

## Department of Systems Engineering and Engineering Management

### Seminar Series

## **The Inmate Assignment and Scheduling Problem and its Application in the PA Department of Corrections**

### **Prof. Tamás Terlaky**

George N. and Soteria Kledaras '87 Endowed Chair Professor  
Department of Industrial and Systems Engineering,  
Lehigh University, USA

Date	15 March 2018 (Thursday)
Time	4:00pm - 5:00pm
Venue	P7303, 7/F, Yeung Kin Man Academic Building

### **Abstract**

The inmate assignment project, in close collaboration with the PA Dept. of Corrections, took five years from start to successful implementation. Our novel Inmate Assignment Decision Support System (IADSS) is designed with the main goal of simultaneously, and system-wide optimally, assigning the inmates to the correctional institutions. IADSS includes a new hierarchical multi-objective MILO model, which accurately describes the inmate assignment problem. This is the first time that OR methodologies have been used to optimize the operations, and built into the routine business practice, of a correctional system, thus it opens a rich and untouched area for the application of OR.

This project was awarded the 2017 Daniel H. Wagner Prize for Excellence in Operations Research Practice by INFORMS.

Joint work with:

M. Shahabsafa, C. Gudapati, A. Sharma, L. Plebani, G.R. Wilson, Lehigh University  
K. B. Bucklen, Pennsylvania Department of Corrections

## About the Speaker

Prior to his appointment at Lehigh U., where he served as the Chair of ISE 2008-2017, Prof. Terlaky has taught at Eötvös U., Budapest, Hungary; Delft University of Technology, Delft, Netherlands; McMaster U., ON, Canada. At McMaster he also served as the founding Director of the School of Computational Engineering and Science.

Prof. Terlaky has published four books, edited over ten books and journal special issues and published over 180 research papers. Topics include theoretical and algorithmic foundations of mathematical optimization (e.g., invention of the criss-cross method, oriented matroid programming), design and analysis of large classes of interior point methods, computational optimization, worst case examples of the central path, nuclear reactor core reloading optimization, oil refinery and VLSI design and robust radiation therapy treatment optimization, and inmate assignment optimization.

Prof. Terlaky is Founding Honorary Editor-in-Chief of the journal, Optimization and Engineering. He has served as associate editor of ten journals and has served as conference chair, conference organizer, and distinguished invited speaker at conferences all over the world. He was general Chair of the INFORMS 2015 Annual Meeting, a former Chair of INFORMS' Optimization Society, Chair of the ICCOPT Steering Committee of the Mathematical Optimization Society, currently Chair of the SIAM Activity Group on Optimization, he is Fellow of the Fields Institute, and Fellow of INFORMS. He received the MITACS Mentorship Award for his distinguished graduate student supervisory record, and the Award of Merit of the Canadian Operations Research Society. November 2017 he received the Wagner Prize of INFORMS and the Egerváry Award of the Hungarian Operations Research Society

His research interest includes high performance optimization algorithms, optimization modeling and its applications.

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***All are Welcome!***