

Must be typed

(For JSPS Fellow)

Form B-2
(FY2018)

Date (日付)

01/25/19

(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): Mel Hainey, jr. (ID No. P17366)
- Participating school (学校名): Kawagoe Prefectural High School (Mie-ken)
- Date (実施日時): 17/01/19 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目) Crystal Growth and Engineering: Like Playing with Really, Really Small Legos
- Name and title of your accompanying person (講義補助者 職・氏名)
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- Lecture format (講演形式):

◆Lecture time (講演時間) 60 min (分), Q&A time (質疑応答時間) 40 min (分)

◆Lecture style (ex.: used projector, conducted experiments)

(講演方法 (例: プロジェクター使用による講演、実験・実習の有無など))

Slides on Projector, Models of Crystals shared with students, Single-crystal and multi-crystalline silicon ingots shared with students. Demonstration of crystal growth using demo kits. Sugar crystal and bismuth crystal growth videos taken from the internet.

- Lecture summary (講演概要): Please summary your lecture 200-500 words.

The lecture focused on several questions about crystal growth. In particular, the definition of a crystal, including single crystal, polycrystalline, and amorphous structures was given. Along with the definition, ball-and stick models and polycrystalline and single-crystalline ingots were shared with the students. Several general methods for crystal growth including precipitation, freezing/casting, and vapor deposition were defined and examples of each process were given. For example, the students were given a recipe for making rock candy via precipitation of sugar crystals from solution. Finally, several applications of crystal growth, from protein crystallization to identification of high-pressure crystalline phases associated with meteorite impacts, to semiconductor epitaxy. This section include discussions about blue LED technology and introduced my research, growing GaN on glass for micro LED applications.

- Overall advice or comments to future participants in the program (今後の講師へのアドバイス):

Being able to do the lecture multiple times is great experience and it really helps having previous experience. I'd like to do it again if I can!

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

It would be helpful if the lecturers could receive feedback from the students and teachers after the lecture as well. It would be great to understand how to improve our lectures from the student's and teacher's perspective

- Impressions and comments from the accompanying person (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。)