

京都大学若手人材海外派遣事業 スーパージョン万プログラム
研究者派遣プログラム

英文報告書

提出日：平成 27 年 2 月 27 日

1. 渡航者 (日本語)			
氏 名	北村恭子	採択年度	平成 26 年度
部 局	白眉センター	電 話	
職 名	特定助教 (白眉)	メー ル	
研究課題名	新奇集光特性を有するビームを用いた次世代光デバイスの創生		
海外渡航期間	平成 26 年 4 月 30 日～ 平成 27 年 2 月 15 日		
渡航先 (英語表記)	国名 : United Kingdom 大学等研究機関名 : University of Bristol 研究室名等 : Centre for Quantum Photonics 受入研究者名 : Prof. Jeremy O' Brien		
2. 渡航の報告 (英文)			
<p>渡航先の研究環境、研究者との交流、研究発表の状況等、渡航中の滞在経験について英語 (500～1000 語) で記述して下さい。受入研究者と撮影した写真や研究発表で用いた図等について、可能な範囲で別添として提出して下さい。ページ数については増加してもかまいません。</p> <p>I stayed at University of Bristol (UoB) Centre for Quantum Photonics (CQP) from 1st of May to 13th of February sponsored by Kyoto University <i>John Mung</i> Program. There were three aims for me to stay there: 1) Broaden my idea and thought. 2) Build international research net-work. 3) Make a profound study in abroad.</p> <p>CQP is, so to speak, one of the most famous and high-level research group in the field of Quantum Optics. On the other side, my research filed and research fields of hosting group for <i>Hakubi</i> project are at Photonics, which is more classical/fundamental optics and electronics. By staying at such group and by discussing with variety of people who study at somewhat new for me but not so far fields, my aim to broaden my idea and thought was achieved. At least once a week, there were talks by research groups of Quantum or Photonics. Although, for me, Photonics group talk was much more familiar, it was great opportunity to know what' s going on the Quantum fields, because they gave their talks to get understand each different fields. I also gave a talk in summer. In addition, due to daily conversation and discussion with those people, I also could get new conception for my own research. To be concrete, I have gotten new idea to make small electric fields by using a focused radially polarized beam and dielectric structure.</p> <p>During this term, I also developed collaborative research network with Prof. Hess at Imperial College of London, whose research field is at <i>Plasmonics</i>. We met at a UK' s domestic conference and later discuss details of our research. In consequence, we found our possibilities to</p>			

collaboration between my laser beams and his proposing nano-plasmonic lasers. Not only this opportunities, but also I visited Prof. Krauss' s group at York University. Although I met with him before at Kyoto University, at that time, we didn' t have a chance to discuss. However, when he visited CQP, he noticed that I were in Prof. Noda' s group almost four years ago when he had visited Kyoto Univ. . Thanks to such interesting coincidence, we could revitalize our relations. Not only to build friendship with CQP members, but also to develop new research network, I could achieve the second aim.

The third aim was most exciting for me. From the undergraduate student, I had never have a chance to go outside of Kyoto University officially. So that I noticed that to make a profound study in abroad means to know outside of Kyoto Univ. . The most impressive things that I have learned is what global university is. As far as I experienced in Kyoto University, the students and researchers from abroad are just international students and researchers. Of course, there are lying on the bid difficulties of Japanese language. However, in UoB and CQP, I felt that they treat students and researchers regardless of nationality and origins. The most typical experience for me at this point is that they ask international researchers to make and negotiate the important documents for funding and that they give responsibilities almost equally between native English and international students and researchers. In my view points, there are big backgrounds to be supported by reliable and professional administration staff who are also international.

I would like to summarize my stay at CQP in UoB was fruitful in my experience as a researcher. I sincerely appreciate this opportunities; Prof. O' Brien and all CQP members, UoB staff, Prof. Noda' s group (my hosting research group in *Hakubi* project) and John Mung program.

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