

## **LINO O. GARCÍA, Ph.D., P.Eng.**

### **Walters Forensic Engineering Inc.**

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### **SPECIALIZED PROFESSIONAL EXPERIENCE**

- Machine/Industrial Equipment and Vehicle Mechanical Failure Analysis.
- Mechanical Testing Procedures and Electronic Data Collection Systems.
- Motor Vehicle Accident Reconstruction.
- Heavy Truck Dynamics.
- Bicycle and Pedestrian Accident Reconstruction
- Human Factors (Visibility, Perception-Reaction Time)
- Seatbelt/Child Seat Assessment
- Bicycle Helmet Assessment
- Biomechanics
- Highway Geometric Design Assessment and Roadside Safety Assessment.

### **ACADEMIC BACKGROUND**

- Ph.D. in Civil Engineering (Mechanical/Civil), 2000  
Transportation Group, Dept. of Civil Engineering  
University of New Brunswick, Fredericton, NB
- Bachelor Degree in Mechanical Engineering, 1982  
University of Havana, Cuba (Polytechnic Institute - ISPJAE)  
Major: Electromechanical Automotive Engineering

### **EMPLOYMENT BACKGROUND**

#### **2002 – to present Walters Forensic Engineering, Inc.**

Reconstruction of low/high speed motor vehicle accidents including speed calculations, accident avoidance calculations, computer assisted drawing, computer simulation and analysis, vehicle/site examination. Crash data retrieval(CDR) system operator. Vehicle engine troubleshooting and mechanical defects analysis. Bicycle and pedestrian accidents, bicycle helmet assessment, motorcycle accidents, biomechanical assessment, human factors (driver reaction time and response), highway geometric design assessment, vehicle mechanical failure, vehicle and occupant dynamics, and seatbelt/child restraint assessment,

**1996 - 2001      Research Assistant  
University of New Brunswick,  
Transportation Group, Fredericton, NB**

Accident investigator with UNB Collision Investigation Team, research in heavy truck dynamics and safety, heavy truck accident causation factors, design and calibration of data acquisition systems, computer assisted analysis/simulation, vehicle instrumentation and digital signal processing. Study of available literature citing accident causation factors related to heavy trucks. Traffic impact studies, intersection capacity analysis, origin-destination studies.

**1986 - 1996      University Professor  
Department of Mechanical Engineering  
University of Cienfuegos, Cuba.  
Faculty of Mechanical Engineering**

Professor of courses on motor vehicle dynamics, machine design and operation, applied reliability, maintenance management and planning. Failure analysis of motor vehicle mechanical systems. Vehicle/industrial equipment troubleshooting and data recording and analysis. Mechanical design.

**1982 - 1986      Specialist in Fleet Management and Maintenance Schedules  
Planning  
Transportation Enterprise in the Ministry of Sugar Industry  
Cienfuegos, CUBA**

Production Engineer specializing in maintenance scheduling and planning of motor vehicle service operations. Quality assurance and control of service operations. Maintenance scheduling of stationary equipment. Economic analysis of transportation services (Operations, fuel consumption)

## **ADDITIONAL EDUCATION**

- “Crash Data Retrieval (CDR) System - Operator Specialist”, Collision Safety Institute, San Diego, California, May, 2005.
- “Driver Responses in Various Environments Estimated Empirically (DRIVE3)”, Accident Dynamics Research Center, Connecticut, November, 2004, Instructor: Jeffrey W. Muttart, M.A. ACTAR#96.
- “Analysis of Low Speed Collisions”, Collision Safety Institute, San Diego, California Instructors: Thomas Szabo and W.R. “Rusty” Haight.
- “Motor Vehicle Accident Reconstruction”, SAE World Congress, Detroit, Michigan, USA. Instructor: Dr. Rudolf Limpert.

## **PUBLICATIONS, CONFERENCES ATTENDED AND SEMINARS GIVEN**

- “Low Speed Impacts and Injury Biomechanics” Seminar, Motors Insurance.
- “Comparison of Measured Lateral Accelerations on Heavy Trucks with Calculated Rollover Threshold Values – An Input to Accident Reconstruction”, Proceedings of the ITAC 6<sup>th</sup> International Conference, pp. 209 – 228, Stratford-Upon-Avon, England, September 26 29, 2003.
- “Evaluation of Heavy Truck Rollover Characteristics via over the Road Testing”, Heavy Truck Rollover and Collision Avoidance TOPTEC, Paper Presentation, Society of Automotive Engineers, April, 2003, Baltimore
- “Analysis of the Dynamic Response of Heavy Trucks on Highway Curves Under Actual Operating Conditions”, Transportation Research Board, Paper Presentation, Washington, D.C., January, 2003.
- “Study of Systems to Indicate the Position of a Hand Operated Switch on Non Signalled Rail Lines”, (Prepared for the Transportation Development Centre – Safety and Security, Transport Canada, 2001)
- “Literature Review Of Material Citing Causation Factors Related To Heavy Trucks” (Prepared for the Transportation Research Board, USA, 2000)
- “Lateral Stability of Heavy Trucks Under Actual Operating Conditions”, presented at the 6<sup>th</sup> International Symposium on Heavy Vehicle Weights and Dimensions, Saskatchewan, Canada, June 2000
- Technical Brochure on Maintenance Management and Troubleshooting of Road Vehicles, CUBA, 1989.

## **COURT APPEARANCES**

Have provided expert testimony at:

- the Financial Service Commission (Ontario, 2004).
- the Superior Court of Justice at Newmarket, Ontario (June, 2004).
- the Superior Court of Justice at Haileybury, Ontario (Justice Ian Gordon) (June 2005).

## **PROFESSIONAL AFILIATIONS**

- Professional Engineers of Ontario
- Society of Automotive Engineers
- Alumni Association University of New Brunswick