



UNIVERSITA' DI BOLOGNA  
FACOLTA' DI INGEGNERIA  
DIPARTIMENTO DI INGEGNERIA ELETTRICA

## Avviso di seminario

Mercoledì, 3 maggio 2000  
ore 10:00 - Aula 1.2

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### *Reactive Security Study of a Large Power System: Load Modelling, Analysis and Coordinated Control*

#### Abstract

The seminar presents results of a reactive security study of the New South Wales main grid. System modelling is focused on the effect of load dynamics. A composite dynamic load model is used and the overall system model has the differential-algebraic form. A general method for steady-state voltage stability analysis is used to compute the stability boundary and security margins in different loading directions. The reactive security in the studied area is evaluated for the system under various scenarios. Considerable attention is given to the impact on these margins of different load models, particularly the weighting parameters and steady-state and dynamic characteristics. The problem of coordinating dissimilar voltage control actions to prevent a possible voltage collapse is then considered. A framework for the multi-stage control scheme is briefly described as applied to the example system.