Optimization and Equilibrium in Energy Economics

Monday January 11, 2016

8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*

9:00–9:50 **Michael Ferris** (University of Wisconsin-Madison)
Tutorial

10:00–10:15 *Break*

10:15–11:05 **Roger Wets** (University of California, Davis (UC Davis))
Finding economic equilibria in a stochastic environment

11:15–11:30 *Break*

11:30–12:20 **Richard O'Neill** (Federal Energy Regulatory Commission)
Recent Advances in Optimal Power Flow and Optimal Topology Algorithms

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Jinye Zhao** (ISO New England)
A unified framework for defining and measuring flexibility in power system

3:30–4:00 *Break*

4:00–4:50 **Kory Hedman** (Arizona State University)
Challenges in power system optimization: flexible transmission assets

5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Tuesday January 12, 2016

8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*

9:00–9:50 **Claudia Sagastizabal** (Institute of Pure and Applied Mathematics (IMPA))
Risk-averse stochastic equilibrium problems arising in the energy industry

10:00–10:15 *Break*

10:15–11:05 **Shmuel Oren** (University of California, Berkeley (UC Berkeley))
Stochastic Unit Commitment with Topology Control Recourse for Renewables Integration

11:15–11:30 *Break*

(Tuesday schedule continued on next page)

(Tuesday schedule continued from previous page)

11:30–12:20 **Ramteen Sioshansi** (Ohio State University)
Modeling and Decomposing Multi-Stage and Multi-Scale Stochastic Optimization Problems

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Mette Bjørndal** (Norwegian School of Economics)
Congestion Management in a Stochastic Dispatch Model for Electricity Markets

3:30–4:00 *Break*

4:00–4:50 **Golbon Zakeri** (University of Auckland)
Stochastic market clearing under uncertainty

Wednesday January 13, 2016

8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*

9:00–9:50 **William Hogan** (Harvard University)
Electricity Market Design

10:00–10:15 *Break*

10:15–11:05 **Gauthier de Maere d'Aertrycke** (ENGIE)
Investment in incomplete generation markets: a stochastic discount rate equilibrium approach

11:15–11:30 *Break*

11:30–12:20 **Edward Anderson** (University of Sydney)
Electricity derivative trading: private information and supply functions for contracts

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Jong-Shi Pang** (University of Southern California (USC))
Perfectly competitive capacity expansion games with risk-averse participants

3:30–4:00 *Break*

4:00–4:50 **Andy Philpott** (University of Auckland)
Transmission charging and market distortion

Thursday January 14, 2016

8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*

9:00–9:50 **Alejandro Jofre** (University of Chile)
Mechanism design and allocation algorithms for energy-network markets with piece-wise linear costs and quadratic externalities

10:00–10:15 *Break*

(Thursday schedule continued on next page)

(Thursday schedule continued from previous page)

10:15–11:05 **Benjamin Hobbs** (Johns Hopkins University)
Designing and Modeling Power Markets to Support Optimal Decisions

11:15–11:30 *Break*

11:30–12:20 **Michael Ferris** (University of Wisconsin-Madison)
Reserve Market Design Problems with Simulations, Surrogates, Bilevel and Mixed Integer Optimization

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Patrice Marcotte** (University of Montreal)
Two Applications of Bilevel Programming in Energy Modelling

3:30–4:00 *Break*

4:00–4:50 **Sonja Wogrin** (Universidad Pontificia Comillas ICAI- ICADE (IIT))
Hierarchical Optimization and Equilibrium Problems: Applications in Liberalized Electricity Markets

Friday January 15, 2016

8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*

9:00–9:50 **Javad Lavaei** (University of California, Berkeley (UC Berkeley))
Near-Global Solutions of Nonlinear Mixed-Integer Power Optimization Problems: Theory, Numerical Algorithm, and Case Studies

10:00–10:15 *Break*

10:15–11:05 **Steven Low** (California Institute of Technology)
Online optimization for power networks

11:15–11:30 *Break*

11:30–12:20 **Bernard Lesieutre** (University of Wisconsin-Madison)
An Elliptical Form for the Power Flow Problem

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Antonio Conejo** (Ohio State University)
Risk-Constrained Multi-Stage Renewable Power Investment

3:30–4:00 *Break*

4:00–4:50 **Christian Skar** (Norwegian University of Science and Technology (NTNU))
Modeling energy and climate policy using multihorizon stochastic programming

5:00 *Conclusion*

IPAM strives to provide an inclusive environment free of harassment. IPAM does not tolerate sexual harassment, other forms of harassment, or sexual assault. Please familiarize yourself with our community agreement which includes instructions on reporting incidents by using the QR code to the right.