

Form B-2
(FY2022)
Must be typed

Date (日付)
27, January, 2023 (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): Xi Yang (ID No. P22093)

- Name and title of the lecture assistant (講義補助者の職・氏名)
KoKi Ryo, a second-year Ph.D student in the same lab

- Participating school (学校名): 静岡県立掛川西高等学校

- Date (実施日時): 26, January, 2023 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):
Food gels and gelation in food science

- 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) 80 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

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

In our daily life, we can find food gels everywhere. Typical food gels include fruit jelly, tofu, konjac gels and so on. All these foods share similar characteristics, i.e., they consist of a stable three-dimensional network and a large amount of water. In appearance, food gels are both solid-like and liquid-like. Polysaccharides and proteins are two major food polymers to make food gels. At present, there are many polysaccharides and proteins available in the market, and each polysaccharide or protein has its own property. Therefore, the gelation condition for each polysaccharide and protein is different. Special attention should be paid to if you want to make food gels yourself.

Food gels are also important to our health, because they contain a large amount of water and thus possess a low-calorie density, soft and elastic texture. In this regard, food gels should be healthy for the people who want to lose body weight or fat, as well as be desired for the elderly people with decreasing chewing ability. In addition, food gels are also suitable template to develop new foods, such as various candies, capsules for bioactive compounds. Finally, food gels are also interesting from the research interests' viewpoint, and it is an ongoing task to understand food gels from macroscopic, microscopic to molecular levels.

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

None.

- 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。）:

I am very glad to help Xi Yang san in this lecture, which is quite impressive to me. In the beginning, he gave some examples to demonstrate the popularity of food gels. Later, he showed the students a few videos in which the gelation process and conditions of different food polymers were introduced. These polymers are starch, konjac glucomannan, agarose, soybean protein, casein, all of which are very common in our daily life. Sometimes, I helped Xi Yang san to explain special words to the students, and the students could understand very well. In the last 15 mins, many students asked questions and Xi Yang san answered these questions and enjoyed communication with the students.