

BI-CO MATHEMATICS COLLOQUIUM

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*“An Aircraft Crew Scheduling
Problem that Satisfies Company and
Employee Preferences Modeled and
Solved as a Mixed-Integer Program”*

Monday, November 5, 2012

Talk at 4:00 – Park 338
Tea at 3:30 – Park 355, Math Lounge

Abstract:

NetJets operates 400 private aircraft in its fractional business in the US with approximately 2,500 pilots. Roughly 40% of these pilots work an 18 work day schedule; the work schedule is created by the 15th of each month for the next month of operation. Pilots express preferences for a number of preferences, specific days off, tour length, weekends off, etc... NetJets demand varies considerably by day and therefore it's need for pilots; we developed an optimization program that balances the pilot preferences and company requirements. The problem is modeled as a Mixed-Integer Program (MIP); implemented and solved using ILOG/OPL Studio. We will review the modeling of the schedule rules, preferences, and company requirements and discuss how the software seeks near optimal solutions.

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