deposition or trial on over three hundred occasions.

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