



## **DAMOC EXCHANGE PROGRAM AT DRESDEN UNIVERSITY OF TECHNOLOGY (TU-DRESDEN), GERMANY**

Dates: 28<sup>th</sup> Sept. 2018 - 11<sup>th</sup> Jan. 2019

Participant/Institution: Joyce David Martin, NM-AIST - Tanzania

### **Travel and arrival**

In preparation for travel I received all the necessary support with regard to visa application and travel preparation from both DAMOC project staff and the Nelson Mandela African Institution of Science and Technology (NM-AIST). I took flights from Kilimanjaro to Berlin Tegel Airport and a bus from Berlin to Dresden. On arrival we were met and welcomed by DAMOC staff and other colleagues at Dresden main station, together we agreed on subsequent meetings. They showed us to our respective accommodation. Through follow-up meetings, they showed us the basics and assisted us with necessary processes.

### **Housing**

In Dresden I stayed at two accommodation, at the student hostel in a single independent unit and at the International guest house in a shared apartment. Both accommodation were good and convenient. I shared apartment with three students, two environmental science students from Italy and a doctor of medicine student from Czech Republic, it was a good experience. Both apartments are conveniently located near the university, bus and tram stops and supermarkets.

### **Dresden**

With an approximate population of 550.000 people, Dresden is the capital city of the free state of Saxony with a lot to see and experience. These include: culture, beautiful gothic churches/buildings, gardens, Elbe Sandstone Mountains and sporting arenas. During my stay the weather ranged from moderately warm to cold and it certainly got colder with some snow in January. Dresden is home to research institutions and Dresden University of Technology (TU-Dresden) one of Germany largest university. There are many students, both local and international and therefore many student-related activities.



Dresden Frauenkirche – Church of Our Lady

### **Work**

The exchange program involved different activities. I attended selected list of course modules for the following courses; computer vision and machine learning, introduction to security & cryptography and various modules of to gain fundamentals insight into Transactional Information Systems. The lectures combined with the tutorials were very enriching. I highly commend the University for its teaching and learning activities.

The exchange program involved a total of five beneficiaries and we had regular scheduled meetings with DAMOC TU-Dresden team to update on our ongoing activities, plan for other activities and resolve any queries. Among issues agreed as important to be discussed was an introduction to the prospective modules developed by DAMOC TU-Dresden team. On 14<sup>th</sup> Dec. 2018, DAMOC TU-Dresden team made a presentation of the first part of the proposed-developed module on Data Security and Data Protection in Smart Grid. We had a brief discussion, received elaboration of various issues and gave our point of view



with regard to the modules. As beneficiaries of the exchange program we also undertook study/research work and wrote a short report on “Privacy and Security in Smart Grids with reference to South Africa and Tanzania”. We looked at: the state of deployment of smart grid, overview of cyber security laws, data protection and institutional support, relevance of NERC CIP013-1 Cyber Security - Supply Chain Management Plan and an overview of IEC61850 standard.

On the 16<sup>th</sup> November 2018 we visited DREWAG Innovation Power Plant - Reick, a city owned energy generation and distribution utility for the city of Dresden. It supplies drinking water, heat and electricity in Dresden, we started with a presentation followed by a short tour of their facilities. The visit enlightened me on the energy environment and trading in Germany, and gave me a greater appreciation of the processes involved in for example heating homes. On 17<sup>th</sup> December 2018 we visited KIWIGRID a company developing distributed and digital energy solutions. We started with a tour of their facilities and thereafter a presentation of their platform, solutions, clients and projects. It was very motivating to get insight into the changing energy landscape and seeing various innovative solutions, tailored for specific industrial needs.

Attending this program was a learning opportunity both professionally and personally. I made new friends, learnt new things both in academia and industry. The teaching, research and proactive activities in seeking innovative solutions and structures supporting these activities are definite subject matters to learn from. I definitely recommend this program for anyone wishing to learn and develop.

### Free time

During the first weeks of our stay in Dresden, we were informed of the various programs of TU-Dresden international office and the Buddy Program. Through the various programs I spent my free time: in hiking trips to the beautiful Saxonian Switzerland, excursions, trying/learning ice skating and other events. With fascinating rock formation, the Bastei Bridge, the clarity of the view from uphill, beautiful sceneries, hiking the Saxonian Switzerland was amazing. We visited Annaberg-Buchholz and had a guided tour of the Dorothea mines and thereafter explored the town’s Christmas market, we attended the University international Christmas party, a beautiful party that celebrates diversity. Visited Berlin and enjoyed a self-guided tour of the city and Christmas market. With friends we planned various activities and explored Dresden: enjoyed walks in the parks, attend Dresden intercultural day, cinema, enjoyed good food at the Christmas markets, handcraft activities making Christmas decoration, see Dresden by night and spent time cooking and eating together. Indeed it was a wonderful experience.



Bastei Bridge



Beautiful view from uphill Elbe Sandstone Mountains