

工系3学院学生国際交流基金プログラム

帰国報告書

Debrief Report of International Exchange Program operated by Engineering Schools

派遣者氏名 Your Name: Amanda Grace Ahl	
所属・研究室・学年 Affiliation and Grade: Dpt. Innovation Science (PhD)	
派遣先大学・専攻 Name of Host Institute/ Dept.: City University of Hong Kong	
受入研究室・教員名 Name of Host Laboratory/ Supervisor: Dr. Masaru Yarime	
派遣期間 Period of Study Abroad: 18年08月27日 ~18年10月26日	
申請カテゴリーCategory: <input type="checkbox"/> (C1)SERP <input type="checkbox"/> (C2)AOTULE <input type="checkbox"/> (C3-a)部局間協定校 <input type="checkbox"/> (C3-b)全学協定校 <input checked="" type="checkbox"/> (C4)その他	
研究(プロジェクト)題目: Research Theme Opportunities for blockchain in the energy sector	

注意 Notes:

- A) 帰国後1か月以内に工系国際連携室宛 (ko.intl@jim.titech.ac.jp) に**MS Word**ファイルにて提出ください。Please submit the report in Word file within 1 month after returning to Japan.
- B) SERP・AOTULEで派遣された場合は、受入教員の評価書も添付して下さい。Please attach the Evaluation Report written by your host supervisor.
- C) この表紙を含まず、ページ数は2~4ページ、ファイルサイズは3MB以内として下さい。The report has to be 2~4 pages without containing these two cover pages and within 3 MB.
- D) 研究室や宿舎内の様子の写真、図表、イラスト、滞在中のその他の写真などは挿入可です。ただし、それらを掲載する際には簡単な説明を加えて下さい。Please insert pictures and charts with captions.
- E) 提出された報告書を工系のホームページに掲載いたします。また、別途、学内広報誌「東工大クロニクル」の執筆をお願いすることがあります。The report will be posted in the Engineering Schools' website. You may also be requested to contribute a report to Tokyo Tech Chronicle.

報告書必須記載事項

1. 派遣大学の概要(所在地、創立年、規模など) Outline of your host university (Location, Time of Founding, Scale of the university)
2. 留学準備など Preparations before your study abroad
3. 所属研究室での研究概要とその経過や成果、課題など Outline of your research and its progress, finding, and challenges for the future
4. 所属研究室内外の活動・体験(日常生活・余暇に行った事など) Activities and experiences beside research (daily life/ leisure)
5. 留学先での住居(寮、ホームステイ等)、申し込み方法、ルームメイトなど Type of Accomodation (dorm/ homestay) and its application method, who were your roommates and etc.
6. 留学費用(渡航費、生活費、住居費、保険料)など Expenses (Flights, Living cost, Housing/Rooming rent, Premium, Administrative fees, and etc.)
7. 今回の留学から得られたもの、後輩へのメッセージ、感想、意見、要望 Outcomes through the study abroad, Message to juniors, Feedbacks, Opinions, or Requests
8. その他 *任意 Other *optional (Trouble, Your Career Path, etc)
(留学先で困ったこと、帰国後の進路(就職・進学・長期留学)など)

東京工業大学 工系3学院学生国際交流基金

帰国報告書

派遣年月 **Period of Study Abroad: 18年08月~10月**

氏 名 **Name: Amanda Ahl**

所 属 **Affiliation at Tokyo Tech: School of Environment and Society,
Dept. of Innovation Science**

派遣先 **Host University: City University of Hong Kong**

The City University of Hong Kong was founded in 1984 as a City Polytechnic and in 1994 assumed full university status. Located centrally in Kowloon Tong, the university has approximately 20,000 students, including associate degrees, undergraduates, graduates, postgraduates, and doctorates. The university has various colleges, such as the College of Business, the School of Data Science, and the Jockey Club College of Veterinary Medicine and Life Sciences. I was studying under the School of Energy and Environment.

During these studies, I explored and discussed the opportunities of blockchain for sustainability in the energy sector with the research team during seminars in Hong Kong. These seminars included three other students, Professor Shauhrat Chopra and Professor Masaru Yarime. Fintech and emerging tech such as blockchain are hot topics in Hong Kong now, and it was therefore a very useful place to be as a person interested in and researching blockchain for the energy sector. For example, I got the change to attend several relevant meetups as well as the 2018 Ethereum Industry Summit (ETHIS) which took place in Hong Kong.



During my time there, I drafted a review paper of current research on blockchain opportunities and challenges in the energy sector, based on seminar discussions, interviews with experts in both academia and industry, and literature review. Findings included that this has great potential for energy, but a key challenge in taking advantage of this are related to institutional change, such as regulatory barriers and governance. In the review paper we give suggestions for how this change can be enabled, such as multi-stakeholder involvement and regulatory sandbox approaches to development. The paper also includes the development of an analytical framework for blockchain-based electricity microgrids, which integrates technological, economic, social, environmental and institutional dimensions. This framework, titled TESEI, and associated findings were presented at the BECC (Behavior, Energy and Climate Change) conference in Washington DC. Here I was pleased to get a lot of interest and questions, and meet new people also interested in emerging technologies such as blockchain in the energy sector, and institutional impacts.

In addition, my stay in Hong Kong was very fulfilling because it allowed to me to take a different approach, hear new perspectives, and focus this new insight on my research. Besides

research, I believe that experiencing living in Hong Kong and meeting various people also contributed to a more open mindset, appreciation of perspective, and expanded knowledge of a new country's culture and norms. Outside of the lab, for example, I attended a dragon dance festival related to the Mid-Autumn holidays, watched National Day fireworks, explored various temples in the city, and tried new foods with friends.



In terms of accommodation, it was quite difficult to find a landlord that can rent an apartment for only two months. However, I could thankfully find accommodation via Airbnb: an apartment near North Point station in which I lived alone for these two months. The monthly rent was about 100,000 JPY (7,600 HKD), excluding utilities. My main challenge in Hong Kong was expenses, as I believe Hong Kong is one of the most expensive cities to live in. On a student budget, paying rent and other living costs was quite difficult. However, food and utilities were not too expensive, so savings could be made there.

Nonetheless, outcomes from my time studying abroad in Hong Kong were very positive. I could make progress with my research, learn from various new perspectives and discussions, and experience a new culture and way of living. In addition, I believe I also made great contacts (and friends) for the future. My main message to those considering to study abroad is that you should definitely try it as it can enable you to meet new people, learn many new things, and open your mind. It's a great opportunity.