



QUT – KIT 2017/2018
Academic Internship Program
Experience Report

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Preamble

This report highlights the activities and events of my four months academic exchange internship stay at the Karlsruhe Institute of Technology (KIT) located in the state of Baden-Württemberg, Germany. The internship program was introduced in order to encourage collaboration and foster a relationship between KIT and QUT. The duration of my stay enable me to spend time at two prestigious institutes at KIT, which turned out to be a very rewarding research experience.

1. Introduction

The Queensland University of Technology (QUT) is located in Queensland – Australia. I am presently enrolled as a Ph.D student at this noble institution in the Energy and Process Engineering discipline. As part of efforts to improve collaborations, the Karlsruhe Institute of Technology (KIT) extended opportunities for research exchange internships to students from QUT.

KIT being an amalgamation of the former Universität Karlsruhe and the Forschungszentrum Karlsruhe GmbH culminated in the formation of a strong research based institution. This presented me with a great opportunity to enhance my Ph.D research experience. The areas of research expertise at KIT covers the following broad fields; matter and materials; earth and environment; applied life sciences; systems and processes; information, communication and organization; and technology, culture and society.

2. Sponsorship and internship organization

The academic exchange program was generously sponsored by the German Academic Exchange Service (DAAD), who provided a scholarship (€900-€1000 per month) for the duration of my stay. As part of students' commitment towards the program, I also paid for my return flight ticket from Australia to Germany.

KIT through its International Affairs office provided the required support with the internship application and enrolment process. This was managed by Dr. Kai Rebenburg, who liaised on my behalf with institutes at the host organization (KIT) and government agencies to ensure a smooth

arrangement. It was also an extended great service from his office to provide me with a mentor, in the person of Ms. Verena Fischer. She provided all the necessary support from reception, to the registration process, opening a bank account, a tour of KIT campus and identifying locations of particular interest on campus. Ms. Verena also organized several other functions to enable us integrate into the new environment. Some of the functions were a dinner with other international exchange students and a visit to the popular Christmas markets.

KIT furthermore through its International Welcome office assisted me in finding suitable accommodation through the support of the staff Mr. Florian Döring. This office also organised events throughout the duration of my stay, to make the time spent a memorable one.

3. Internship experience

During my stay at KIT I was privileged to work at two different institutes and gain a wide variety of experience.

3.1 Bioprocess Engineering in Life Sciences (BVT-KIT)

The first part of my stay was the Institute of Bioprocess Engineering in Life Sciences (BVT) located at the South campus of KIT and headed by Prof. Clemens Posten as the Director of the Institute. This Institute is known globally for its ground breaking research in the cultivation of microalgae for several beneficial health and environmental products. During my stay, my main tasks were centred on microalgae dewatering which related to the core of my research. They had ongoing research projects with a dead-end filtration system (a product from their collaborative work with the University of Bremen). The second system in use is a dynamic cross-flow filtration system. I had the opportunity of learning, working and interacting with researchers and experts in this field.

3.2 Institute of Technology Assessment and System Analysis (ITAS-KIT)

The second part of my stay was at the Institute of Technology Assessment and System Analysis (ITAS). The institute is affiliated to the North campus of KIT and located in the heart of the city, close to the Europaplatz postgalerie. This gave me the great opportunity of commuting in the inner city daily. This was exciting most especially in the Christmas season, as it afforded me an opportunity to see the beautifully decorated streets and malls.

ITAS is a large institute where multi-disciplinary research is conducted. I was given the privilege to hold a one-on-one introductory meeting with the Director of the institute Prof. Armin Grunwald. During my stay at this institute, I was attached to work with the Sustainability and Environment group, which was mainly involved with the technology assessment (TA) of several renewable processes, including microalgae cultivation and its products. This group is headed by Dr. Christine Rösch, a remarkable scientist from whom I learnt a lot. I was introduced to lifecycle assessment (LCA) using the open software OpenLCA. During my stay I was given full access to facilities at the institute which enriched my research experience.

4. Cultural experience

I came across a wonderful culture at both institutes where researchers and colleagues always go for lunch at the mensa together. This created an avenue for getting to know each other better, discussing social and cultural topics as well as developing friendship. There was after lunch coffee also where technical issues or challenges could be discussed informally.

Furthermore, I had the privilege to attend end of year parties at both institutes where I had spent time with a great experience of German food and culture. Additionally, the Christmas holidays availed me an opportunity to travel around Germany and have a feel of the historical locations, architecture, food, culture and people. During this time I had chance to visit Leipzig, Wissembourg, Strasbourg, Koln, Paderborn, Heidelberg and the Schwarzwald.

5. Conclusion

This academic exchange program has fore mostly improved my Ph.D research work, given me an opportunity to enhance my professional and personal skills and provided me an experience of the German expertise, culture and way of life.

6. Appreciation

I am grateful to the DAAD for providing funding for this program. Also I will like to appreciate KIT for the initiative and for hosting and providing me with a great research experience. I most also acknowledge my supervisor at QUT and my Faculty for granting permission to undertake this program. I will like to thank the numerous people at KIT who made my stay comfortable and convenient, the colleagues at KIT who assisted me in numerous ways and the new friends I made who made my entire stay a memorable one. This has been a wonderful experience and I am glad to be a part of the alumni of this academic exchange program.