



Pacific Institute *for the*
Mathematical Sciences

PIMS LUNCHBOX LECTURE

DR. TAMÁS TERLAKY

19 January, 2017

12:00 pm

Downtown Campus, University of Calgary



PRISON GUARD'S DILEMMA: OPTIMAL INMATE ASSIGNMENT BY MULTI- OBJECTIVE MILO

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The Pennsylvania Department of Correction operates 29 correctional facilities (prisons) and about 50,000 prisoners (inmates) each year. The assignments of inmates to appropriate correctional facilities is a complex task. Well over 80 rules need to be considered. Many of them, such as the security of prison units, yield hard constraints; while others, such as assigning the inmates to prisons close to their home, are arranged in a preference hierarchy because it is impossible to satisfy all for all inmates.

We are giving an overview of the complexity of the problem; discuss the data/rule collection phase of the project by using decision trees; discuss how the MILO model is developed by using a weighted penalty objective function. Finally we discuss further extensions of the model, including waiting lists for mental/educational/job training programs, and transfers between facilities.

Based on joint work with L. Plebani, M. Shahabsafa, G. Wilson and K. Bucklen.

WEBSITE & REGISTRATION: <http://www.pims.math.ca/industrial-event/170119-plldtt>
(A light lunch will be provided. Please RSVP)

