

SEMINARIO

Lunedì 19/11/2018 ore 15

Sapienza città universitaria. Dipartimento di Scienze Statistiche Sala 34 (IV piano)

What do Coin Tosses, Decision Making under Uncertainty, The Vessel Traffic Risk Assessment 2010 and Average Return Time Uncertainty have in common?

Prof. René van Dorp (The George Washington University, USA)

Abstract: Is it safer for a river gambling boat in New Orleans to be underway than to be dockside? Should wind restrictions for outbound tankers at Hinchinbrook Entrance in the Prince William Sound Alaska be lowered from 40 knots to 35 knots? Is investment in additional life craft on board Washington State Ferries in Seattle warranted or should the International Safety Management (ISM) code be implemented fleet wide? Can enhanced ferry service in San Francisco Bay and surrounding waters alleviate traffic congestion on roadways in a safe manner? Do potential traffic increases made possible through the addition of a pier terminal at a refinery located north of the San Juan Islands in Washington State increase or reduce oil transportation risk? These risk management questions above were raised in a series of projects over a time frame spanning more than 20 years and were addressed using a single risk management analysis methodology developed over the course of these projects by a consortium of universities. This methodology centers around dynamic maritime risk simulations of Maritime Transportation Systems (MTS) that integrates incident/accident data collection, expert judgment elicitation and consequence models. Via a coin toss argument we advocate decision making under uncertainty in this context to be informed by relative risk comparisons by highlighting the analogy of a potential accident with the toss of a biased coin. In the process, the field of decision making under uncertainty is introduced. An overview of the most recent Vessel Traffic Risk Assessment 2010 (VTRA 2010) shall be presented. This study evaluates oil spill transportation risk in the maritime transportation system of the Salish Sea, a pristine ecological environment in Washington State. The aim of the VTRA 2010 study was to evaluate changing risk levels as the result of planned maritime terminal projects in the US and Canada and evaluate the potential effectiveness of risk management scenarios. Accident return time uncertainty analysis is presented using that same coin toss argument.