

Form B-2
(FY2022)
Must be typed

Date (日付)
11/10/2022 (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): John Nicholas Moore (ID No. P21016)

- Name and title of the lecture assistant (講義補助者の職・氏名)
該当しない

- Participating school (学校名): 東京都立戸山高等学校

- Date (実施日時): 7/10/2022 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):
Low-Dimensional Electron Physics

- 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) 70 min (分), Q&A time (質疑応答時間) 10 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))

プロジェクター使用による講義

- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

The region of the U.S. where I grew up has several unique cultural aspects which are notably different from Japan, e.g. food and the legal driving age. Growing up in this culture, I had a number of special experiences which led me towards a scientific career. Throughout my scientific training and research work I've been able to develop professionally while living in the U.S., Japan and Spain. I've been able to work alongside talented people from all over the world thanks in part to my ability to communicate in English. I highly recommend high-school students in Japan to put effort into learning English in order to access the kinds of opportunities that I had.

My research mainly focuses on understanding quantum physics phenomena in 2D electron systems. This research has some relation to the field of quantum information which was the topic of the most recent Nobel Prize in physics. 2D electrons are formed in my research using a semiconductor heterostructure to confine electrons inside a plane. I show detailed videos and animations to explain how I fabricate and measure experimental semiconductor samples. I give an overview of some key results obtained using our laboratory's unique technique of low-

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temperature microscopy and I show some ongoing work. Finally, I describe the typical career development route of a scientist.

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

- 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。):

該当しない