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# Seminar

## SCHEDULING FLIGHTS AT A CONGESTED AIRPORT

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**Abstract :** [www.stat.unipd.it/fare-ricerca/seminari](http://www.stat.unipd.it/fare-ricerca/seminari)

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## **SCHEDULING FLIGHTS AT A CONGESTED AIRPORT\***

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Many congested airports place limits on the number of flights that can be scheduled per hour or per 15-minute period. This practice interferes with airline scheduling preferences, as some flights have to be moved to times other than the ones requested by the airline. We shall describe an approach that reschedules a selected set of flights in a way that reduces demand-capacity imbalances (and therefore flight delays) while minimizing interference with airline scheduling. The approach is based on an iterative algorithm that integrates a stochastic queuing model of airport congestion, a dynamic programming model of capacity utilization, and an integer programming model of scheduling interventions. Extensive computational results for New York's JFK Airport suggest that substantial delay reductions can be achieved through limited changes in airline schedules.

*Joint work with prof. Alexandre Jacquillat, Carnegie Mellon University*