

RSC seminar
Development of the studies on bacteria by photon science

【Time and date】 9:30~14:45, Nov. 2, 2012

【Place】 Public Relations Center, Large Lecture Room

【Language】 English

【Organize】 RIKEN SPring-8 Center

【Abstract】

It has been indicated that bacterial biological phenomena are similar to those of higher organisms. Bacteria have been used as model organisms to understand the fundamental biological phenomena, including functional identification of “functionally unknown genes (proteins)” which possibly have a common biological function in all organisms. On the other hand, many bacteria have been used for industrial applications such as fermentative production and bioreactor. Several bacteria produce biofilm, which makes the bacteria high resistance to antibiotics and is a barrier to treatment of infection or decontamination of foods and clinical instruments. Thus, the basic research on bacteria also contributes to such industrial and medical applications. On a visit to SPring-8 of Ph.D. students of the Laboratory of Food Microbiology of Wageningen University in the Netherlands, we would like to hold a seminar and discuss how photon science can involve such basic and application researches of bacteria.

【Program】

Chairs: Hasmik Hayrapetyan (Wageningen Univ.) & Akeo Shinkai (RIKEN)

9:30 ~ 9:45

Opening remarks: Yoshitsugu Shiro (Deputy Director of RIKEN SPring-8 Center)

9:45 ~ 10:00

Heidy den Besten (Wageningen Univ.)

"Overview of the Laboratory of Food Microbiology of Wageningen University"

10:00 ~ 10:20

Nitesh Kaushik (Wageningen Univ.)

"Physiological state of bacteria under stress"

10:20 ~ 10:40

Takashi Kumasaka (JASRI, RIKEN)

"Structural basis for general stress response in *Bacillus subtilis*"

<Coffee Break>

11:00 ~ 11:20

Karin Metselaar (Wageningen Univ.)

"Mechanisms of non-linear inactivation"

11:20 ~ 11:40

Yu Zhao (Wageningen Univ.)

"Lifecycle of thermophilic biofilm formers"

11:40 ~ 12:00

Yasuyuki Matoba (Hiroshima Univ., RIKEN)

"Structural studies on the bleomycin resistance determinants"

<Group photo & Lunch>

13:30 ~ 13:50

Yasuhito Shomura (Univ. of Hyogo, RIKEN)

"X-ray structure analysis of the hydrogenase: a study toward the application of the enzyme to the fuel cell and photosynthetic H₂-production"

13:50 ~ 14:10

Alicja Warda (Wageningen Univ.)

"Spore sublethal damage repair mechanisms"

14:10 ~ 14:30

Akeo Shinkai (RIKEN)

"Whole cell project of *Thermus thermophilus* HB8: toward functional identification of functionally unknown proteins"

14:30 ~

Closing remarks: Seiki Kuramitsu (Osaka Univ., RIKEN)

Contact person: Akeo Shinkai (email address: ashinkai@spring8.or.jp)