

IPID4all Doctorate Research Exchange with the University of Waterloo, School of Environment, Enterprise and Development

Feedback report

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*Marketing the Cycle: Supply Markets and Supplier
Relations in Automotive Remanufacturing;
Marketing Systems, LCA and MFA*

University of Waterloo
SEED, EV3, University of Waterloo, 200 University
Avenue West, Waterloo, ON N2L 3G1, Canada
Prof. Steven B. Young

Introduction

Both professional and personal reasons motivated my exchange proposal and eventually my stay at the University of Waterloo (UWaterloo). Besides the collaboration between our research group Cascade Use at the University of Oldenburg and the Industrial Ecology group and Prof. Steven Young at the School of Environment, Enterprise and Development (SEED), UWaterloo, I was interested in working and studying abroad again.

I went to Waterloo for the first three month of the fall term. During that time, I got in touch with the Industrial Ecology group at UWaterloo, including not only PhD researcher and professors but also master students. The exchanged allowed me to work closely with Steven Young who is an expert in critical resources and Live Cycle Assessment (LCA), both relevant aspects for Cascade Use and my PhD.

Research Undertaken

During the course of the stay at UWaterloo, I conducted field research and started to work on a joint paper with Steven. I interviewed experts and visited companies that are considered stakeholders of reuse and recycling markets. This includes an interview with the President of the Auto Recycler Association of Ontario and of Canada (ARO, ARC), who established further contacts in Ontario. Hence, I conducted three additional interviews with vehicle dismantlers/recyclers, including company visits. In addition, I met with the Vice President of the AARO (Automotive Aftermarket Retailers of Ontario). Furthermore, I established a contact to one of the remaining core brokers in Canada who invited me for a visit as well.

Because I went to Canada with the IPID4all scholarship, I had the opportunity to submit contributions to the CYCLE2016 conference in Montreal (5th edition of the International Forum on the Life Cycle Management of Products and Services) together with Steven Young. Two submissions were selected for presentation. One submission as an oral presentation in the track of “Trends in residual materials recovery and LCM” at the conference. The other submission was accepted for a poster presentation taking place throughout the conference.



Figure 1: Matthias presenting at CYCLE2016 in Montreal, Canada (Nov 14, 2016) © Basak Topcu Salihoglu

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Personal Experience

The research stay at UWaterloo was an interesting experience both personally and professionally. The University of Waterloo provides a very different work and study environment than the environment I am used to in Germany. A major contributor to the professional environment is the university's infrastructure in terms of work places and access to research resources. While office space is denser for PhDs than in



Figure 2: View from the SEED building, Environment 3, towards the centre of UWaterloo campus (Library on the right, Needles Hall and Quantum Nano Centre in front) @ Matthias K.

Germany, at SEED they provide assigned work space for those graduate students (masters) that are as well teaching assistants. The same accounts for PhD students, independent of their source of funding. SEED further has work places and offices designated for visiting professors and other international visiting scholars. This shows in a very tangible manner the University's dedication to internationalisation, in addition to the diversity across faculty and students.

Although I've been traveling and working abroad before, this research stay was the first time for me in North America. Besides the experience related to work and study, living in Waterloo and staying with locals added significantly to my understanding of the cultural differences between Europe and North American; despite the comparative cultural proximity of both regions on a global scale.

Conclusions

The personal and professional experiences broadened my understanding for different perspectives on particular research topics. The work at UWaterloo and the field research I conducted will become part of my PhD research and it will benefit the research in Cascade Use at the University of Oldenburg. I started to work on a joint research paper with Steven Young and we discussed an outline for joint research in the future. I strongly believe that the opportunity to work directly with him will facilitate our remote collaboration in the future.

Outlook

Based on one of the conference contributions to CYCLE2016 in Montreal, we drafted and further developed a research paper, discussing the misconceptions (and misperceptions) of closed-loop supply chains in regard to their sustainability contribution. Furthermore, visits or exchanges are considered for the future, though will depend mostly on funding opportunities. Conferences and other events are considered for joint contributions that could provide ground for future face-to-face meetings. In addition, a co-supervision was discussed and a reviewer role for Prof. Steven Young may be proposed to the PhD examination board.

The work with the Industrial Ecology group at SEED and exchange of ideas with Prof. Jennifer Lynes from SEED may well develop into collaborations in the future. Her work is related to marketing issues in the sustainability context. This has a connection to both our research group Cascade Use and my PhD in particular, hence could well be a research topic for another exchange and deeper collaboration with the Industrial Ecology group at SEED.

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The following presentation and poster were completed during the exchange, while the research paper is currently under development:

- The platform presentation *“Why LCM should consider Open-Loop Supply Chains for better resource conservation: The case of Cambio Volante in Chile”* discusses supply chains on the basis of the used car market. The case study *“Cambio Volante”* investigates retrofitting from right to left steering (RHD/LHD) taking place in Northern Chile. This presentation addressed the challenges and opportunities for resource conservation by life extension in third markets. Most probably of future relevance for hybrid and potentially electric vehicles.
- The poster presentation *“CSR and digital copyright: Why life cycle management should embrace stakeholders at the EOL”* highlights the copyright and intellectual property rights within waste management and its implications for corporate social responsibility (CSR). The poster addressed the field of mechatronics and electronics in vehicles, a relevant development for a growing portion of vehicle components. Especially electrical components gain relevance throughout all available drivetrain technologies.
- A research paper is currently developed (see above).

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