

REPORT OF THE JCM BOOTH AT THE RIKEN BRC OPEN CAMPUS 2016

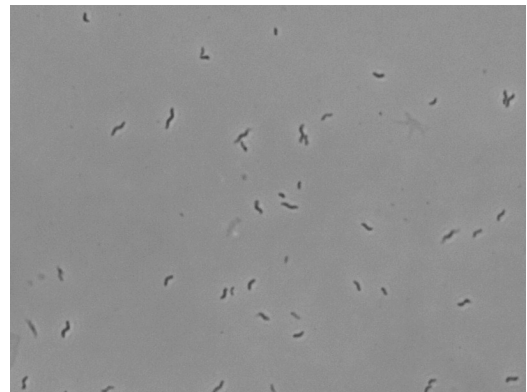
For foreign researchers outside Japan, it may not be easy to attend the RIKEN BRC open campus, unless he/she happens to be in Japan, particularly around Tsukuba-area, during the event time. Even so, it may be worth of knowing what is going on there, if you are interested in community outreach activities by scientists. The RIKEN BRC makes a point of holding the open campus every year to show citizens that the center holds and develops a variety of bio-resources, including experimental animals and plants, cell-lines, genetic materials and microbes, that are currently or potentially used in the research and industrial communities. Here is a report of the JCM booth at the RIKEN BRC open campus, held on 22-23 April, 2016.

"What's this! They are whirling!" Many children cheered while seeing motile bacterial-cells through a microscope.

"I didn't know that chocolate is a fermented food!" A young man said with looking down a package of chocolate on the desk.

"Oh, they are lactic acid bacteria in yogurt! I ate this product this morning!" Another woman said while she saw Gram-stained smear of cells under a microscope.

Such voices were heard all the time during the exhibition. Most of visitors seemed to be the neighborhood come by families and couples,



Highly motile cells of a phototrophic bacterium. Motile bacteria are not uncommon, but they play an important role to attract visitors.

and many junior high and high school students also came the campus. According to the planning committee, more than 1,400 people visited the campus this year.

Most people in the public may be unconscious of the presence of microorganisms in their daily lives. Some may had an image that microbial bugs are just cause diseases or rot organic materials. People may know that microorganisms are useful in production of fermented foods such as Miso (bean paste), Shoyu (soy sauce) and yogurt: but they may not be so familiar with the microorganisms involved in the fermentation processes. Thanks to Prof. S. Ômura, who won the Nobel Prize in medicine and physics last year for the discoveries concerning a novel therapy against infections caused by roundworm parasites, researches using microbes might have drawn spotlight in the public.



Cover of a booklet "Hello Microbes" (edited by JCM to introduce the world of micro-organisms to the public, only in Japanese) distributed at the JCM booth.



A scene of the JCM booth. Vistors dropped by the booth all the time during the open campus.

Supposing such the circumstances, the JCM staff members had prepared a bunch of microbial cultures and related materials to show visitors at the booth. One staff member cultivated a phototrophic bacterium, which bears tough cells capable of moving vigorously on a slide glass for several hours. One prepared Gram-stained lactic acid bacteria and bifidobacteria from several kinds of yogurt products. One grew a strain of *Streptomyces avermitilis* on an agar plate, which produces avermitilis and led Prof. Ômura to be awarded the Nobel Prize. The other members also prepared various microbial cultures: for examples, a plate culture of *Thermus aquaticus*, with which Dr. Kary Mullis has invented the Polymerase Chain Reaction (PCR) technique: a culture of *Prolixibacter denitrificans* corroding steel iron; *Aspergillus oryzae* and *Saccharomyces cerevisiae* which are used in various foods production. The research staff, who is studying microbial symbiosis in termites, showed a movie of protozoa which thrive in a gut of a lower termite and are homes of many symbiotic bacteria. In addition, a series of fermented foods, that would help open conversation between visitors and the staff members, were also displayed. Meanwhile, one of the colleagues, Dr. M. Sakamoto, delivered a

speech entitled "Unseen but valued partner with us". During his talk, he focused on, particularly, microbial flora and their functions in human intestines that relevant to human health.

Some visitors indeed got interested in the microbes exhibited and asked questions about them eagerly. Not a few people also extended topics, beyond the microbes, to health, environments, life, ethics, scientific politics...you name it! And during the exhibition, we have realized that visitors are not always general citizens or prentices. I noticed one male visitor gazed at the plate of *Streptomyces avermitilis* for a while. No sooner I had got close to him to explain the microbe, he started talking to me "*I was a student studying this strain at Prof. Ômura's laboratory. I was just looking at the plate with a nostalgic feel!*" "*Ooh and aah (saying in my heart)*"

Talking with citizens at the exhibition was indeed enjoyable, and I felt we also learned a lot from the talks. We should be very happy if the event would make more people familiar with the wonders of microorganisms.

(Takashi Itoh, acting as a reporter)