



UNIVERSITÀ DEGLI STUDI DI BERGAMO

Dipartimento di Scienze aziendali, economiche e metodi quantitativi
Department of Management, Economics and Quantitative Methods

SEMINAR

STARS - SUPPORTING TALENTED RESEARCHERS

AZIONE 2: VISITING PROFESSOR

June 14th, 2018

12.00 – 13.00

Bergamo, Via dei Caniana 2 – Room Marida Bertocchi

Equilibria and Weighted Complementarity Problems

Florian A. Potra

University of Maryland Baltimore County

The weighted complementarity problem (wCP) is a new paradigm in applied mathematics that provides a unifying framework for analyzing and solving a variety of equilibrium problems in economics, multibody dynamics, atmospheric chemistry and other areas in science and technology.

It represents a far reaching generalization of the notion of a complementarity problem (CP). Since many of the very powerful CP solvers developed over the past two decades can be extended to wCP, formulating an equilibrium problem as a wCP opens the possibility of devising highly efficient algorithms for its numerical solution. For example, Fisher's competitive market equilibrium model can be formulated as a wCP, while the Arrow-Debreu competitive market equilibrium problem (due to Nobel prize laureates Kenneth Joseph Arrow and Gerard Debreu) can be formulated as a self-dual wCP. The talk will show how equilibrium problems can be formulated as wCP and will present an interior point method that can efficiently solve such problems. Several properties of wCP will be analyzed.

The Seminar is open to all who are interested

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