

# **IPID4all Senior Research Exchange with University of Waterloo, Canada**

## **Feedback report**

*Your first name, last name, degree title*

Steven B. Young, PhD, PEng  
Associate Professor in Industrial Ecology

*Host university*

University of Oldenburg

*Home research group + address*

School of Environment, Enterprise and  
Development (SEED)  
University of Waterloo,  
200 University Avenue West, Waterloo, ON,  
N2L 3G1, Canada

*Host research group + address*

Department of Business Administration,  
Economics and Law  
Ammerländer Heerstr. 114-118,  
26129 Oldenburg  
Germany

*Home supervisor(s)*

STEVEN YOUNG

*Host supervisor*

ALEXANDRA PEHLKEN

*Exchange period*

1.09.2017 to 14.09.2017

*Exchange topic*

*Cascade use: critical resources and raw materials use in vehicles, recycling and remanufacturing*

### **Activities / Contacts**

- o describe the main topics you discussed with your colleagues from the host university

The main topics discussed with my colleagues in Germany were circular economy, cascade use, critical materials, remanufacturing of automotive parts and systems, recycling, intellectual property, and life cycle assessment.

### **Future collaboration / Outlook**

- o planned joint publications / research projects
- o whether further exchange is planned between the two research groups
- o possible collaborations with other research groups

We have one joint publication that is immediately being written. The working title is "In support of open loops", and it will target the supply chain management (operation research) community and remanufacturing audiences.

This paper supports Open Loop Supply Chains (OLSCs) as a practice that should be supported and promoted in parallel to the more popular interest in Closed-Loop Supply Chains (CLSCs). We argue, that although CLSCs are often considered a contribution to sustainability objectives, they are not necessarily more sustainable than the 'classic' forward Supply Chains (SCs), which we frame as OLSCs.

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- We argue that forward SCs deserve more attention by Supply Chain Management (SCM) research in order to identify managerial approaches to sustainability across and beyond CLSCs that were designed and are run by a particular SC owner or group of SC members.
- We first review literature in sustainable SCM, operations research (OR) and industrial ecology to examine CLSCs and SCM. From this review, we develop a simple theoretical framework that both distinguishes and compares open- and closed loops in the different domains.

We will provide acknowledgement text: “Supported by the German Academic Exchange Service (DAAD) with funds from the Federal Ministry of Education and Research (BMBF)”

Further exchange is not currently planned, but we open to additional exchanges and will continue collaboration between the two research groups.

#### **Note:**

*The report should not be longer than three pages (including pictures).*

For publications please include an acknowledgement to the IPID4all programme and include one logo from the DAAD and one logo from the BMBF:

Acknowledgement text: “Supported by the German Academic Exchange Service (DAAD) with funds from the Federal Ministry of Education and Research (BMBF)”

The logo for DAAD (German Academic Exchange Service) consists of the letters 'DAAD' in a bold, blue, sans-serif font.

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of Education  
and Research