

(For JSPS Fellow)

Form B-5

Date (日付)

08/11/2016 (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): Strahil Ivanov Pastuhov (ID No.P16113)

- Participating school (学校名): Aichi Prefectural Okazaki High School

- Date (実施日時): 07/11/2016 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Learning axon regeneration from a worm
(Science as a Pokémon game)

(in Japanese)

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

The neuronal cell uses a long process called axon to communicate with other cells and when the axon is injured the neuron cannot function properly. Some neurons can recover (regenerate) their axons, but others, such as most neurons in the brain or the spinal cord, cannot regenerate. Because of this, spinal cord injuries arising for example from car accidents cannot be treated effectively and many people remain paralyzed for life.

To understand how this process is regulated, we use a small worm (*Caenorhabditis elegans*) as a model organism. By making several neurons in this worm to express GFP (green fluorescent protein) we can see these neurons under a microscope and cut their axons with a laser. The wild type (normal) animals can usually regrow their axons, but if a gene that is important for axon regeneration is mutated, the injured axons fail to regenerate. By analyzing such mutants we begin to better understand how axon regeneration is regulated.

Even though a worm looks very different from a human, on the cellular level many processes are similar and what we learn from a worm about axon regeneration might one day be useful to help paralyzed people walk again.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 90 min (分), Q&A time (質疑応答時間) 30 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))

Power Point presentation using a projector.

◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

The teacher and the students insisted on speaking English, so I used mostly English.時々英語が

通じなかったなのでその時日本語で話しました。

◆Name and title of accompanied person (同行者 職・氏名)

◆Other note worthy information (その他特筆すべき事項):

- Impressions and opinions from accompanied person (同行者の方から、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。):