Marisela Mainegra Hing

Research Scientist

Traffic Injury Research Foundation

Marisela Mainegra Hing is a research scientist with the Traffic Injury Research Foundation (TIRF), a charitable, independent road safety institute. TIRF is a world leader in research, safety programs, and policy development.

Career and research highlights:

- Marisela's main research areas are in data mining, using mathematical modeling to analyze quantitative data.
- Her projects with TIRF have included various areas of road safety, such as alcohol-impaired driving, drugged-driving, young and older drivers, off-road vehicles and vulnerable road users. She has co-authored several reports and papers and has represented TIRF at various conferences.
- Before joining TIRF she was a Postdoctoral Fellow and part-time teacher at the Telfer School of Management at the University of Ottawa (2010-2012) and a Researcher and Assistant Professor of Mathematics at the Central University of Las Villas, Cuba (1995-2007). She has also been associated as a researcher at the Research Center for Cuban Internal Trade, Bayes Forecast SA in Spain and CRG Consulting in Ottawa. Marisela has implemented algorithms for state space-based modelling, Bayesian estimation of sarima models and forecasting tools for TOL (Timeseries Oriented Language). She has extensive experience developing approximate dynamic programming (also known as reinforcement learning) algorithms using neural networks to solve order acceptance problems under uncertainty.

Academic highlights:

- Marisela received her Ph.D. in Operations Research from the University of Twente, in The Netherlands in 2006.
- She has a Master in Applied Mathematics and a Bachelor in Computer Science from the Central University of Las Villas, Cuba.
- She has over 10 years of experience in the academic field teaching several quantitative courses for science, engineer and business students. Specifically she had taught courses on Business Decision Models, Supply Chain Management, Logistics, Mathematical Programming, Combinatorial Optimization, Meta-heuristics, Operations Scheduling, Probability and Statistics, Linear Algebra and Mathematical Analysis.