

Seminar: “E-Energy – Information Systems for the Smart Grid” (with “Topics” option on request)

Summer Semester 2015

Course Description:

Electricity used to be generated in large power plants close to the areas where the energy was used. The rise of wind and solar power has changed this traditional paradigm and created new problems for energy distribution. In addition, the deregulation of the energy market, the introduction of a range of new subsidies and the necessity of providing a secure and reliable energy supply have turned the energy sector into a very complex industry.

Information systems (IS) contribute in many ways to make the power system more efficient and its complexity more manageable. At home they allow people to reduce their overall energy consumption and to align electricity demand with the generation from renewable sources. They enable the grid operator to integrate intermittent renewable sources and allow for an efficient exchange of information in energy trading. They support new data-centric business models and ease the coordination between the players in the energy market. Information systems lessen the trade-off between comfort and sustainability in energy consumption and are an integral part of the change in the energy sector.

In this seminar we will research on IS in the modern energy sector, in particular on these fields:

- IS for the integration of distributed generation (e.g. solar power) into the grid
- IS for grid expansion planning
- IS for the integration of electric vehicles into the grid
- Regulations, subsidies and their effect on the power sector

The research in this area is highly interdisciplinary. It combines methods from economics, computer science as well as electrical engineering. We will fit the topics to your preferences and skills. They can range from theoretical research to the development and implementation of an information system.

Target Group:

This Seminar specifically addresses students in the M.Sc. Economics and M.Sc. VWL programs. Interested and committed B.Sc. VWL and BWL students may also participate.

Organization:

Registration: from February 23, 2015 to April 13, 2015

Application via email to gunther.gust@is.uni-freiburg.de with the following details:

- First name, last name, matriculation number
- Study program, semester
- CV and previous grades in statistics, econometrics and computational economics
- Short letter of motivation (5-10 sentences) stating why you want to participate particularly in this seminar

Response whether application was successful in the beginning of April, 2015

First meeting: **May 08, 2015 10 am**

Room 2330

Final presentation: In summer 2015 (date to be announced)

Communication:

All announcements, handouts, etc. will be sent via email.

Topics:

Exact topics along with hints on literature will be announced together with the response to your application.

Upon request, this course can count as a “Topics” course if the student fulfils the eligibility. If so, the student is required to extend the paper and adapt it to a conference form/layout.

Policies and Procedures

Grading: Draft of seminar paper (about 10 to 15 pages), corrected version thereof and final presentation

Credit points: 4

Credit points are applicable to: Wirtschaftsinformatik, BWL

Chair: Prof. Dr. Dirk Neumann
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