IPID4all Doctorate Research Exchange with University of Oldenburg
Feedback report

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Home research group: Institute for Integrated Energy Systems, University of Victoria, BC, Canada
Home supervisor: Dr. Curran Crawford

Host university: University of Oldenburg
Host research group: OFFIS

Host supervisors: Dr. Sebastian Lehnhoff and Dr. Astrid Niesse

Exchange period: One week
Exchange topic: Demand response control

Introduction

Late March 2017, I had a short visit to OFFIS (Institute for Information Technology) to get familiar with the smart grids related ongoing projects in the institute, in particular agent-based models developed for distributed energy resources management systems. I had a chance to chat and exchange ideas with a number of OFFIS researchers as listed below:

- On the day 1 (Monday 27th March), Dr. Astrid Niesse gave me an introduction to OFFIS in the morning. Then, there was a welcoming meeting, and I had the opportunity to present my PhD research to the System Analysis and Distributed Optimization research group. We had a productive discussion after my presentation. After lunch, I had a long chat with my officemate Frauke Oest about microgrids in Germany and Canada. I told her about microgrid systems for the off-gird communities in the province of British Columbia. Later, I had a meeting with Stefanie Holly to discuss smart meters. I told her about the BC Hydro's recently installed smart meters in British Columbia.

- On the day 2, I spent most of my day getting familiar with energy systems models developed at OFFIS, in particular with SGAM and MOSAIC. I also went to the main campus to see the University of Oldenburg.

- On the day 3, I had a meeting with Johannes Gerster to talk about his iHEM project. I liked his systematic approach in Pyton to simulate smart buildings. I also had meeting with Bengt Lüers about the smart grid demonstrator project. I found this project very interesting, and perhaps going forward my research group at UVic should build a similar setup.

- On the day 4, I had a meeting with Dr. Astrid Niesse about agent based modeling approaches and electricity markets. Her computer science background enables her to develop sophisticated distributed control methods that most engineering students are of capable of developing. I also had a meeting with Dr. Davood Babazadeh regarding his super grid (HVDC transmission system) model. Later, I went to Andreas Guenther's office to have a coffee with him. He gave me some information about the new renewable energy related program at University of Oldenburg.

- On the day 5, I had a meeting with a former OFFIS member, Carsten Wissing, to talk about electricity markets in Germany, and the participation of VPPs and demand response aggregator in these markets. It was very nice of him meeting me.

Personal Experience

Everybody was so kind and welcoming. Oldenburg is so beautiful, and I absolutely enjoyed my stay. Most OFFIS employees were close friends, having lunch together, going out together, watching movies together. I really liked the friendly/scientific atmosphere at OFFIS, and I'm sure this atmosphere makes the group more dynamic and productive.

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Conclusions

This visit helped me develop an insight to the agent-based control systems, which is very useful for my personal research.

Outlook

I am looking forward to visiting OFFIS again maybe as a post-doctoral fellow for future collaborations. In addition, I would like to see OFFIS researcher at UVic/IESVic.

Sahand Behboodi