

挪威 Høgskolen i Østfold 交流学习总结

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2023 年 8 月 24 日-2023 年 11 月 20 日，我很荣幸有机会参与了北京交通大学与挪威 Høgskolen i Østfold 的国际交流合作项目“ELSE-Education Leader for a Sustainable Economy”，并在挪威 Fredrikstad 进行了为期三个月的学习交流，这三个月中，让我有很多关于学习、生活方面的收获，还结识了很多令人难忘的朋友。在这篇总结中，我将分享我在挪威工作学习、语言交流、生活环境、社交出行等方面的一些经验和感受。

一、论文写作及语言交流

此次学习交流从我的课题研究方向出发，即微通道低表面张力工质流动沸腾换热研究，由国内外老师共同指导完成论文的撰写工作，这对我来说是一个非常具有挑战性的任务。国内导师强调对原始数据的重视与分析，让我对研究内容的理解有更深刻的认识；吴宏老师与 Olav 教授两位老师负责英文论文的细节把控，指导我采用更加简洁清晰的语言，便于我的论文更容易被读者所理解，此外还对论文提出很多建设性意见。

与国外老师的交流是此次挪威学习中印象最深刻的部分，虽然我在语言上遇到一些困难，但是教授们都非常耐心地解答我提出的问题，在交流过程中，我学会了如何更好地组织思路和表达自己的观点。老师们鼓励我多思考问题，提出自己的疑问，并定期分享我的论文进展；此外，学校图书馆提供很丰富的学习资源，对我的研究有非常重要的帮助，能够让论文撰写工作顺利完成，非常感谢国内外老师的指导。

二、校园环境

Høgskolen i Østfold 的校区位于挪威东部的 Fredrikstad，坐落在风景宜人的河边，没有高大的围墙，与周围的自然景观融为一体，初来的时候正处于夏秋交汇的时节，但校园仍然是绿草如茵，天空一片澄澈明净，环境整洁美丽是我对这里的第一印象。校园的建筑风格融合了现代与传统的元素，散发着浓厚的北欧风情。整个校园分布紧凑，各个教学楼间有长廊贯通连接形成一个整体，每栋楼都设有现代化的教室和实验室，教室内部设备齐全、配备了先进的技术设施，为学生提供了良好的学习条件。校园内设有运动场、健身中心、休闲娱乐中心、超市等，为学生提供了休息、交流及活动场所。学校还会定期组织各种文化活动及社团活动，如音乐会、艺术展览、志愿活动等等。



Høgskolen i Østfold 校园环境及教室内环境



学校图书馆



教室外环境

三、挪威自然景观及人文环境

仍然记得乘坐大巴车离开奥斯陆机场欣赏到沿程的风景，成片的草地映入眼帘，每隔一段距离就会出现一幢或红色或白色或黑色的小房子，远处的山峰勾勒出优美的剪影，正所谓风景美如画，好不真实。在 Fredrikstad，最引人注目的是一条长河，顺着河流延伸，一眼望不到边。河的两侧现代与传统建筑遥遥相望，给人视觉上的冲击。随处可见的海鸥、鸽子有的在河水的上方盘旋，有的飞在路人身边等着被投喂，有的则安静的站在桥廊上警惕的注视远方；美丽的教堂藏在小树丛当中，有着高耸的尖顶和石墙，教堂内部有许多美丽的壁画和彩绘玻璃窗，十分宁静祥和，是一个让人们可以静心 and 沉思的地方。除了领略美景外，能感受到当地自然的变幻无常，挪威海洋性的气候使得降雨成为这里的常态；夏秋季节短暂，10月底还下了一场大雪，漫天飞舞的雪花轻柔洁白，雪后的小镇像披了一张白棉被在沉睡，置身于这样广阔的天地间，感觉身心都收获了安宁。



大巴上拍摄的沿途的风景



教堂



雪后的小镇

一方水土养一方人，挪威这样的气候景观影响着本地生活的人们。在我看来，这里的人带着一种天然的惬意与悠闲感，不紧不慢，有自己的节奏，能享受生活的舒适。他们的生活方式注重平衡和健康，比较关注户外活动和自然的接触，在周末闲暇时光，也总能看见有人或背包骑行、或准备徒步爬山。此外，在这里遇到的人都很友善真诚。仍然记得到达 Fredrikstad 时，两个明媚的女孩子 Tara 和 Sana 从车站将带我到居住的学生公寓，她们的大方热情让我褪去了来到陌生国度的不安与慌张。初到挪威时，我很担心语言问题给之后的生活造成困扰，但是同学、老师及朋友甚至陌生人对我语言上的包容让我感觉很温暖，并且不管在街上问路，在超市购物，在学校上课等，遇到的人们都会尽量为我提供帮助，在这里能感受到来自大家的浓浓的善意。



宁静的小镇

四、参加的各项活动

10 月底，学校组织活动邀请国际交换生去奥斯陆参观了国家艺术博物馆。我们参观了不同时期不同流派的艺术家的艺术作品，有绘画、雕塑、雕刻等等各种艺术形式。这是我第一次参观画展，和在图片上看到这些作品的感受是不一样的，通过这些作品能去感受画家笔触下传递的思想，让我们看到没有相机没有科技的挪威时代下的景观，以及当地民众的生活。之后学院公寓的学生举办了一场社交活动，我认识了来自罗马尼亚、捷克、智利、孟加拉国等不同国家的朋友。我们一起去特罗姆瑟参观了特罗姆瑟博物馆，还了解到挪威当地特色吉祥物——山妖小精灵，十分憨厚可爱，当地人认为它是幸运和幸福的化身；一起去爬雪山，可以俯瞰整个特罗姆瑟地区的美景；一起看极光，充满各种颜色的光芒在夜空中舞动，就像置身于一个童话世界当中，能感受到大自然的神秘和力量。短暂时光的相处，我们相互了解相互帮助，像在一个大家庭当中，和谐而温馨。



参观奥斯陆艺术馆



和朋友们在车站



极光



雪山顶的俯瞰

五、食宿等日常

在我来到 Fredrikstad 前，此次项目的老师就已经为我预定好居住的宿舍，距离 Høgskolen i Østfold 学校很近，步行 5 分钟左右即可到达。房间内干净整洁，有独立的卫浴，公用厨房和公共娱乐区域。在居住地方附近有好几家超市，便于购买食材、生活用品等。但是物价对比国内较贵，因此平常都是自己买菜做饭，食材物料都很新鲜干净，我会购买一些蔬菜、面条、肉类，保证日常饮食均衡，饮食文化的不同使得做饭也成为另一种有趣的体验。挪威的交通系统非常发达及便利，日常出行可以搭公交、大巴还有渡轮。汽车司机对行人都很友好，看到有行人过马路，就会提前踩刹车让行，完全不用担心交通问题。



居住的公寓



公寓周围的环境



住宿公共区域环境

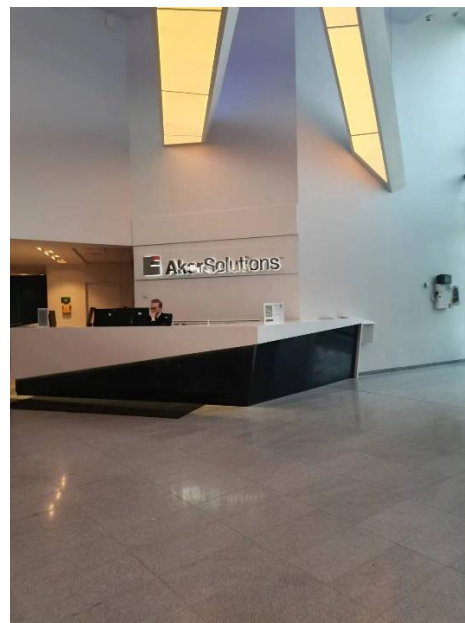
六、公司参观

11月中旬,与其他国际交换生一起,在Irina与Cathrine两位老师的带领下,我们参观了Telenor Group及Aker Solutions公司。这两家公司总部均位于挪威奥斯陆。Telenor是挪威最大的电信公司,主要业务包括移动通信、宽带互联网及电视服务,负责人为我们介绍了Telenor的相关业务后,还提到,Telenor公司积极参与社会责任项目,努力促进数字化及可持续发展,并且为我们介绍了人工智能机器人的操作与使用;而Aker Solutions是一家挪威全球性工程和技术公司,主

要提供能源产业的工程、采购、建造、安装及维护服务，致力于推动可持续发展，在减少碳排放和环境保护方面发挥作用。在现场我们参观了很多海上能源设备的建筑模型，并且体验了其中一些模型的操作使用，我了解到 Aker Solutions 的工程师们基于客户需求进行产品优化与设计，通过先进的模拟技术和创新的设计理念，帮助客户提高生产效率并降低风险。



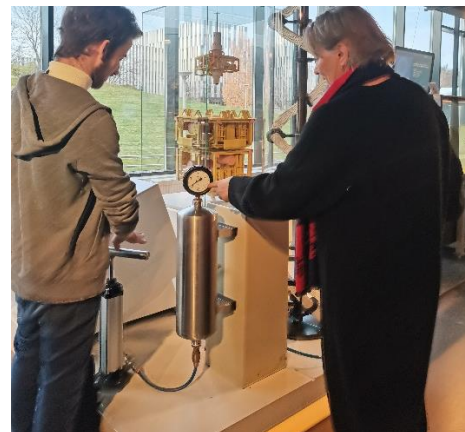
Telenor Group



Aker Solutions



Telenor Group 公司午餐时间



Aker 公司展出的模型

在挪威 Høgskolen i Østfold 学校三个月的学习交流经历中，我学会了如何更高效的进行论文写作，并且体验到与中国完全不同的文化，在未来的学习生涯中，我

将会把这些经验和收获应用到我的研究和日常生活中。非常感谢吴宏老师，Olav老师、贾力老师及银了飞老师对我论文上的认真指导，感谢 ELSE 项目的老师们给我这个机会，让我能接触到外面不一样的世界，认识新的朋友，见识更广阔的天空，这三个月的学习交流将使我终身难忘！

Summary of exchange study in Høgskolen i Østfold

Zhonglin Yang

I am honored to have the opportunity to participate in the three-month international exchange program "ELSE-Education Leader for a Sustainable Economy" between Beijing Jiaotong University (BJTU) and Høgskolen i Østfold. During these three months, I have gained a lot of experience in my study and life.

1、About writing

This study exchange is based on my research project - flow boiling heat transfer in microchannels, and I was co-supervised by professors from home and abroad to complete my papers. Writing the paper was a very challenging task for me. The domestic tutor emphasized the importance and analysis of raw data, which gave me a deeper understanding of the research content. Prof. Hong Wu and Prof. Olav guided me to adopt a more concise and clear language, which made my thesis more easily understood by readers.

Communication with professors was the most impressive part of this study exchange. Although I encountered some language difficulties, the professors were very patient in answering the questions I asked. During the conversation, I learned how to organize my thoughts better and express my opinions. The professors encouraged me to think more and ask my questions. The school library provides very rich learning resources, which are very important to help me with my research. I made the thesis writing work successfully, and I am grateful for the guidance of my teachers at home and abroad.

2、Campus environment in Høgskolen i Østfold

The campus is situated in a picturesque setting, surrounded by lush greenery and scenic landscapes. The architecture of the buildings is modern and well-designed. The campus facilities are well-maintained and equipped with state-of-the-art amenities. Students have access to well-equipped classrooms, laboratories, and libraries, providing them with the necessary resources for their studies. The library offers a vast collection of books, journals, and online resources, catering to the diverse academic needs of the students. In addition to academic facilities, Høgskolen i Østfold also offers various recreational and social spaces. There are spacious common areas where students can relax, socialize, and engage in extracurricular activities. The campus also has sports facilities, including sports fields and gyms, where students can participate in various sports and physical activities. The campus community at Høgskolen i Østfold is diverse and inclusive, with students from different backgrounds and cultures.

3、The natural and humanities environment

Norway has a beautiful landscape where I am able to enjoy fresh air, beautiful nature and a safe social environment. Fredrikstad has clear rivers and green grass. The endless blue sky and white

clouds are striking. Flocks of pigeons and seagulls fly in the sky, and beautiful churches stand in the center of town. I can naturally feel the peace and calmness here. The connection between Norwegians and nature is evident, and it taught me the importance of preserving and respecting the environment. In addition to its natural beauty, Fredrikstad is also rich in cultural heritage. The region has a long and fascinating history, with influences from Viking, medieval, and modern cultures. The local people of Fredrikstad are warm and welcoming.

4、 About participating in student activities

At the end of October, the school organized a visit to the Oslo Museum. The museum is home to an extensive collection of Norwegian and international art spanning various periods and styles. As I explored the different rooms, I was amazed by the diverse range of artworks on display. From iconic Norwegian masterpieces to renowned international works, the collection was a testament to the rich artistic heritage of Norway and the world. The student organization in the school apartment held a waffle night, and I met friends from different countries, such as Romania, the Czech Republic, Chile, and Bangladesh. We went to Tromsø together and visited the Tromsø Museum. I also learned about the Norwegian local mascot - troll, which the locals consider to be the embodiment of luck and happiness; we went climbing the snowy mountains together, where we could overlook the beauty of the whole Tromsø area, and we watched the Aurora Borealis together, which is full of various colors of light dancing in the night sky as if we were in the midst of a fairy tale world, where we could feel the mystery and power of the nature. It is like being in a fairy tale world, where you can feel the mystery and power of nature.

5、 In daily life

Before I came to Fredrikstad, the teachers of this program had already booked an apartment for me to live in, which was very close to the Høgskolen i Østfold school. The apartment was clean and tidy and included a private bathroom, shared kitchen and common entertainment area. There are several supermarkets in the neighborhood, so it is easy to buy food and daily necessities. But the prices are a bit expensive compared to China. The local supermarkets offered a wide variety of fresh produce, meats, and dairy products, making it easy to cook meals at home. The different food cultures make cooking another interesting experience. The public transportation system in Fredrikstad is efficient and reliable. Buses and trains run regularly, making it easy to get around the city and surrounding areas.

6、 About visiting companies

In mid-November, Prof. Irina and Prof. Cathrine took international exchange students to visit Telenor Group and Aker Solutions. As one of the largest telecommunications companies in the world, Telenor Group showcased its cutting-edge technologies and innovative solutions. The company's headquarters in Oslo were impressive, with a modern and sleek design. The tour provided insights into their operations, including their focus on digital transformation and their commitment to sustainability. Aker Solutions is a leading global provider of engineering and construction services to the energy industry. Their expertise in oil and gas, renewable energy, and other sectors was evident throughout the tour. The company's facilities were impressive, with state-of-the-art equipment and a focus on safety and efficiency. It was inspiring to see their commitment to sustainable practices and their efforts to contribute to a greener future. These experiences provided a deeper understanding of the telecommunications and energy industries.

My three months in Norway have been a period of personal growth, cultural immersion, and academic development. The friendships I formed, the knowledge I gained, and the memories I

created will stay with me for a lifetime. Norway has left an indelible mark on my heart, and I am grateful for the opportunity to have experienced this beautiful country.