

Programa de Doctorado Interuniversitario en “Sistemas de Energía Eléctrica”



Convenio de colaboración entre las universidades de Sevilla, País Vasco, Málaga y Politécnica de Cataluña para llevar a cabo, conjuntamente, la organización y desarrollo de las enseñanzas de doctorado en “Sistemas de Energía Eléctrica”

Máster Universitario en “Sistemas de Energía Eléctrica”



<http://departamento.us.es/ielectrica/master-see/>



WEBINAR

Prof. Antonio J. Conejo

The Ohio State University

Department of Integrated Systems Engineering
Department of Electrical and Computer Engineering
286 Baker Systems Engineering
1971 Neil Avenue, Columbus, OH 43210, US

Title

**“OPERATIONAL EQUILIBRIA OF ELECTRIC
AND NATURAL GAS SYSTEMS WITH LIMITED
INFORMATION INTERCHANGE”**

Departamento de Ingeniería Eléctrica
Escuela Técnica Superior de Ingeniería
Camino de los Descubrimientos s/n
41092 Sevilla (España)
<http://departamento.us.es/ielectrica>

WEBINAR

**“OPERATIONAL
EQUILIBRIA OF ELECTRIC
AND NATURAL GAS
SYSTEMS WITH LIMITED
INFORMATION
INTERCHANGE”**

FINANCIA:

**Cátedra Endesa
de la Universidad de Sevilla**

Día: 2 de junio de 2021

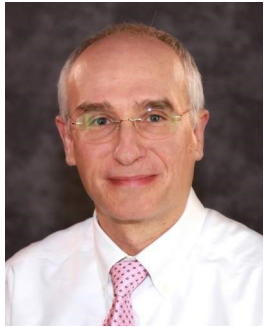
Hora: 16:30 H

**Dpto. Ingeniería Eléctrica
ETS de Ingeniería
Universidad de Sevilla**

[Enlace de la sesión](#)



Title: Operational Equilibria of Electric and Natural Gas Systems with Limited Information Interchange.



[Prof. Antonio J. Conejo](#)



The Ohio State University

Integrated Systems Engineering |
Electrical and Computer Engineering

Abstract:

Electric power and natural gas systems are typically operated independently. However, their operations are interrelated due to the proliferation of natural gas-fired generating units. We analyze the independent but interrelated day-ahead operation of the two systems. We use a direct approach to identify operational equilibria involving these two systems, in which the optimality conditions of both electric power and natural gas operational models are gathered and solved jointly. We characterize the equilibria that are obtained under different levels of temporal and spatial granularity in conveying information between the two system operators. Numerical results from a Belgian system are used to examine the impacts of different levels of information interchange on prices and operational cost and decisions in the two systems.

Biosketch:

Antonio J. Conejo, professor at The Ohio State University, OH, received an M.S. from MIT, and a Ph.D. from the Royal Institute of Technology, Sweden. He has published over 220 papers in refereed journals, and is the author or coauthor of books published by Springer, John Wiley, McGraw-Hill and CRC. He has been the principal investigator of many research projects financed by public agencies and the power industry and has supervised 24 PhD theses. He is an INFORMS Fellow, an IEEE Fellow and a former Editor-in-Chief of the IEEE Transactions on Power Systems, the flagship journal of the power engineering profession.