

Form B-2
(FY2022)
Must be typed

Date (日付)
11/05/2022 (Date/Month/Year: 日/月/年)

Activity Report -Science Dialogue Program-
(サイエンス・ダイアログ事業 実施報告書)

- Fellow's name (講師氏名): Chang, Chung Wai Sandbo (ID No. P20757)
- Name and title of the lecture assistant (講義補助者の職・氏名)
No lecture assistant this time
- Participating school (学校名): The University of Tokyo // Sakura High School
- Date (実施日時): 10/05/2022 (Date/Month/Year: 日/月/年)
- Lecture title (講義題目):
An Adventure into Quantum Computing
- Lecture format (講義形式):
 Onsite ・ Online (Please choose one.) (対面 ・ オンライン (どちらか選択ください。))
 Lecture time (講義時間) 45 min (分), Q&A time (質疑応答時間) 15 min (分)
 Lecture style (ex.: used projector, conducted experiments)
(講義方法 (例: プロジェクター使用による講義、実験・実習の有無など))
Used projector with Powerpoint slides and videos, no experiments
- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.
The objective of this lecture is to provide high school students a general picture of superconducting quantum computation research, covering the basic of the theoretical part and also the experimental part of constructing a quantum computer.
Starting with a short introduction of myself, followed by my motivation to pursue a career in science and my journey to date, I moved on to introduce my field of study. Assuming no prior knowledge in advanced mathematics nor physics, I demonstrated classical logic gates, followed by two short, animated videos and a brief introduction of quantum logic circuits. Then, I introduced the motivation behind scaling up a quantum computer, followed by the approach we have taken in superconducting quantum computation in working towards a functional quantum computer, aided by some results from state-of-the-art work from leading groups such as Google's team. This section is then concluded by showing some promising applications of quantum computers, which importantly serve as the reason why people are interested in developing quantum computers, hopefully also as additional motivation for students.
Finally, I talked about what the students could study in their college in order to get themselves

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prepared for joining our field, working towards being an experimentalist or as a theorist in quantum information science.

Other noteworthy information (その他特筆すべき事項):

The process is very smooth this time, the school has provided all the necessary equipment and assistance and I am very thankful for it.

- Impressions and comments from the lecture assistant (講義補助者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。):