



ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ
ΣΧΟΛΗ ΧΗΜΙΚΩΝ ΜΗΧΑΝΙΚΩΝ

ΕΠΙΤΡΟΠΗ ΣΕΜΙΝΑΡΙΩΝ, Καθηγητής Α. Κοκόσης

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ΣΕΜΙΝΑΡΙΟ ΧΗΜΙΚΗΣ ΜΗΧΑΝΙΚΗΣ

Πέμπτη 4 Μαρτίου, 13:00

Αίθουσα Σεμιναρίων «Ν. Κοιμούτσου»

Prof. Lorenz Biegler

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Technology Advances for Dynamic Real-Time Optimization

Optimization formulations play a key part in many aspects of chemical process engineering. Moreover, with the application of more accurate and complex process models, a number of important algorithmic challenges must be addressed to deal with these optimization models efficiently. This talk presents an overview of advances in large-scale optimization algorithms along with process engineering case studies that exploit these features. In particular, we consider the optimization of dynamic processes. Such processes include periodic adsorption processes (including SMB and PSA), grade transitions in polymers and batch processes. For these cases, we discuss efficient optimization formulations that can also be applied on-line for real-time optimization. Finally, future directions related to algorithmic improvements, incorporation of uncertainty descriptions and on-line implementation are explored.