

**Session Detail Information**

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**Cluster : Contributed Paper Track -14- Recent Advances in Aviation**

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**Session Information : Wednesday Nov 16, 13:30 - 15:00**

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**Title: Aviation Applications I**

**Chair: Raik Stolletz,Dr.**, University of Hannover, Koenigsworther Platz 1, Hannover 30167, Germany, raik.stolletz@prod.uni-hannover.de

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**Abstract Details**

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**Title: Finding Alternative Routes between Airports under Weather Uncertainty**

**Presenting Author: Wanjira Jirajarporn**, UC Berkeley, 107E Mc Laughlin Hall, Berkeley CA 94720, United States, wanjira@berkeley.edu

**Co-Author: Mark Hansen**, Professor, University of California at Berkeley, 107 McLaughlin Hall, Berkeley CA 94720, United States, mhansen@ce.berkeley.edu

**Abstract:** The stochastic dynamic ground-holding and rerouting model has been developed to enhance strategic planning tools, Ground Delay Programs for ground holding, and National Playbook for rerouting. The model combines the ground-holding and rerouting and is formulated as a heuristic shortest path problem. In order to yield the better storm predictability from the weather forecast, the probabilistic model is used to generate an input for the stochastic dynamic ground-holding and rerouting model.

**Title: Retrieving Value of the US Air Traffic Control Services and Its Significance**

**Presenting Author: Dipasis Bhadra**, Principal Economist, MITRE/CAASD, 7515 Colshire Avenue, McLean VA 22102, United States, dbhadra@mitre.org

**Co-Author: David Chin**, Director, ATO-Ops Planning, ATO/FAA, 800 Independence Avenue, Washington DC DC 20009, United States, David.Chin@faa.gov

**Abstract:** The economic downturn following 9/11 has revealed the most apparent contradiction of providing for an ATC system that “directly” accrues marketable value to its users but paid for via “indirect” taxes and fees. The existing contradiction coupled with the expiry of current tax reauthorization code in September 2007 has also opened up a rare opportunity to realign the value of the system to that of the true opportunity cost. This paper measures the intrinsic market value of the US ATC system.

**Title: Nonstationary Delay Analysis of Runway Systems with Arrival and Departure Banks**

**Presenting Author: Raik Stolletz,Dr.**, University of Hannover, Koenigsworther Platz 1, Hannover 30167, Germany, raik.stolletz@prod.uni-hannover.de

**Abstract:** An important aspect of airport planning is the estimation of aircraft delays given time-varying demand and runway capacity. We analyze airports which are able to operate landings and takeoffs at the same runway. Two different regimes are compared: In the first regime arrivals and departures are served according to the First-Come-First-Served rule. In the second regime strings of arrivals are followed by strings of departures. These queueing models are analyzed with time dependent rates.

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