32nd ANNUAL MEETING of JAPANESE SOCIETY for MICROBIAL ECOLOGY & 10th ASIAN SYMPOSIUM on MICROBIAL ECOLOGY (ASME)

July 11 [WED]-13 [FRI], 2018
Okinawa Convention Center, Gino-wan, Okinawa, Japan
## ASME Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greetings from Chairman</td>
<td>30</td>
</tr>
<tr>
<td>Venue Guide</td>
<td>31</td>
</tr>
<tr>
<td>Presentation Guidelines</td>
<td>36</td>
</tr>
<tr>
<td>Schedule</td>
<td>37</td>
</tr>
<tr>
<td>ASME Sessions</td>
<td>40</td>
</tr>
<tr>
<td>Plenary Lectures</td>
<td>44</td>
</tr>
<tr>
<td>Luncheon Seminar</td>
<td>48</td>
</tr>
<tr>
<td>JSME Symposium</td>
<td>49</td>
</tr>
<tr>
<td>Oral Presentations</td>
<td>51</td>
</tr>
<tr>
<td>Poster Presentations</td>
<td>58</td>
</tr>
</tbody>
</table>
Greetings from Chairman

Dear ASME members

We would like to cordially invite all of you to the 10th Asian Symposium on Microbial Ecology that will be held in the Okinawa Convention Center, Ginowan-city, Okinawa, Japan on July 11-13, 2018. It will take place together with the 32nd Japanese Society for Microbial Ecology (JSME) annual meeting. The venue is located one hour from the Naha (Okinawa) International airport by public transportations.

The ASME will have the 10th anniversary and we would like to take this special opportunity to organize exciting sessions by ASME members with our neighboring country researchers and students. Microbial ecology is now strongly driven by meta-omics. However, not only those state-of-the-art technology-based research but field-based, cultivation-based, and interdisciplinary studies are very important to make our societies move forward to greatly contribute to scientific societies and industries. We would welcome all type of studies connecting microbiology, bioengineering, agriculture and ecology together.

We will be organizing three ASME sessions (July 11 afternoon, July 12 morning and afternoon). On July 13, we will have the JSME and Microbes and Environments paper award lectures and invited sessions, and finally have a get-together that evening. The ASME sessions will be organized mainly by ASME ambassadors and by the JSME office members. Your input to them would be highly appreciated (the earlier the better).

The venue is just right beside the cobalt-blue ocean and a resort hotel. We expect the weather will be pretty fine with a clear sky and dazzling sunlight. We will have a BBQ party on July 11 evening at the beach, and will try to arrange a sunset cruising on July 12 (the number of people may be limited though). On July 13, you may either attend the JSME sessions or have enjoyable time swimming at the beach, visiting a world famous aquarium or taking a walk in villages with Japanese southern island’s tropical atmosphere and traditions (but remember that we will have a banquet so please get back to the venue by then). We strongly recommend that you will arrive in Okinawa on July 10 at the latest, and depart from there on July 14 at the earliest. For details, please visit our annual meeting website (http://meeting-jsme2018.com/asme_english.html).

We are looking forward to seeing all of you in Okinawa.

Sincerely yours,

Yoichi Kamagata
President, Japanese Society for Microbial Ecology
Greetings from Chairman

Dear ASME members

We would like to cordially invite all of you to the 10th Asian Symposium on Microbial Ecology that will be held in the Okinawa Convention Center, Ginowan city, Okinawa, Japan on July 11-13, 2018. It will take place together with the 32nd Japanese Society for Microbial Ecology (JSME) annual meeting.

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We are looking forward to seeing all of you in Okinawa.

Sincerely yours,

Yoichi Kamagata
President, Japanese Society for Microbial Ecology

Venue Guide

Venue: Okinawa Convention Center
4-3-1 Mashiki, Ginowan City Okinawa 901-2224, Japan TEL : 098-898-3000 / FAX : 098-898-2202

Public transportation

Arriving By Taxi

- Takes approximately 40 minutes (14 kilometer) and costs average ¥3,500 from the Naha Airport.
- Takes approximately 30 minutes (10 kilometer) and costs average ¥3,000 from the center of Naha city.
- Takes approximately 90 minutes (56 kilometer) and costs average ¥9,800 from the center of Nago city.

Reservation and Information

Okinawa Taxi Association Phone : 098-855-1344
Okinawa Branch of National Association of Private Taxi Drivers Phone : 098-850-7677

Bus/Monorail

Access from Naha Bus Terminal Station.

To the Okinawa Convention Center Bus Stop.
- Route Number: No.26・No.43・No.32・No.55(takes from 40 minute to 60 minutes) Fare: ¥530
- Route Number: No.112(takes 50 minute) - No.29 (takes 60 minute)

To the Mashiki Bus Stop
- Route Number: No.20・No.27・No.120 (takes from 45 minute via Kokusai Street) Fare: ¥530
- Route Number: No.23・No.29・No.53(takes from 35 minute via Kumoji Street) Fare: ¥530
- Route Number: No.31 (takes from 50 minute via Kumoji Street) Fare: ¥530

Access from Naha International Air Port

- 50-70 minutes from Naha International Air Port (Bus Station No.3) to Okinawa Convention Center Bus Stop. Fare: ¥570
- Route Number: No.26 (50 minutes)
- Route Number: No.29 (70 minutes)

Airport Limousine Bus is easy accessible
*Additional note: This limousine liner is not to stop at the convention center, get off at Laguna Garden Hotel bus stop and walk to the center for 10 minutes. (takes from 55 minute) Fare: ¥600

Access by the monorail(Assahibashi station and Furushima Station are easy accessible) - See the route map and operation time table.
- About 11 minutes from the airport to Assahibashi station. Fare: ¥260. From Assahibashi station to the bus terminal station takes 3 minutes by walk.
- About 21 minutes from the airport to Furushima station. Fare: ¥320. From Furushima station to the convention center takes 15 minutes by taxi.
Shuttle bus
Shuttle buses from Omoromachi station of “Yui rail” (monorail running in Naha city) to Okinawa Convention Center (OCC) will run according to the schedule below. Please pay ¥500 to the staff before riding (Only Japanese yen is acceptable). It takes around 40 min (depending on the traffic).

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Departure</th>
<th>Arrival</th>
<th>Cars</th>
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<tbody>
<tr>
<td>July 11th (Wed)</td>
<td>09:00 - 09:15</td>
<td>Omoromachi</td>
<td>OCC</td>
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<tr>
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<td>18:15 - 18:30</td>
<td>OCC</td>
<td>Omoromachi</td>
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</tr>
<tr>
<td>July 11th (Wed)</td>
<td>20:50 - 21:10</td>
<td>OCC</td>
<td>Omoromachi</td>
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</tr>
<tr>
<td>July 12th (Thu)</td>
<td>07:45 - 08:25</td>
<td>Omoromachi</td>
<td>OCC</td>
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<tr>
<td>July 12th (Thu)</td>
<td>18:15 - 18:30</td>
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<td>OCC</td>
<td>Omoromachi</td>
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<tr>
<td>July 12th (Thu)</td>
<td>22:45</td>
<td>OCC</td>
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<tr>
<td>July 13th (Fri)</td>
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<td>Omoromachi</td>
<td>OCC</td>
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<td>July 13th (Fri)</td>
<td>20:15 - 20:30</td>
<td>Laguna Garden Hotel</td>
<td>Omoromachi</td>
<td>4</td>
</tr>
</tbody>
</table>

Parking (OCC)
Free parking is available. Please follow the instructions of parking staff because parking area is restricted.
Shuttle buses from Omoromachi station of “Yui rail” (monorail running in Naha city) to Okinawa Convention Center (OCC) will run according to the schedule below. Please pay ¥500 to the staff before riding (Only Japanese yen is acceptable). It takes around 40 min (depending on the traffic).

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<td>20:15 - 20:30</td>
<td>Laguna Garden Hotel Omoromachi</td>
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</table>

Parking (OCC)
Free parking is available. Please follow the instructions of parking staff because parking area is restricted.

Reception (Main Entrance of "Conference Building A")
- Advanced registration
Please receive your participation certificate and congress bag at the reception desk.
Onsite registration of banquet is acceptable (Mixer was closed).
- Onsite registration
Please pay registration fees by cash (only JPY is acceptable).
Please fill in your name and affiliation on participation certificate and wear it during the conference.
Congress bag will be prepared for all participants.

Registration/Banquet/Mixer fees (on site)

<table>
<thead>
<tr>
<th></th>
<th>Registration</th>
<th>Banquet</th>
<th>Mixer (BBQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular participant</td>
<td>ASME member</td>
<td>12,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Non-member</td>
<td></td>
<td>13,000</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td></td>
<td>8,000</td>
<td>7,000</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Closed</td>
</tr>
</tbody>
</table>

Proceedings
Only PDF is available through the conference web site (http://meeting-jsme2018.com/).

Internet
Internet service (free WiFi) is available using the SSID below in OCC Convention building A&B.
Please note that the Internet connection using the SSID will be problematic when the connection is busy
SSID:  Free_WiFi-Convention_Center

Cloak room
Cloak room will be opened in the following schedule. The conference office will not bear any responsibility for loss or breakage of items.

<table>
<thead>
<tr>
<th></th>
<th>July 11th (Wed)</th>
<th>July 12th (Thu)</th>
<th>July 13th (Fri)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>9:30~20:45</td>
<td>8:30~20:30</td>
<td>8:30~17:30</td>
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<tr>
<td>Site</td>
<td>Reception desk</td>
<td>Reception desk</td>
<td>Reception desk</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Laguna Garden Hotel</td>
</tr>
</tbody>
</table>

Exhibition room
Companies will setup exhibition booth in room A2. Please visit exhibition room at least once during the conference.
**Lunch**

- Restraint, Self-café TAIYO-ICHIBA (70 seats), in OCC is available during the conference.
- Lunch on seminar is scheduled at room B1 on July 12th (12:00~12:50).
- Lunch box will be prepared on July 13th (100 meals). Please purchase lunch box coupon at the reception desk in advance.
- Otherwise, Ginowan Convention City, large shopping mall contains several restraints (500 meters to the south from OCC).

**Mixer (BBQ)**

Date and Time: July 11th (Wed) 18:30~20:30

Site: Ginowan Tropical beach

**Banquet**

Date and Time: July 13th (Fri) 18:00~20:00

Site: Laguna Garden Hotel (400 meters to the north from OCC)

**Precautions against the heat**

Please avoid prolonged exposure to the sun light and make sure to drink of water frequently to prevent heatstroke.
Presentation Guidelines

Oral presentation

- Please use your own PC to lecture.
- Only mini D-sub 15-pin (see below) is available on site. If necessary, please prepare a connector to mini D-sub 15-pin terminal by yourself.
- Please connect your PC to the monitor cable in 1-minute interval between presentations.
- Presentation time in Oral sessions 1-6 is 15 min (presentation 11 min, discussion 3 min, PC change 1 min). Note that the presentation times in ASME sessions 1-3 are different depending on the sessions.
- Laser pointer will be prepared in the room.

【Best presenter award】
Best presenters in Oral sessions 1-6 and ASME young scientist session will be commended; all presenters in the sessions will be candidates. The best presenters will give make presentations in “Best Presenter session” (Jul. 13th 16:00-17:00).

Poster presentation

- Schedule of poster presentation is as follows.
- Poster size should be within 90 cm (W) X 190 cm (H).
- Please use push pin prepared in the room for potting up posters.
- Please remove your poster in the poster removal time below; posters remaining after the time will be removed by 32th JSME/10th ASME office.

<table>
<thead>
<tr>
<th>No.</th>
<th>Posting</th>
<th>Presentationa)</th>
<th>Poster removal</th>
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</thead>
<tbody>
<tr>
<td>P1-001-150</td>
<td>July 11th 11:30</td>
<td>July 11th 15:30-18:00</td>
<td>July 12th 12:00-12:30</td>
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<tr>
<td>P2-001-150</td>
<td>July 12th 12:30</td>
<td>July 12th 15:30-18:00</td>
<td>July 13th 13:00-13:30</td>
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</tbody>
</table>

a) Odd number: 15:30~16:45; even number: 16:45~18:00

【Excellent poster award】
Excellent poster presenters will be commended; the presenters who entered the award will be candidates. The excellent poster presenters will be announced and commended in Banquet (Jul. 13th 18:00-20:00).

Symposium

Presentation guidelines are the same as for Oral presentation. Symposium organizer will manage the session.
# Schedule

## 11th July, Wednesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Conference building A</th>
<th>Conference building B</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00</td>
<td>Room No.</td>
<td>A1</td>
<td></td>
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<tr>
<td>11:00</td>
<td>Room No.</td>
<td>A2</td>
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<tr>
<td>12:00</td>
<td>Room No.</td>
<td>B1</td>
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<td>13:00</td>
<td>Room No.</td>
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<td>14:00</td>
<td>Room No.</td>
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<td>B4</td>
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<td>11:00</td>
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### Okinawa Convention Center (OCC)

**Conferences**

<table>
<thead>
<tr>
<th>Room No.</th>
<th>A1</th>
<th>A2</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
</tr>
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<tbody>
<tr>
<td>11:00</td>
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### Sessions

- **ASME Business Meeting** (in English)
  - 11:30-12:45
- **Ocean & Geomicrobiology** (in English)
  - 13:00-15:15
- **Genomics/Phylogeny & Taxonomy**
  - 13:00-15:15
- **Physiology & Metabolism**
  - 13:00-15:15
- **Symbiosis & Interaction**
  - 13:00-15:15

### Activities

- **Poster Session 1**
  - Odd number core time 15:30-16:45
  - Even number core time 16:45-18:00
- **Move to Ginowan Tropical Beach** (just behind OCC)
- **Mixer (BBQ on the beach)**

### Poster Session Schedule

<table>
<thead>
<tr>
<th>No. Posting</th>
<th>Presentation</th>
<th>Poster Removal</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1-001</td>
<td>150</td>
<td>July 11th 11:30 - 15:30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>July 12th 12:00-12:30</td>
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</tr>
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### Poster Size

- Poster size should be within 90 cm (W) X 190 cm (H).

### Push Pins

- Please use push pins prepared in the room for posting.

### Poster Removal Time

- Please remove your poster in the poster removal time below; posters remaining after the time will be removed by 32th JSME/10th ASME Office.

### Awards

- **Best Presenter Award**
  - Best presenters in Oral sessions 1-6 and ASME young scientist session will be commended.
  - All presenters in the sessions will be candidates.
  - The best presenters will give presentations in "Best Presenter session" (Jul. 13th 16:00-17:00).

- **Excellent Poster Award**
  - Excellent poster presenters will be commended.
  - The presenters who entered the award will be candidates.
  - The excellent poster presenters will be announced and commended in Banquet (Jul. 13th 18:00-20:00).

### Symposium Presentation

- Presentation guidelines are the same as for Oral presentation.
- Symposium organizer will manage the session.
### 12th July, Thursday

<table>
<thead>
<tr>
<th>Time</th>
<th>Conference building A</th>
<th>Conference building B</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Open</td>
<td>Open</td>
</tr>
<tr>
<td>9:00</td>
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</tr>
<tr>
<td>10:00</td>
<td>Poster session 1</td>
<td>ASME session 2</td>
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<td></td>
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<td>&quot;Frontier in Microbial Ecology &amp; Young Scientist Session&quot; (in English)</td>
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<td>Oral session 4</td>
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<tr>
<td></td>
<td></td>
<td>&quot;Extreme environment/Wastewater treatment/Material cycling&quot;</td>
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<tr>
<td>11:00</td>
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<td>Oral session 5</td>
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<tr>
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<td>&quot;Aquatic ecosystem&quot;</td>
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<td>Oral session 6</td>
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<tr>
<td></td>
<td></td>
<td>&quot;Plant &amp; Soil&quot;</td>
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<tr>
<td>12:00</td>
<td>Poster remove 12:00-12:30</td>
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<tr>
<td></td>
<td></td>
<td>Luncheon symposium</td>
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<td></td>
<td>&quot;Unconscious Bias in Academia&quot;</td>
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<tr>
<td></td>
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<td>Lunch time 75 min</td>
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<tr>
<td>13:00</td>
<td>Poster session 2</td>
<td>JSME symposium 2</td>
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<tr>
<td></td>
<td></td>
<td>&quot;Expedition to submillimetre habitat: Microscale technologies to unveil microbial dynamics in nature&quot; (in English)</td>
</tr>
<tr>
<td>14:00</td>
<td>Companies exhibition</td>
<td>JSME symposium 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Cutting-edge techniques in evolutionary/community ecology and frontiers in microbiology&quot;</td>
</tr>
<tr>
<td>15:00</td>
<td></td>
<td>ASME session 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Syntrophy&quot; (in English)</td>
</tr>
<tr>
<td>15:30</td>
<td>Short Break (15:20 - 15:30)</td>
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<tr>
<td>16:00</td>
<td>Poster session 2</td>
<td>JSME symposium 3</td>
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<tr>
<td></td>
<td>Odd number core time</td>
<td>&quot;Soil-Plant-Microbe: Moving beyond conventional approaches toward further understanding of plant holobiont&quot;</td>
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<td></td>
<td>15:30-16:45</td>
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<tr>
<td>17:00</td>
<td>Even number core time</td>
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<td>16:45-18:00</td>
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<td>18:00</td>
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### 13th July, Friday

<table>
<thead>
<tr>
<th>Time</th>
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<th>Theater</th>
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<tbody>
<tr>
<td>8:30</td>
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<tr>
<td>9:00</td>
<td>Poster session 2</td>
<td>JSME business meeting&lt;br&gt;9:00-10:00</td>
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<tr>
<td>10:00</td>
<td>Poster session 2</td>
<td>JSME Encouragement award&lt;br&gt;Microbes and Environments paper award&lt;br&gt;Ceremony &amp; Presentation&lt;br&gt;10:00-12:00</td>
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<tr>
<td>11:00</td>
<td>Companies exhibition</td>
<td>Lunch time 90 min</td>
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<tr>
<td>12:00</td>
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<td>13:00</td>
<td>Poster remove 13:00-13:30</td>
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<tr>
<td>14:00</td>
<td>Plenary Lectures&lt;br&gt;1. Yu Zhang (Chinese Academy of Science)&lt;br&gt;2. Jongsik Chun (Seoul National University)&lt;br&gt;3. Yuji Sekiguchi (National Institute of Advanced Industrial Science and Technology)&lt;br&gt;4. Ken Kurokawa (National Institute of Genetics)&lt;br&gt;13:30-16:30</td>
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<tr>
<td>15:00</td>
<td>Best presenters’ session&lt;br&gt;16:00-17:00</td>
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<tr>
<td>16:00</td>
<td>Move to Laguna Garden Hotel (10 minutes’ walk)</td>
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<tr>
<td>17:00</td>
<td>Banquet at Laguna Garden Hotel&lt;br&gt;Best presenter award/Excellent poster award ceremony&lt;br&gt;Closing ceremony</td>
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</table>

*Okinawa Convention Center*
ASME session 1
"Ocean & Geomicrobiology"

Date and time: July 11th (Wed) 13:00〜15:20
Room: B1

Conveners:
Sung-Geun Rhee, Chungbuk National University
Yin-Ru Chiang, Academia Sinica
Yuki Morono, JAMSTEC

Invited speakers:

| A1-1 | 13:00- | Distinctive microbial assemblages and their ecological function in permanently ice-covered lakes of the Dry Valleys, Antarctica |
|      |        | ○Ok-Seun Kim  
|      |        | Korea Polar Research Institute |

| A1-2 | 13:23- | Evolutionary genetic traits for thermal adaptation in Bacillales |
|      |        | ○Dong-woo Lee  
|      |        | Yonsei University |

| A1-3 | 13:46- | Steep redox gradient and biogeochemical processes driven by deeply-rooted fluids in a terrestrial mud volcano |
|      |        | ○Li-Hung Lin  
|      |        | National Taiwan University |

| A1-4 | 14:09- | H₂ accumulation by Ni limitation in Cyanothece |
|      |        | ○Sing-how Tuo  
|      |        | Academia Sinica |

| A1-5 | 14:32- | A primordial and reversible TCA cycle in a facultatively chemolithoautotrophic thermophile |
|      |        | ○Takuro Nunoura  
|      |        | JAMSTEC |

| A1-6 | 14:55- | Deep microbial ecosystems within Cretaceous igneous rocks |
|      |        | ○Yohey Suzuki  
|      |        | The University of Tokyo |
**ASME session 2**
"Frontier in Microbial Ecology & Young Scientist Session"

**Date and time**: July 12th (Thu) 9:00〜11:45  
**Room**: B1

**Conveners:**  
Woojun Park, Korea University  
Hsion-Wen David Kuo, Tunghai Univerisry  
Ryosuke Nakai, National Institute of Advanced Industrial Science and Technology

### Invited speakers for "Frontier in Microbial Ecology"

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2-1</td>
<td>Current Progress and Challenges in Microbial Source Tracking Based on Next-Generation-Sequencing</td>
<td>Tatsuya Unno</td>
<td>Jeju National University</td>
</tr>
<tr>
<td>A2-2</td>
<td>Skin Microbiome: Fragile skin microbiomes in megacities are assembled by a predominantly niche-based process</td>
<td>Woo-Jun Sul</td>
<td>Chung-Ang University</td>
</tr>
<tr>
<td>A2-3</td>
<td>Ecology of airborne fungi associated with respiratory allergy</td>
<td>Pi-Han Wang</td>
<td>Tunghai University</td>
</tr>
<tr>
<td>A2-4</td>
<td>Role of bacterial type VI secretion system in rhizobium-legume mutualistic symbiosis</td>
<td>Chi-Te Liu</td>
<td>National Taiwan University</td>
</tr>
<tr>
<td>A2-5</td>
<td>Challenging the dogma of bacterial membrane vesicle formation</td>
<td>Masanori Toyofuku</td>
<td>University of Tsukuba</td>
</tr>
</tbody>
</table>

### Speakers for "Young Scientist Session"

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2-6</td>
<td>Genomic insight into the predominance of candidate phylum Atribacteria JS1 lineage in marine sediments</td>
<td>Yung Mi Lee, Kuin Hwang, Jae Il Lee, Jongsik Chun, Soon Gyu Hong, Seung Chul Shin</td>
<td>Korea Polar Research Institute, Seoul National University</td>
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<tr>
<td>Session</td>
<td>Title</td>
<td>Authors</td>
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<tr>
<td>A2-7</td>
<td>Uncovering the bacterial community assembly pattern and novel populations in Baltic Sea surface waters</td>
<td>Poorna Weerarathna Vidanage, Seungdae Oh</td>
<td>1) Nanyang Technological University, 2) Kyung Hee University</td>
</tr>
<tr>
<td>A2-8</td>
<td>Plant microbial fuel cell for remediation of hexavalent chromium contaminated soil and treating mechanisms</td>
<td>Chung-Yu Guan, Chang-Ping Yu</td>
<td>Graduate Institute of Environmental Engineering, National Taiwan University, Taipei 106, Taiwan</td>
</tr>
<tr>
<td>A2-9</td>
<td>Microbial community composition and functional capacity in a terrestrial ferruginous, sulfate-depleted mud volcano</td>
<td>Tzu-Hsuan Tu, Li-Wei Wu, Yu-Shih Lin, Hiroyuki Imachi, Li-Hung Lin, Pei-Ling Wang</td>
<td>1) Institute of Oceanography, National Taiwan University, Taipei, Taiwan, 2) Department of Geosciences, National Taiwan University, Taipei, Taiwan, 3) Department of Subsurface Geobiological Analysis and Research, Japan Agency for Marine-Earth Science and Technology, Yokosuka, Japan, 4) The Experimental Forest, College of Bio-Resources and Agriculture, National Taiwan University, Nantou, Taiwan, 5) Department of Oceanography, National Sun Yat-sen University, Kaohsiung, Taiwan, 6) Research and Development Center for Marine Resources, Japan Agency for Marine-Earth Science and Technology, Yokosuka, Japan</td>
</tr>
<tr>
<td>A2-11</td>
<td>Nitrogen-fixing bacteria and nitrogenase activity in thermophilic chemosynthetic microbial communities at Nakabusa hot springs</td>
<td>Arisa Nishihara, Katsumi Matsuura, Shawn E McGlynn, Vera Thiel, Marcus Tank, Shin Haruta</td>
<td>1) Dept. of Biol. Sci., TMU, 2) ELSI, Titech, 3) BCRT, RIKEN, 4) BMSIS</td>
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</tbody>
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# ASME session 3

"Syntrophy"

**Date and time:** July 12th (Thu) 13:00~15:20  
**Room:** B3

**Conveners:**  
Taeho Lee, Pusan National University  
Chang-Ping Yu, National Taiwan University  
Takashi Narihiro, National Institute of Advanced Industrial Science and Technology

| 13:00- | A3-1 | Syntrophic association between exoelectrogenic bacteria and methanogenic archaea via granular activated carbon in anaerobic digestion | ○Hee-deung Park  
Korea university |
| 13:25- | A3-2 | The selective enrichment of syntrophs, methanogens and exoelectrogens on granular activated carbon in stage anaerobic fluidized bed membrane bioreactors (SAF-MBRs) | ○Giin-Yu Amy Tan  
Hong Kong Polytechnic University |
| 13:50- | A3-3 | Isolation of *Methanoculleus* species from deep-sea potential gas hydrate bearing area and their comparative genomic analyses | ○Sheng-Chung Chen  
National Chung Hsing University |
| 14:15- | A3-4 | Novel energy conservation strategies and behavior of *Pelotomaculum schinkii* driving syntrophic propionate catabolism | ○Catalina Hidalgo Ahumada  
Wageningen University |
| 14:50- | A3-5 | *Smithella propionica* LYP uses a novel fourth pathway for syntrophic propionate degradation | ○Masaru K Nobu  
National Institute of Advanced Industrial Science and Technology |
Plenary Lectures (特別講演)

Date: July 13th (Fri)  13:30 - 16:00
Hall: Theater Hall

[1] Horizontal gene transfer and management of antibiotic resistance in pharmaceutical wastewater treatment systems

○ Yu Zhang、Jiaqi Huyan、Yanhong Shi、Zhe Tian、and Min Yang

State Key Lab. of Environmental Aquatic Chemistry, Research Center for Eco-Environmental Sciences, University of Chinese Academy of Sciences, Chinese Academy of Sciences.
Correspondence: Yu Zhang (zhangyu@rcees.ac.cn)

The presence of high concentration antibiotics in wastewater can disturb the stability of biological wastewater treatment systems and promote generation of antibiotic resistance genes (ARGs) during the treatment. Therefore, it is of vital importance to understand the horizontal gene transfer behaviors of the ARGs in wastewater treatment systems.

Class 1 integron (intI1) is thought to be the smallest genetic element and play an important role in the spread of antibiotic resistance genes (ARGs). However, little is known about the response of intI1 in microbial community to different antibiotics’ stresses. IntI1 was found to be enriched with the increase of streptomycin and oxytetracycline concentrations. The aminoglycoside ARGs cassettes including increased from 22.4% to 57.4% with the increase of streptomycin dose from 0 to 50 mg/L. Though intI1 showed significant correlation with abundant tetracycline (tet) ARGs in oxytetracycline system, no tet genes were found as gene cassette. Further analysis of the flanking regions of intI1 showed that intI1 were found to be syntenic with tet genes, indicating co-selection contributes to the enrichment of intI1 under oxytetracycline stress.

For tetE, which was found to be the most prevalent tet genes in Aeromonas isolated from the treatment system. Three novel tetE-carrying mobile genetic elements and one phage integrase were found, including Tn6433, pAeca1-a, and pAeca2. The Tn6433 and variants were detected both in the chromosome and plasmid of Aeromonas, accounting for 75% under the oxytetracycline dose higher than 5 mg/L, indicating that Tn6433 may play a key role in the dissemination of tetE under high concentration of oxytetracycline.

In order to control the spread of ARGs during the treatment, we established a pretreatment method for antibiotic production wastewater including oxytetracycline using an enhanced hydrolysis process. Both lab and pilot studies demonstrated that the COD and ARGs could be simultaneous controlled by introducing the enhanced hydrolysis pretreatment for the treatment of production wastewater.

Keywords: Antibiotic production wastewater, Biological wastewater treatment, Antibiotic resistance genes, Horizontal gene transfer, Enhanced hydrolysis process
Prokaryotic taxonomy has been benefited from the successful introduction of the large-scale and cost-effective DNA sequencing technologies. This enables us towards the better and more detailed understanding of taxonomy and ecology of microorganisms. Next-generation sequencing (NGS) provides affordable means of sequencing whole bacterial genomes and has great potential to enable the objective, robust and automated scheme for classification and identification of Bacteria and Archaea. The use of genome data can readily facilitate automation of identification, as well as detect new species, in routine microbiological laboratories. For such a process, the high-quality, timely updated database is essential. Here, I will introduce the unified database of nomenclature, 16S rRNA genes, genome sequences and microbiome, previously introduced as EzBioCloud (formerly called EzTaxon). In this presentation, I will present (1) genome-based classification and identification of bacteria, (2) the utility of Pacific Biosciences error-free, chimera-free, full-length 16S sequencing, and (3) application to metagenomics and microbiome study. The latest version of 16S database for open-source pipelines (e.g. QIIME) is available at https://www.ezbiocloud.net/resources/16s_download

The presentation file will be posted for the download at https://www.ezbiocloud.net/pt/jsme (at the time of the conference).

Keywords: 16S rRNA, Genomics, Database, Identification, Microbiome
Despite ecological and biotechnological significance of microorganisms, our understanding of the microbial communities underpinning every natural and human-made ecosystems are still rudimentary because most microorganisms cannot be easily cultured. The study of these microbes has often been hampered by an inability to obtain a pure culture despite repeated and long term physical cell isolation and cultivation efforts. However, emerging metagenome-based techniques, such as differential coverage binning of metagenomic data, are providing new opportunities to isolate genomes of uncultured microbial lineages in silico, allowing us to perform genome-centric metagenomics involving even low abundance population genomes. In this talk, I would like to introduce recent technological advancements of genome-centric metagenomics and show examples of their applications.

環境中に存在する微生物の多くは研究室内では培養できず、その結果個々の微生物を手にとって調べることは未だ困難である。難培養微生物の機能や生態系での役割を理解するため、これまで物理的にそれらの細胞を分離し培養を行う研究が行われており、一定の成果をあげているものの、対象とする難培養微生物の種類の多さを考えた場合そのペースは遅すぎる。一方で、最近の情報生物学の技術的進展により、メタゲノム情報から複合微生物群を構成する個々の微生物群のゲノム（ポピュレーションゲノム）を抽出、再構築することが容易になった。これらの利用することで、複雑な微生物群集に優占して存在する微生物種だけでなく、優占度の低い微生物種の全ゲノム配列を高い精度で再構築することが可能になっている。これら一連の技術は、個々の微生物ポピュレーションに由来するゲノム情報を一つの単位として生態系の機能と構造全体を見ることを可能にし、genome-centric metagenomicsという研究アプローチに発展している。本講演では、本分野の技術的進展やこれら手法を利用して未培養微生物群の解析例を述べる。
We have been developing an integrated database for microbes, "MicrobeDB.jp", which integrates various data related to microbes by semantic web technology. MicrobeDB.jp is the huge scale knowledge base of microbes, which can be easily accessible to non-experts of microbiology. We have applied machine learning techniques to tens of thousands of metagenomic samples in the DB and developed a new system "LEA" which provides whole picture of microorganisms on the earth and enables to compare user samples with existing samples. Statistical modeling for unprecedented big data of microbiomes enables to automatically extract the microbial community types in various environments and to evaluate the features of the user sample more effectively than the previous methods. Our system can quickly evaluate the microbial community structures in new samples and detect "deviations" from the states commonly found in the source environment. Therefore, our technologies can lead to new diagnosis of diseases using human microbiomes and detection of environmental pollution. Furthermore, it can be applied to various fields of industry intended to analysis or control of microbiomes.

我々はセマンティックウェブ技術を徹底的に導入する事で微生物に関する多様な知識やデータをオントロジーによって整理・統合したデータベース「MicrobeDB.jp」を開発している。本データベース中の数万サンプルにおける微生物群集構造データに機械学習技術を適用し、地球上のあらゆる環境に生息する微生物群集の関連性を俯瞰的に評価するシステム「LEA (Latent Environment Allocation)」を開発した。MicrobeDB.jpの大規模データに機械学習を適用することで、微生物群集の形成に影響を与える環境パターンが自動的に抽出され、新規微生物群集サンプルの性質を高速に評価することが可能となることから、由来環境において一般的に見られる状態からの「逸脱」を的確に検出することが可能である。本システムは、ヒト共生微生物を利用した疾患の新たな診断や、環境汚染の検出、さらに創薬、化粧品、食品、健康、土木、建築、住宅、農業、畜産業、水産業、土壌改良、上下水・排水処理など、微生物群集の分析、制御などを目的とした事業全般に応用可能である。本講演では、統合データベースの活用方法や将来的展望に関して述べる。
Luncheon Seminar
“Woman Scientist Roundtable (WSR) and JSME Luncheon Symposium”

Date and time: July 12th (Thu) 12:00～12:50
Room: B1

Conveners:
Kyung-Hwa Beak, National Biodiversity Institute of Korea
Pi-Han Wang, Tunghai University
Naoko Yoshida, Nagoya Institute of Technology
Organized by ASME Woman Scientist Network and JSME Committee for the Promotion of Diversity and Gender Equality

Invited speaker:

Unconscious Bias in Academia
Michele Thompson
Okinawa Institute of Science and Technology
<table>
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<tr>
<th>Room B2</th>
<th>Room B1</th>
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<tbody>
<tr>
<td>S1-1〜S1-5</td>
<td>S2-1〜S2-4</td>
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**JSME Symposium**

12th July, Thursday

**Room B2**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>S1-2</td>
<td>Agroecosystem dynamics and fluctuating interaction networks of microbial communities&lt;br&gt;時間変動する微生物群集の相互作用ネットワークと農生態系の動態&lt;br&gt;〇Masayuki Ushio①、②&lt;br&gt;①) JST, PRESTO ②) CER, Kyoto Univ.</td>
</tr>
<tr>
<td>S1-3</td>
<td>Microbial ecology and genome features&lt;br&gt;微生物の生態とゲノムの特徴&lt;br&gt;〇Haruo Suzuki&lt;br&gt;Inst. Adv. Biosci., Keio Univ.</td>
</tr>
<tr>
<td>S1-4</td>
<td>Microbial ecosystem revealed by multi-lakes' comparative environmental genomics&lt;br&gt;複数湖の比較環境ゲノム解析から紐解く微生物の生態系&lt;br&gt;〇Yusuke Okazaki①、②&lt;br&gt;①) Bioproduction Research Institute, AIST ②) JSPS Research Fellow (PD)</td>
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<tr>
<td>S1-5</td>
<td>Exploring core microbiomes for designing ecosystems&lt;br&gt;コア共生微生物を見出し、生態系を設計する&lt;br&gt;〇Hirokazu Toju①、②&lt;br&gt;①) Center for Ecological Research, Kyoto University ②) JST PRESTO</td>
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**Room B1**

<table>
<thead>
<tr>
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<th>Abstract</th>
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<tbody>
<tr>
<td>S2-1</td>
<td>Expedition to submillimetre habitat: Microscale technologies to unveil microbial dynamics in nature&lt;br&gt;(Speak in English; Slides are written in English)</td>
</tr>
<tr>
<td>S2-2</td>
<td>Single-cell analysis to understand the behavior of bacterial cells&lt;br&gt;〇Setsu Kato&lt;br&gt;AdSM, Hiroshima Univ.</td>
</tr>
<tr>
<td>S2-3</td>
<td>Miniscule space designing for microbial cultivation&lt;br&gt;〇Yoshiteru Aoi&lt;br&gt;Dept. Molecular Biotechnol., Hiroshima Univ.</td>
</tr>
<tr>
<td>S2-4</td>
<td>Probing phytoplankton-bacteria interactions with in situ microtechnology&lt;br&gt;〇Bennett Lambert①、②、Jean-Baptiste Raina③、Lauren Messer④、Nachshon Siboni③、Donovan Parks④、Vicente Fernandez③、Christian Rinke④、Sammy Frenk④、Philip Hugenholtz④、Gene Tyson④、Justin Seymour③、Roman Stocker②&lt;br&gt;①) MIT-WHOI Joint Program in Ocean Science and Engineering ②) ETH Zurich ③) University of Technology Sydney ④) University of Queensland</td>
</tr>
<tr>
<td>S2-5</td>
<td>Integrating microfluidics, robotics and noninvasive cell analysis technologies: Toward controlled ecophysiological studies at single-cell resolution&lt;br&gt;マイクロ流体テクノロジー、ロボティクス、非破壊細胞分析の統合：1細胞解像度のライブ生態学に向けて&lt;br&gt;〇Yutaka Yawata&lt;br&gt;Faculty of Life and Environmental Sciences, Univ. of Tsukuba</td>
</tr>
</tbody>
</table>
### S3-1
**Considering plant-microbe interactions at the cellular level ~a journey to understand a thousand microbes begins with a single microbe~**
植物と細菌相互作用を細胞レベルで考える 〜千種の微生物も一種から〜
○Shigeyuki Betsuyaku  
Fac. Life & Env. Sci., Univ. Tsukuba

### S3-2
**An approach to stipulate the rhizosphere: analysis of the dynamics of isoflavones in soybean rhizosphere**
代謝物の動態解析から根圏を規定できるか？〜ダイズ根圏でのイソフラボンを例として〜
○Akifumi Sugiyama  
RISH, Kyoto Univ.

### S3-3
**Pathogenic R-body-production in legume symbiont Azorhizobium caulinodans**
セスバニア根粒菌の宿主殺傷能 〜巨大構造体R-bodyを生産する意義〜
○Toshihiro Aono  
BRC, The Univ. of Tokyo

### S3-4
**Transmission of plant-associated microbes through soil and seed**
土壌を介した植物共生微生物の伝播 〜共生・病原微生物のソースは土壌か種子か〜
○Nobutaka Someya  
NIVFS/NARO

### S3-5
**Plant microbiome: Can we find key interactions between plant and microbe from holobiome?**
植物マイクロバイオーム研究: ホロビオームから鍵となる新規相互作用や微生物を見出せるか
○Kiwamu Minamisawa  
Graduate School of Life Sciences, Tohoku Univ.
**Oral Presentation**
(Speak in Japanese or English; Slides are written in English)

### 11th July, Wednesday  13:00〜15:15

#### Room B2

<table>
<thead>
<tr>
<th>Session 1: Genomics / Phylogeny &amp; Taxonomy</th>
<th>口頭発表1: ゲノム科学・系統分類</th>
</tr>
</thead>
</table>
| **O1-1** 13:00-  | Non-invasive lipid productivity analysis by single-cell innate fluorescent signature  
1細胞自家蛍光シグネチャー解析による油脂生産性の仮想的ラベリング  
○Tomohiro Hirayama1、Shiomi Yawata3、Yuhki Kawamura4、Nobuhiko Nomura3、  
Yutaka Yawata3  
| **O1-2** 13:15-  | Molecular mechanism of methylotaxis in *Methylobacterium aquaticum* strain 22A  
○Yuuki Haruna、Akio Tani  
IPSR, Okayama Univ |
| **O1-3** 13:30-  | Comparative metatranscriptomics reveals extracellular electron transfer pathways in electrogenic microbiomes conferring microbial adaptability to surface redox potential changes  
メタトランスクリプトーム解析によって解き明かす電気微生物の表面電極電位変化への応答  
○Shun'ichi Ishii1、Shino Suzuki2、Kenneth H. Nealson3  
1) R&D Center for Submaribe Resources, JAMSTEC 2) KCC, JAMSTEC 3) USC |
| **O1-4** 13:45-  | Algal polysaccharide degrading bacteria isolation and genetic background characterization  
海藻多糖分解菌の単離およびその遺伝的バックグラウンドの関連性・特性  
○Tetsushi Mori1、Yasuhiro Yokoiz2、Toshiyuki Shibata3、Reiji Tanaka3、Hideo Miyake3、Mitsuyoshi Ueda4  
| **O1-5** 14:00-  | Phylogenomic analysis of catalase genes of lactic acid bacteria in the order *Lactobacillales*  
乳酸菌(*Lactobacillales*)ゲノムにおけるcatalaseの遺伝子分布と構造  
○Daisuke Fukuda1、Kouhei Mizuno2  
1) GlaxoSmithKline 2) National institute of technology, Kitakyushu college |
| **O1-6** 14:15-  | Morphological and genomic characterization of a novel phagotrophic bacterium *Candidatus "Uab amorphum"*  
新奇捕食性バクテリア*Candidatus "Uab amorphum"*の形態及びゲノム特性について  
○Takashi Shiratori1、3、Shigekatsu Suzuki2、Yukako Kakizawa3、Ken-ichiro Ishida1  
1) Univ. of Tsukuba 2) NIES 3) JAMSTEC |
| **O1-7** 14:30-  | Molecular phylogenetic analysis of *Acanthamoeba castellanii medusavirus*  
*Phylum Acanthamoebidae*分子系統学的解析  
○Masaharu Takemura1、Genki Yoshikawa3、Keita Aoki1、Tomohiro Mochizuki3、  
Romain Blanc-Mathieu2、Chihong Song1、Kazuyoshi Murata4、Hiroyuki Ogata2  
| **O1-8** 14:45-  | [ASME] Skin biofilm-derived *Propionibacterium acnes* genotypes are unique to each individual  
皮膚バイオフィルムを構成するアクネ菌遺伝子型は個人固有である  
○Jiayue Yang1、4、Mia Yoshikawa1、Tomoya Tsukimi1、Kenta Suzuki2、Masaru Tomita1、Shinji Fukuda5、6  
1) Inst. Adv. Biosci., Keio Univ. 2) NIES 3) KISTEC-KAST 4) TMRC, Tsukuba Univ. 5) JST PRESTO 6) Metabologenomics, Inc. |

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*Note: The text is a transcription of the schedule and presentations as they appear on the page. The abstracts include research topics such as genomics, phylogeny, and taxonomic studies. The presentations are scheduled between 13:00 and 15:15, with breaks indicated by a hyphen.*
Session 2: Physiology and Metabolism

**O2-1**
**13:00-13:15**
Glycogen Metabolism of Anammox Bacteria *Candidatus Brocadia sinica*: Comparison of Growing, Stationary, and Starvation Phase

O Amrini Shafdar, Satoshi Okabe
Hokkaido University

**O2-2**
**13:15-13:30**
Isolation Process and Genomic Analysis of Nitrite Oxidizer *Nitrotoga* sp. Provide Insights on Physiological Characteristics and Clues to Promote the Growth

O Kento Ishii, Hirotsugu Fujitani, Yuji Sekiguchi, Satoshi Tsuneda

**O2-3**
**13:30-13:45**
Unveiling acetate- and CO₂-utilizing microbiota under methanogenic conditions in *Sasa* - - invaded wetland soils

O Tomo Aoyagi, Cuong Ho, Takashi Narihiro, Daisuke Mayumi, Atsushi Ogata, Hiroshi Habe, Tomoyuki Hori
1) EMRI, AIST 2) IET, VAST 3) BPRI, AIST 4) GREEN, AIST

**O2-4**
**13:45-14:00**
Is the retinal-synthesizing gene (*blh*) essential for rhodopsin-containing bacteria?

O Yu Nakajima, Satoko Doi, Keiichi Kojima, Yuki Sudo, Kazuhiro Kogure, Susumu Yoshizawa

**O2-5**
**14:00-14:15**
Characterization of *E. coli* drug efflux pump involved in bisphenol A resistance

O Tsunemoto Kaga, Toshiyuki Nikata, Yasuzo Sakai
Eng., Utsunomiya Univ.

**O2-6**
**14:15-14:30**
[ASME] Exogenous addition of biosurfactants to disrupt *Pseudomonas aeruginosa* PA01 biofilms

O Bac V.G Nguyen, Andrew S. Utada, Nobuhiko Nomura
Graduate School of Life and Environmental Sciences, University of Tsukuba

**O2-7**
**14:30-14:45**
Microbiome in awamori moromi (mash) affecting the flavours and its application of awamori production

O Kaoru Nakasone, Takato Saeke, Akifumi Nishida, Masayuki Yamamura
1) Sch. Eng., Kindai Univ. 2) Info., Tokyo Tech

**O2-8**
**14:45-15:00**
Visualization of temporal dynamics of single-cell innate fluorescence signature

O Yuhi Kawamura, Tomohiro Hirayama, Hiroki Watanabe, Tatsunori Kiyokawa, Nobuhiko Nomura, Yutaka Yawata
O3-1 Metatranscriptomics reveals ecology of chemosynthetic ectosymbiosis of the deep-sea squat lobster, *Shinkaia crosnieri*

Room B4, Session 3: Symbiosis and Interaction

Room B4

**O3-1 13:00-**

*Metatranscriptomics reveals ecology of chemosynthetic ectosymbiosis of the deep-sea squat lobster, *Shinkaia crosnieri***

Koari Motoki1), Yumi Baba (Mori)1), Takasei Kusube1), Katsuhide Miyake1), 2)


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**O3-2 13:15-**

*Microbial community structure in gastrointestinal tracts of wood-eating crab*  

O3-2

Yasunori Baba1), Nobuhiro Goto1), Yumi Baba (Mori)1), Takasei Kusube1), Katsuhide Miyake1), 2)


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**O3-3 13:30-**

*Comparative genome analysis of two endosymbiotic* *Treponema* *species of cellulolytic protists in the termite gut*

O3-3

Masahiro Yuki1), Hirokazu Kuwahara2), Satoko Noda1), 3), Yuichi Hongoh1), 2), Moriya Ohkuma1)


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**O3-4 13:45-**

*Analysis of gene functions related to quorum sensing in Roseomonas sp. TAS13 isolated from an activated sludge*

O3-4

Eri Nasuno1), Yuya Sasaki1), Tomohiro Suzuki2), Norihiro Kato1)

1) Utsunomiya University 2) Utsunomiya University, C-Bio
Analyses of Adapting Processes for Growth Repressing Effects by *Pseudomonas* sp. strain C8

*Pseudomonas* sp. C8菌の増殖抑制物質に対する適応プロセスの解析

〇Masahiro Honjo1), Kenshi Suzuki2), Tomoka Nishimura3), Fatma Azwani4), Kensei Masuda3), Ayaka Minoura3), Yusuke Tashiro1), 2), Hiroyuki Futamata1), 2), 5)


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12th July, Thursday  
9:00 〜 11:45

### Session 4: Extreme Environment / Material Cycling / Wastewater Treatment

**Room B2**

**O4-1**  9:00-

Deep-sea geochemist meets microbial ecologist

〇Shinsuke Kawagucci, Hiroyuki Yamamoto

JAMSTEC

**O4-2**  9:15-

Vertical profiles of chemical state of inorganic sulfur and sulfur-oxidizing bacteria in launched marine sediment by tsunami

〇Hideyuki Ihara1), Tomoyuki Hori1), Tomo Aoyagi1), Mitsu Takasaki2), Yoko Katayama3)

1) EMRI, AIST 2) Faculty of Science and Engineering, Ishinomaki Senshu University 3) Center for Conservation Science, Tokyo National Research Institute for Cultural Properties

**O4-3**  9:30-

[ASME] Syntrophic association between sulfur disproportionating bacterium and anoxygenic photosynthetic bacterium, *Chloroflexus aggregans*

〇Shigeru Kawai, Katsumi Matsuura, Shin Haruta

Dept. Biol. Sci., Tokyo Metropolitan Univ.

**O4-4**  9:45-

Microbial adaptive evolution to the extreme geochemistry occurring at the serpentinitization systems

〇Shino Suzuki1), Shin‘ichi Ishii2), J. Gijs Kuenen3), Kenneth H. Nealson4)

1) KCC, JAMSTEC 2) JAMSTEC 3) TU Delft 4) USC

**O4-5**  10:00-

Crude oil biodegradation and methane production in a high-temperature oil field

〇Hanako Mochimaru1), Daisuke Mayumi1), Susumu Sakata1), Hideyoshi Yoshioka1), Hideyuki Tamaki2), Yoichi Kamagata2)

1) AIST 2) AIST

**O4-6**  10:15-

[ASME] Enrichment and Function Study of A High-temperature Methanogenic n-alkane Degrading Microbial Community

〇Bo Tu1), 2), Laiyan Liu1), 2), Lirong Dai1), 2), Hui Zhang1), 2), Lei Cheng1), 2)

1) Key Laboratory of Development and Application of Rural Renewable Energy 2) Biogas Institute of Ministry of Agriculture

**O4-7**  10:30-

[ASME] Interspecies electron transfer driving syntrophy in mesophilic and thermophilic propionate-degrading anaerobic chemostats

〇Yating Chen1), Masaru Konishi Nobu2), Takashi Narihiro3), Dan Zheng1), Huizhong Wang1), Yueqin Tang1)

1) College of Architecture and Environment, Sichuan University 2) Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)

**O4-8**  10:45-

[ASME] Hydrogen production using hybrid MEC with TiO2 photoanode

〇Kinam Kim, Hwapyong Kim, Su-il In

DGIST, Daegu Gyeongbuk Institute of Science and Technology
<table>
<thead>
<tr>
<th>O4-9</th>
<th>Effect of lactate and riboflavin on arsenic-mobilizing microbial communities</th>
</tr>
</thead>
</table>
| 11:00- | 〇Shigeki Yamamura\(^1\), Yuta Kashiwabara\(^2\), Tomoyuki Hori\(^3\), Tomo Aoyagi\(^3\), Seigo Amachi\(^2\)  
1) NIES 2) Fac. Horticult., Chiba Univ. 3) AIST |

<table>
<thead>
<tr>
<th>O4-10</th>
<th>Enrichment of bacterial community that precipitates antimony in water phase</th>
</tr>
</thead>
</table>
| 11:15- | 〇Masashi Kuroda\(^1\), Kentaro Mori\(^1\), Hisaaki Hosokawa\(^1\), Hiroshi Nishikawa\(^2\), Daisuke Inoue\(^1\), Satoshi Soda\(^3\), Michihiko Ike\(^4\)  

<table>
<thead>
<tr>
<th>O4-11</th>
<th>Metabolic strategy of predatory bacteria in a complex microbiome</th>
</tr>
</thead>
</table>
| 11:30- | 〇Yuya Sato, Tomohiro Inaba, Tomoyuki Hori, Hiroshi Habe  
EMRI, AIST |

<table>
<thead>
<tr>
<th>Room B3</th>
<th>Session 5: Aquatic Ecosystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>O5-1</td>
<td>To use light or to avoid it? Light-adaptation strategies in marine Flavobacteria</td>
</tr>
</tbody>
</table>
| 9:00-    | 〇Susumu Yoshizawa\(^1\), Yohei Kamagai\(^1\), Kazuhiro Kogure\(^1\), Wataru Iwasaki\(^1\), \(^2\), \(^3\)  

| O5-2    | Ecological effects of labyrinthine protists in the marine environment estimated from their biomass |
| 9:15-    | 〇Yoko Hamamoto\(^1\), \(^2\), Takanori Shono\(^3\), Ryosuke Nakai\(^3\), Mayumi Ueda\(^5\), Daiske Honda\(^7\), \(^1\)  
1) Graduate School of Natural Science, Konan University 2) Institute for Integrative Neurobiology, Konan University 3) Faculty of Science and Engineering, Konan University 4) Bioproduction Research Institute, AIST 5) Research Inst. of Environment, Agriculture and Fisheries, Osaka Prefecture |

| O5-3    | Viruses of eukaryotic plankton: insight into their diversity, host range and role in carbon export |
| 9:30-    | 〇Romain Blanc-Mathieu, Hiroto Kaneko, Rodrigo Hernandez-Velazquez, Hisashi Endo, Hiroyuki Ogata  
Kyoto University |

| O5-4    | Metagenomic insights into the microbial life in the oligotrophic Pacific Ocean |
| 9:45-    | 〇Koji Hamasaki\(^1\), Shotaro Suzuki\(^1\), Yuya Tada\(^1\), \(^2\), \(^3\), Wataru Arai\(^1\), Yoshitoshi Ogura\(^1\), Tetsuya Hayashi\(^1\), Hiroshi Mori\(^5\), Ken Kurokawa\(^5\), Hitotaka Takami\(^3\)  
1) AORI, The Univ. of Tokyo 2) National Institute for Minamata Disease 3) JAMSTEC 4) Graduate School of Medical Science, Kyushu Univ. 5) National Institute of Genetics |

| O5-5    | [ASME] Biodiversity of the coral-killing sponge Terpios hoshinota-associated Bacteria in the western Pacific Ocean |
| 10:00-   | 〇Sen-Lin Tang\(^1\), \(^2\)  
1) Biodiversity Research Center, Academia Sinica 2) Biodiversity Program, Taiwan International Graduate Program, Academia Sinica and National Taiwan Normal University 3) Department of Life Science, National Taiwan Normal University 4) Department of Chemistry, Biology and Marine Science, University of the Ryukyus 5) Department of Fishery Resources Utilization, Borgor Agricultural University 6) Tropical Marine Biological Research Station in Hainan, Chinese Academy of Sciences 7) Institute of Chemistry and Biology of the Marine Environment, University of Oldenburg |
O5-6 10:15- Transcriptome analysis of immune response in the coral Acropora digitifera against infection of pathogenic bacterium Vibrio coralliilyticus

病原細菌Vibrio coralliilyticusに対するサンゴAcropora digitifera免疫応答のトランスクリプトーム解析
Toshiyuki Takagi1), Yuki Yoshioka1), Yoshikazu Ohno2), Yuna Zayasu2), Noriyuki Satoh2), Chuya Shinzato1)  
1) AORI, Univ. of the Tokyo  2) MGU, OIST

O5-7 10:30- [ASME] Preliminary Results of the Stagnant Water Microbiome Project [SWaMP]

Matan Shelomi
National Taiwan University

O5-8 10:45- Distribution and predicted origin(s) of macrolide resistance genes mef(C)-mph(G) in Taiwan waters

台灣北部の河川におけるマクロライド耐性遺伝子mef(C)-mph(G)の分布と発生源の推定
Yuta Sugimoto1), Jer-Horng Wu2), Hsin-Yiu Chou3), Satoru Suzuki1)  
1) CMES, Ehime University  2) National Cheng Kung University  3) National Taiwan Ocean University

O5-9 11:00- Ecological and hygienical roles of bacteria selection at a blackish water area

汽水域の微生物選択作用が担う生態学的および衛生的役割
Tsukasa Ito1), Naoki Kuribara1), Shota Inagaki2), Yuta Koyama1), Naoki Noguchi2), Yu Yamanashi1)  

O5-10 11:15- Characterization and Producing Process of Bio-minerals Produced by Sulfate-Reducing Bacteria

硫酸還元細菌の生成するバイオミネラルの特性と生成プロセスの解析
Yuki Kudo1), Shota Ando1), Kazuki Yasuike1), Yuki Wakebe2), Yosuke Tashiro1), Hiroyuki Futamata1), 3) 4)  

O5-11 11:30- Dispersal of microbes to the deep subseafloor biosphere to the hydrosphere through mud volcanoes

海底下深部生命圏から水深中の泥火山を通した微生物の拡散
Tatsuhiko Hoshino1), Tomohiro Toki2), Akira Ijiri1), Yu Morono1), Juichiro Ashi3), Fumio Inagaki1)  
1) KCC, Jamstec  2) Faculty of Science, Univ. of the Ryukyus  3) AORI, The Univ. of Tokyo

Room B4 06-1〜06-11 Session 6: Soil and Forest Ecosystem
口頭発表6：土壌と植物の微生物

O6-1 9:00- [ASME] Identification and isolation of a keystone species in the rhizosphere microbiome of tomato resistant to bacterial wilt

キミチキノソウ根圏微生物相から耐菌性トマトのキーストーン種の分離と同定
Jihyun F. Kim Kim1), Min-Jung Kwak1), Soon-Kyeong Kwon1), Ju-Yeon Song1), Seon-Woo Lee2)  
1) Yonsei University  2) Dong-A University

O6-2 9:15- Traits of Burkholderia kururiensis, an important diazotrophic endophyte inhabited the root of a rice line, pLIA-1 derived from a cross between Oryza longistaminata and O. sativa ssp. japonica

アフリカイネOryza longistaminataとO. sativa ssp. japonicaの交雑後代系統イネpLIA-1根に棲息する窒素固定エンドファイトBurkholderia kururiensisの性質と挙動
Yasuyuki Hashidoko1), Seiji Tachibana1), Gyeryeong Bak1), Masahiko Maekawa2)  
1) Res. Fac. of Agric., Hokkaido Univ.  2) IPSR, Okayama Univ.

O6-3 9:30- Illumina-based analysis of Rhizosphere and Endosphere Bacterial Communities related to Halophytes Glaxus maritima and Salicornia europaea

塩生植物ウミミドリおよびアッケシソウの根圏・内生細菌相の解析と比較
Kosuke Yamamoto1), Yuh Shiba1), Taichiro Ishibe2), Hikaru Sakamoto3), Masataka Uchino1), Naoto Tanaka1), Suguru Oguri3), Hiromasa Saitoh1), Seiya Tsuchiya1)  
Phylogeny and physiological characteristics of a novel *Bacteroidetes* bacterium KFE18 promoting microalgae growth

Ayaka Makino¹, Ryosuke Nakai¹, Yasuko Yoneda¹, Yasuhiro Tanaka³, Tadashi Toyama⁴, Kazuhiro Mori⁴, Michihiko Ike⁵, Masaaki Morikawa², Yoichi Kamagata¹, Hideyuki Tamaki¹  

Denitrification is lower in *Bradyrhizobium japonicum* than in *B. diazoefficiens* due to impaired nitrate reductase activity

Fernandes Siqueira Arthur, Minamisawa Kiwamu, Sanchez Cristina  
Microbial Symbiosis Lab, Tohoku Univ.

Genetic and biochemical diversity for N-acetylhomoserine lactone biosynthesis in plant pathogen *Pectobacterium carotovorum*

Tomohiro Morohoshi¹, Yuto Ogasawara¹, Yudai Ito¹, Xiaonan Xie², Nobutaka Someya³  

Solidification of soil using microbial function

Takamichi Nakamura, Masaharu Endou, Eri Taniguchi
KUMAGAIGUMI

Isolation and taxonomic classification of novel ktedonobacterial strains from a soil in Mt. zao and "Tengu-no-mugimeshi"

Chiuong-Mei Wang¹, Yu Zheng¹, Yasuteru Sakai¹, Hideaki Miyashita², Keietsu Abe¹, Akira Yokota¹, Shuhei Yabe¹  

An incubation experiment examining the carbon dynamics during the thawing of a frozen soil core collected at a black spruce forest, Interior Alaska

Hirohiko Nagano¹  
1) Graduate School Horticulture, Chiba Univ.  2) International Arctic Research Center, University of Alaska Fairbanks  3) Division of Polar Climate Sciences, Korea Polar Research Institute

Molecular diversity of arbuscular mycorrhizal fungi along pH gradients from different habitats in Hungary

Istvan Paradi¹, Ramona Kovacs¹, Tunde Takacs¹, Fuzy Anna¹, Agnes Zold-Balogh¹, Attila Engelner¹, Bernadett Berecz², Tibor Szili-Kovacs¹  

Fates of Antibiotic Resistance Genes in Cattle Manure after Aerobic Composting and the Resistome Dissemination in Agricultural Soils

Min Guo¹, Hang-Wei Hu¹, Yue-Qin Tang¹, Ji-Zheng He²  
1) College of Architecture and Environment, Sichuan University, Chengdu, Sichuan 610065, China  2) Faculty of Veterinary and Agricultural Sciences, The University of Melbourne, Parkville, Victoria 3010, Australia
## Poster Presentation

Session 1 (P1-) : 11th July Wednesday 11:30 ~ 12th July Thursday 12:00  
Core time: odd number 11th July 15:30 ~ 16:45 / even number 11th July 16:45 ~ 18:00

Session 2 (P2-) : 12th July Thursday 12:30 ~ 13th July Friday 13:00  
Core time: odd number 12th July 15:30 ~ 16:45 / even number 12th July 16:45 ~ 18:00

### 11th July (Wednesday), Room A1

<table>
<thead>
<tr>
<th>P1-001 ~ P1-009</th>
<th>Soil Ecosystem</th>
</tr>
</thead>
</table>

#### P1-001 Difference in microbial community structure of lotus production soil by influence of replant problem

レンコン栽培実圃場の連作障害有無における微生物群集構造の違い

〇Hazuki Kurashita1, Yuga Hirakata2, Motonori Takagi3, Masashi Hatamoto3, Shinya Maki3, Takeshi Yamaguchi3, Toru Aoi4, Kyohei Kuroda1

1) NIT, Miyakonojo College 2) Nagaoka Univ. of Tech. 3) Ibaraki Agric. Cent. 4) NIT, Gunma College

#### P1-002 Microflora in Arctic Wetland Soils of a Taiga-Tundra Ecotone in Northeastern Siberia

北東シベリアタイガ - ツンドラ境界域湿地土壌の微生物叢

〇Jun Murase1, Atsuko Sugimoto2, Ryo Shingubara3, Trofim C. Maximov4


#### P1-003 Environmental factors affecting the activities of nitrogen fixation and denitrification in the peatland of Ozegahara Mire, Central Japan

尾瀬ヶ原における泥炭土壌の窒素固定活性と脱窒活性に影響を及ぼす環境要因の検討

〇Haruka Shigeta1, Kazuyuki Inubushi1, Mitsuru Sakamoto2

1) Soil Science, Chiba Uni. 2) Environmental Science, Univ. of Shiga Pref.

#### P1-004 Cultivation of Novel Nitrite Oxidizer *Nitrospira* from Acidic Soil

酸性土壌に由来する新規な亜硝酸酸化細菌 *Nitrospira*の培養

〇Yu Takahashi1, Hirotugu Fujitani2, 3, Yuhei Hirono4, Masahito Hayatsu4, Satoshi Tsuneda1, 2


#### P1-005 A study on the effect of application of different organic materials on soil bacterial communities under flooded condition

施用する有機物の構成成分の違いが淹水条件下の土壌細菌群に与える影響に関する研究

〇Kazuki Suzuki2, Aya Kaneko3, Natsumi Wada3, Naoki Harada4

1) Center for Transdisciplinary Research, Institute for Research Promotion, Niigata Univ. 2) Graduate School of Science and Technology, Niigata Univ. 3) Faculty of Agriculture, Niigata Univ. 4) Institute of Science and Technology, Niigata Univ.

#### P1-006 Effect of drying and rewetting on greenhouse gas emission in different fertility soils with biochar

乾湿の繰り返しおよびバイオ炭が炭素含量の異なる土壌の温室効果ガス放出に及ぼす影響

〇Manami Shiga1, Kátai János2, Andrea Balláné Kovács2, Imre Vágo2, Magdolna Tallai2, Kazuyuki Inubushi1

1) laboratory of soil science, Chiba University 2) University of Debrecen
**P1-007** Temporal variation of microbial community in the biodegradable plastic film-buried soil
生分解性プラスチックPBSAフィルム埋設土壌における微生物群集の経時的変化
○Shun Tsuboi1), Yuko Takada Hoshino1), Hirohide Uenishi2), Natsuki Oomae3), Tomotake Morita1), Kimiko Yamamoto-Tamura1), Yuko Sameshima-Yamashita1), Ayaka Kishimoto-Mo1), Hiroyuki Kitamoto1)
1) NIAES, NARO 2) NIAS, NARO 3) ISC, AIST

**P1-008** Semi-ubiquitous presence of iron reducing bacterial nif genes in terrestrial soils
陸域土壌における鉄還元菌窒素固定遺伝子の分布ー水田だけではない!?鉄還元菌による窒素固定ー
○Yoko Masuda1), Hideomi Itoh2), Yutaka Shiratori3), Seigo Amachi4), Keishi Senoo1) 1) Graduate school of agricultural and life sciences, The University of Tokyo 2) AIST, Hokkaido 3) Niigata Agricultural Research Institute 4) Graduate school of Horticulture, Chiba University 5) Collaborative Research Institute for Innovative Microbiology, The University of Tokyo

**P1-009** Assessment of soil fertility using voltage of microbial fuel cell
微生物燃料電池の電位を用いた土壌肥沃度の評価の可能性
○Hiroshi Yukimoto, Shohei Ebe, Tatsuya Ohike, Masahiro Okanami, Takashi Ano
Grad. Sch. BOST, Kindai Univ.

**P1-010** Aquatic Ecosystem

**P1-010** Succession of bathymetric microbial community in deep-sea hydrothermal plumes
微生物群集構造遷移から推定される深海漸深層における微生物の役割
○Michinari Sunamura
EPS, Univ. of Tokyo

**P1-011** Quantification of single-stranded viruses in the marine environment
海洋環境中の一本鎖DNAウイルス群の新規定量解析
○Mitsuhiko Yoshida1), Yukari Yoshida-Takashima1), Miho Hirai2), Yoshihiro Takaki1), Takuro Nunoura2), Ken Takai1)
1) D-SUGAR, JAMSTEC 2) R&D Center for MB, JAMSTEC

**P1-012** Abundance, diversity and cultivation of anaerobic protists in anoxic lacustrine sediments
湖沼堆積物における嫌気性原生生物の現存量、多様性と単離培養
○Ryuji Kondo, Taka-fumi Kataoka

**P1-013** Contribution of the polyphosphate accumulating bacteria to phosphorus dynamics in river water
河川から高頻度に検出されるポリリン酸蓄積細菌がリン動態に及ぼす影響
○Keiji Watanabe1), Wataru Suda2), Sho Morohoshi3), Tadao Kunihiro3)
1) CESS 2) RIKEN IMS 3) TechnoSuruga Lab.

**P1-014** Enrichment of marine bacteria with adding a halocarbon, Bromoform (CHBr3)
ハロゲン化炭素プロモルホムによる海洋細菌の集積培養
○Takafumi Kataoka1), Atsushi Ooki2), Daiki Nomura2)
1) MST, Fukui Pref. Univ. 2) Faculty of Fisheries Sci., Hokkaido Univ.

**P1-015** Transitions of dissolved organic matter composition and bacterial community structure in long-term biodegradation assay of lake water
長期生分解実験における湖水の溶存有機物組成と細菌群集構造の変化
○Taisuke Nakajima1), Ikuro Kasuga1), Futoshi Kurisu1), Hiroaki Furumai2)
1) dUE, Grad. Univ. of Tokyo 2) RECWET, Grad. Univ. of Tokyo

**P1-016** Changes in sediment bacterial community composition in response to seasonal hypoxia in an enclosed bay, for four consecutive years
季節的な貧酸素化に対する閉鎖性内湾の堆積物細菌群組成の変動
○Fumiaki Mori1), Yu Umezawa1), Ryuji Kondo1), Minoru Wada1)
1) GFES, Nagasaki Univ. 2) GSA, Tokyo Univ. Agr. and Tech. 3) MST, Fukui Prefectural Univ.
**P1-017** Significant decrease in nitrification rates by Arctic environment changes
北極環境変動は硝化速度を低下させる
Takuhei Shiozaki, Minoru Iijichi, Akiko Makabe, Amane Fujiwara, Koji Sugie, Shigeto Nishino, Chisato Yoshikawa, Naomi Harada
1) RCGC, JAMSTEC 2) AORI, UTokyo 3) SIP, JAMSTEC 4) IACE, JAMSTEC 5) Department of Biogeochemistry, JAMSTEC

**P1-018** [ASME] Elevational patterns and hierarchical environmental determinants of biodiversity across taxonomic scales
北極環境変動は硝化速度を低下させる
Chih-Fu Yeh, Jianjun Wang, Janne Soininen, Anette Teittinen
1) Department of Geosciences and Geography, University of Helsinki 2) Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences 3) Institute of ecology and evolution, National Taiwan Univ

**P1-019** [ASME] Kibdelomycin A, a novel natural algicide with low toxicity to nontarget organisms
 Ying Xu
Shenzhen Engineering Laboratory for Marine Algal Biotechnology, College of Life Sciences and Oceanography, Shenzhen University

**P1-020** [ASME] Lysing activity of *Aeromonas* sp. L23 against cyanobacteria and green algae under varying nutrient conditions
Susmita Das Nishu, Yunhee Kang, Han Il, Tae Kwon Lee
1) Student, Department of Environmental Engineering, Yonsei University, Wonju 26493, Republic of Korea 2) Postdoctoral Researcher, Department of Environmental Engineering, Yonsei University, Wonju 26493, Republic of Korea 3) Assistant Professor, Department of Environmental Engineering, Yonsei University, Wonju 26493, Republic of Korea

**P1-021** Finding viruses in the deep biosphere: Improved extraction and enumeration from subseafloor sediment
Donald Pan, Yuki Morono, Fumio Inagaki, Ken Takai
1) Department of Subsurface Geobiological Analysis & Research, JAMSTEC 2) Kochi Core Center, JAMSTEC

**P1-022**~**P1-037** Wastewater Treatment

**P1-022** Visualization of uncultured microorganisms in sludge of the EGSB reactor by using HCR-FISH
Yuki Okazaki, Jun Harada, Takeshi Yamada, Atsushi Nakano, Tsuyoshi Yamaguchi
1) NIT, Matsue College Dept. of Civil and Environ. 2) Toyohashi Univ. of Tech. Dept. of Environ. and Life Sci. 3) Sumitomo Heavy Industries Environment Co., Ltd.

**P1-023** Hydrogen anaerobic denitrification and its microbial community structure
Tatsuru Kamei, Yuya Tsutsumi, Rawintra Eamrat, Yuki Yoneyama, Yasuhiro Tanaka, Tadashi Toyama, Futaba Kazama
1) ICRE, Univ. of Yamanashi 2) Integ., Grad., Sch. of Med., Eng., & Agri., Sci., Univ. of Yamanashi 3) Dept. of Life Environ., Univ. of Yamanashi

**P1-024** Energy recovery from sewage wastewater by microbial fuel cell
Mari Sugiooka, Naoko Yoshida, Akihiro Iwata, Hirokazu Matsubara, Mitsuhiro Sakoda, Yoshinori Genda, Kazuki Iida

**P1-025** Effect of fluid flow on microbial electricity production from sewage wastewater
Kohei Miyazaki, Ken Fujii, Naoko Yoshida
Dept. of Civil Eng., Nitech
P1-026 Ammonia/Nitrite Removal Capability and Community Structures of Bacteria Attached to Wooden Plastics

Eri Kumita¹, Yukari Iwasaki², Akihiro Saito¹, ³

P1-027 Methane production in the fed-batch Microbial Fuel Cell

Masaki Umetsu³, Yasuhiro Fukuda¹, Hideyuki Takahashi², Chika Tada¹

P1-028 Mn oxidation performances of bioreactors enriched on different organic substrates

Taiki Ota¹, Ahmad Shoiful¹, Akiyoshi Ohashi¹, Noriatsu Ozaki¹, Tomonori Kindaichi³, Yoshiteru Aoi²
¹ Env. Presev. Eng., Hiroshima Univ. ² Grad. Sch. of Adv. Sci. of Mat., Hiroshima Univ.

P1-029 Bacterial consortia for textile waste water treatment

Yu Yamanashi, Miyuki Yamashita, Tsukasa Ito
Dept Env Eng Sci, Gunma Univ

P1-030 Archaeal community structure of the anaerobic granular sludge developed in the UASB reactor feeding with isopropyl alcohol and tetramethylammonium-hydroxide containing wastewater

Tsuyoshi Danshita¹, Yuma Miyoka¹, Haruhiko Sumino³, Akinori Iguchi³, Norihisa Matsura³, Takashi Yamaguchi¹, Kazuaki Syutsuoka⁵
¹ NUT ² NIT, Gifu College ³ NUPALS ⁴ Kanazawa Univ. ⁵ NIES

P1-031 Mutant strains of Pseudomonas resinovorans oxidizing Mn (II) at high Mn (II) concentrations

Shuji Matsushita¹, Yoshiteru Aoi², Tomonori Kindaichi³, Noriatsu Ozaki¹, Akiyoshi Ohashi³
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P1-032 Effects of inhibitors on the structure of acetate- and propionate-degrading methanogenic microbial community

Hui-Zhong Wang, Min Gou, Yue Yi, Yue-Qin Tang
Sichuan University

P1-033 Wastewater is the main source of proliferation and accumulation of antibiotic resistance genes in the freshwater environment

Jin Ju Kim¹, Hoon Je Seong¹, Woo Jun Sul¹, Jong-Chan Chae²
¹ Department of Systems Biotechnology, Chung-Ang University, Anseong, Republic of Korea ² Division of Biotechnology, Chonbuk National University, Iksan 54596, Republic of Korea

P1-034 Microbiomes in eleven sludges originated from four full-scale WWTPs in Korea

Sunja Cho¹, Myeonghwa Park², Youngok Lee³
¹ Dept. of Microbiology, Pusan National University ² Dept. of Environmental Engineering, Pusan National University ³ Dept. of Biological Sciences, Daegu University

P1-035 The study of electricity production and phosphate recycling using flat plate microbial fuel cell (FPMFC).

Li-Hsun Haung, Chang-Ping Yu
Graduate institute of environmental engineering (GIEE), National Taiwan University
P1-036 [ASME] Performance analysis of biocathode with liter-scale membrane-less microbial fuel cells and its evaluation to drive a humidity and temperature sensor by power management system
○Chao-Chin Chang, Chang-Ping Yu
Graduate Institute of Environmental Engineering (GIEE), National Taiwan University

P1-037 High Throughput Metagenomic Analyses for Viral Communities within Reclaimed Water from Campus Sewers
○Hsion-Wen David Kuo, Shi-Le Wang
Department of Environmental Science and Engineering, Tunghai University, Taichung, Taiwan

P1-038 Bioaugmentation for trichloroethene- contaminated ground water with Dehalococcioides
Dehalococcioides属細菌を用いたトリクロロエチレン汚染地下水のバイオオーグメンテーション
○Noriya Okutsu
KURITA

P1-039 Search for Nitrous oxide consumption bacteria from Collapsing Palsa, Finland
フィンランド・パルサ崩壊地から亜酸化窒素消去菌の探索
○Yuta Takatsu, Teemu Tahvanainen, Yasuyuki Hashidoko
1) Ecochem, Univ of the Hokkaido 2) Univ of Eastern Finland

P1-040 Microbial community analysis in degradation of polycyclic aromatic hydrocarbons (PAHs) by cooperation effect of marine oligochaete and microorganisms
海産ミミズと微生物の協同的な多環芳香族炭化水素(PAHs)の減衰における微生物群集構造解析
○Mana Ito, Katsutoshi Ito, Takeshi Hano, Motoharu Uchida
FEIS, FRA

P1-041 Analysis of microbial communities involved in anaerobic biodegradation of chlorinated ethenes based on DNA and RNA
DNAおよびRNAに基づくクロロエチレン類の嫌気分解微生物叢の解析
○Miho Yoshikawa, Ming Zhang
Geological Survey of Japan, AIST

P1-042 Screening of phenol-degrading bacteria indicating plant growth promoting activity for Lemnoidae
ウキクサ亜科植物の生育を促進するフェノール分解菌の検索
○Tomoki Iwashita, Yasuhiro Tanaka, Hideyuki Tamaki, Yasuko Yoneda
1) Fac. Engineer., Univ. of Yamanashi 2) Fac. Life Environ. Sci., Univ. of Yamanashi

P1-043 Bromate reduction by Shewanella sp. M-Br in the presence of chelated iron
鉄を介して臭素酸を還元する？〜Shewanellaの新たな可能性を探る〜
○Hiroko Fujiya, Seigo Amachi
Horticul, Univ. of the Chiba

P1-044 Molecular characterization of opdA homologs and nmoA, genes involved in nonylphenol degradation
ノニルフェノール分解酵素遺伝子opdA同様体およびnmoAの分子学的特性
○Mina Ootsuka, Yoko Yoshioka-Ikunaga, Tomoyasu Nishizawa, Morifumi Hasegawa
1) Tokyo Univ. of Agric. Tech., United school of Agric. sci. 2) Ibaraki Univ., College of Agric.
* P1-045 [ASME] *Bacteroides sedimenti* sp. nov., a novel species of the genus *Bacteroides* which enhances the dechlorination of cis-chloroethene by Dehalococcoides enriched culture
   ○Mohamed Ismaeil1), Naoko Yoshida2), Arata Katayama3), 4)
   1) Graduate School of Environmental Studies, Nagoya University, Japan 2) Graduate school of Engineering, Nagoya Institute of Technology, Japan 3) Department of Civil Engineering, Graduate School of Engineering, Nagoya University, Japan 4) Institute of Materials and Systems for Sustainability (IMaSS), Nagoya University, Japan

P1-046 Network and Gene Expression of Functional Dechlorinating Community in the chloroethenes-contained sites
   ○Hui-Ping Chuang1), Henry Yew2), Jia-Jun Tee2), Liang-Ming Whang1), 2) Tsair-Fuh Lin1), 2)
   1) Sustainable Environment Research Laboratories, National Cheng Kung University, Taiwan 2) Department of Environmental Engineering, National Cheng Kung University, Taiwan

P1-047~P1-061 Phylogeny and Taxonomy

P1-047 Comparison of bacterial diversity among the Awa Bancha tea leaves produced at Tokushima prefecture, Japan
   ○Takanori Satoh1), Mitsuki Fujii2), Seiji Arai2), Daiki Komahara2), Maki Takeda2), Ai Hasegawa2), Mariko Nakae3), Kenji Akiyoshi4)

P1-048 Characterization of a novel *Bacteroidetes* bacterium, strain WSM2-2, isolated from soil
   ○Masataka Aoki1), Masataka Kusube2), Masashi Hatamoto3), Takashi Yamaguchi4)

P1-049 Cultivation-independent and -dependent analyses of rhizosphere soil- and root-associated bacteria in *Pteridium aquilinum* in Shonai-Asahi mountainous region, Yamagata
   ○Tsukine Hanawa1), Daisuke Arai2), Yoshiaki Iiduka2), Yuniar Devi Utami3), Takumi Murakami3), Yuichi Hongo3)

P1-050 Microbial community structure analysis in *Acer palmatum* bark and isolation of bacteria belonging to Candidate division FBP
   ○Kazuki Kobayashi, Hideki Aoyagi
   Grad. Sch. Life Environ. Sci., Univ. Tsukuba

P1-051 Phylogenetic position of aerobic anoxygenic phototrophic bacteria newly isolated from a river within the order *Rhodobacterales*
   ○Setsuko Hirose, Shin Haruta, Satoshi Hanada
   Tokyo Metropolitan University

P1-052 Unveiling the diversity of osmotrophic cercozoan species
   ○Akinori Yabuki1), Takashi Shiratori1), Chihaya Fujii1), 2) Katsunori Fujikura1)
   1) Bio-Dive, JAMSTEC 2) Faculty of Agriculture, Tohoku Univ.
○Soyeon Lee, Woorim Kang, Hojun Sung, Junyoung Lee, Nari Shin, Ji hyun Yun, Pilsoo Kim, Jeongeun Han, Yunseok Jeong, Mija Jeong, Dongwook Hyun, Hyunsik Kim, Eunjeong Tak, Jinwoo Bae
Department of Life and Nanopharmaceutical Sciences and Department of Biology, Kyung Hee University

* P1-054 [ASME] The culture-dependent analysis of the gut bacterial communities of the Korean marine invertebrates
○Yunseok Jeong, Woorim Kang, Hojun Sung, Junyoung Lee, Ji hyun Yun, Eunjeong Tak, Nari shin, Pilsoo Kim, Soyeon Lee, Jeongeun Han, Hyunsik Kim, Dongwook Hyun, Mija Jeong, Minsoo Kim, Taewoong Won, Jinwoo Bae
Department of Life and Nanopharmaceutical Sciences and Department of Biology, Kyung Hee University

P1-056 [ASME] Blautia hominis sp. nov., isolated from human faeces
○Na-ri Shin, Woorim Kang, Euon Jung Tak, Dong-Wook Hyun, Pil Soo Kim, Hyun Sik Kim, June-Young Lee, Hojun Sung, Tae Woong Whon, Jin-Woo Bae
Department of Biology, Kyung Hee University

P1-057 [ASME] Taxonomic Diversity of Microbial Community on Cucumber (Cucumis sativus) cultivated in South Korea
Da Young Jeon1, Su Jin Yum1, Seung Min Kim2, Hye Jin Lee1, Dong Woo Seo1, Hee Gon Jeong1
1) Department of Food Science and Technology, Chungnam National University, Daejeon, Korea 2) Department of Human Ecology, Korea National Open University, Seoul, Korea

* P1-058 [ASME] Description of Ciceribacter sp. nov., Isolated from landfill soil
Ji-Young Kim4, So-Hyun Park1, Hong-Shik Oh2, Sang Hun Byun3
1) Department of Aquatic Life Medicine, Jeju National University, Jeju 63243, Korea 2) Department Faculty of Science Education, Jeju National University, Jeju 63243, Korea 3) GL International Co., Ltd, Jeju 63309, Korea 4) Research institute for basic science, Jeju National University, Jeju 63243, Korea 5) Jeju Biological Resource Co., Ltd, Jeju 63242, Korea

* P1-059 [ASME] Description of Gramella LPB144T sp. nov.
○Sungmi Choi1, Hana Yi1, 2, 3, Su-Kyoung Shin2
1) Department of Public Health Sciences, Graduate School, Korea University, Seoul, Republic of Korea 2) School of Biosystem and Biomedical Science, Korea University, Seoul, Republic of Korea 3) Institute for Biomaterials, Korea University, Seoul, Republic of Korea

P1-060 [ASME] Bacterial Community Analysis and Antibacterial Activity Isolated from Umbraulva japonica
Moo-Soo Heo, Ji-Hyun Kim, So-Hyun Park, Kyung-Mi Moon
Marine Applied Microbes and Aquatic Organism Disease Control Lab, Department of marine Life Science, Jeju National University, Jeju 63243, Republic of Korea

P1-061 [ASME] Emticicia fluvii sp. nov., a species of the family Cytophagaceae isolated from fresh water
○Yochan Joung, Hye-jin Jang, Jaeho Song, Jang-Cheon Cho
Department of Biological Science, Inha University, Incheon 22212, Republic of Korea
P1-062 Dehalogenation of chloroform by marine anaerobic bacteria
Oceanic anaerobic bacteria for chloroform degradation
Kenji Matumura1), Takeshi Terahara3), Chiaki Imada3), and Hiroyuki Fuse2)
1) SIT  2) SIT  3) Tokyo Univ. of Marine Science and Technology

P1-063 Analysis of genes involved in phosphate-taxis of Stenotrophomonas maltophilia
Phosphate taxis in Stenotrophomonas maltophilia
Yu Yanagisawa, Toshiyuki Nikata, and Yasuzou Sakai
Utsunomiya Univ.

P1-064 Isolation and comparative genomics of Sicyoidochytrium minutum DNA virus (SmDNAV) strains infecting Thraustochytrids
Isolation and comparative genomics of Sicyoidochytrium minutum DNA virus (SmDNAV) strains infecting Thraustochytrids
Yoshitake Takao1), Takayuki Shimeki2)
1) Fukui pref. univ. Marine Science and Technology  2) Fukui pref. univ. Graduate School of Bioscience and Biotechnology

P1-065 Unusual features found in genome sequences of Halorhodospira halochloris
Unusual features found in genome sequences of Halorhodospira halochloris
Yusuke Tsukatani1), Hitoshi Tamiaki2), and Yuu Hirose3)
1) MFbio, JAMSTEC  2) Grad. Sch. Life Sci., Ritsumeikan Univ.  3) EIIRIS, Toyohashi Tech.

P1-066 Functional analysis of Bacillus subtilis’ membrane vesicle
Functional analysis of Bacillus subtilis’ membrane vesicle
Takamitsu Soma1), Tatsuya Yamamoto2), Masanori Toyofuku2), Nozomu Obana2), and Nobuhiko Nomura2)

P1-067 Bidirectional conversion of P. aeruginosa from social to asocial
Bidirectional conversion of P. aeruginosa from social to asocial
Yuki Suzawa1), Masasiro Toya1), Masanori Toyofuku2), Nozomu Obana2), Kazuhiro Kogure3), and Nobuhiko Nomura2)

P1-068 Heterogeneous production of phage-like bacteriocin in Bacillus subtilis
Heterogeneous production of phage-like bacteriocin in Bacillus subtilis
Tatsuya Yamamoto, Masanori Toyofuku, Nobuhiko Nomura
Faculty of Life and Environmental Sciences, Univ. of Tsukuba

P1-069 Characterization of a MazEF module, a well conserved toxin-antitoxin system, in Clostridium perfringens
Characterization of a MazEF module, a well conserved toxin-antitoxin system, in Clostridium perfringens
Akiko Yokota1), Tatsuki Miyamoto1), 2), Yuri Ota1), 2), Masako Tsuruga1), Satoshi Tsuneda2), and Naohiro Noda1), 2)

P1-070 Construction of Efficient Organochlorine Pesticide Degraders by Using an Artificial Gene Cluster
Construction of Efficient Organochlorine Pesticide Degraders by Using an Artificial Gene Cluster
Lijun Su, Hiromi Kato, Yoshiyuki Ohtsubo, Masataka Tsuda, and Yuji Nagata
Graduate School of Life Sciences, Tohoku Univ.

P1-071 Novel lytic DNA virus from Methanoculleus taiwanensis
Novel lytic DNA virus from Methanoculleus taiwanensis
Mei-Chin Lai, Wen-Hsin Wei, Sheng-Chung Chen
Department of Life Sciences, National Chung Hsing University, Taichung, Taiwan
**P1-072 [ASME]** Genome analysis of *Rubritalea profundi* SAORIC-165\(^{7}\) isolated from deep seawater in the northwestern Pacific Ocean

O Jaeho Song\(^{1}\), Ilnam Kang\(^{1}\), Yochan Joung\(^{1}\), Susumu Yoshizawa\(^{2}\), Ryo Kaneko\(^{3}\), Koji Hamasaki\(^{2}\), Jang-Cheon Cho\(^{1}\), Kazuhiro Kogure\(^{3}\)

1) Inha University 2) Atmosphere and Ocean Research Institute, The University of Tokyo 3) National Institute of Polar Research

**P1-073 [ASME]** Systemic total IgE levels are determinant for dysbiosis of microbial dysbiosis occurred in inferior turbinate of nasal cavity in allergic rhinitis patient

O Dong-Wook Hyun, Min-Soo Kim, Tae Woong Whon, Na-Ri Shin, Pil Soo Kim, Hyun Sik Kim, June Young Lee, Eun Jung Tak, Hojun Sung, Jin-Woo Bae

Kyung Hee University

**P1-074 [ASME]** Development of a microbial cultivation and sorting technique based on water-in-oil emulsion

O Kanako Saito\(^{1}\), Yuri Ota\(^{1}\), Satoko Matsukura\(^{2}\), Taeko Takagi\(^{2}\), Masamune Morita\(^{2}\), Satoshi Tsuneda\(^{1}\), Naohiro Noda\(^{1}\)


**P1-075 [ASME]** Who is the most diverse? Cross kingdom comparison of oceanic plankton biodiversity

O Yanze Li, Hiroyuki Ogata

ICR, Kyoto Univ.

**P1-076 [ASME]** X-ray computed nano-tomography for visualizing microbial cells and its surrounding environments

O Yuki Morono\(^{1}\), Goichiro Uramoto\(^{2}\), Kentaro Uesugi\(^{4}\), Akihisa Takeuchi\(^{4}\), Masayuki Uesugi\(^{4}\), Kengo Kubota\(^{2}\), Tatsuhiko Hoshino\(^{1}\), Fumio Inagaki\(^{1}\)

1) KCC, JAMSTEC 2) KCC, Kochi University 3) JASRI/SPring-8 5) Tohoku University 6) ODS, JAMSTEC

**P1-077 [ASME]** Modelling and Control of Fermentation by Microbial Ecosystem

O Akifumi Nishida\(^{1}\), Kaoru Nakasone\(^{3}\), Masayuki Yamamura\(^{1}\)

1) Info, Tokyo Tech 2) Biotech and Chem, Kindai Univ

**P1-078 [ASME]** Detection of *E.coli* by a novel sensitive FISH using click chemistry

O Ayano Yamasaki

National Institute of Technology, Matsue College

**P1-079 [ASME]** Directional statistics modeling of prokaryotes genome quantity

O Shinya Suzuki, Takuji Yamada

Dept. of Life Science and Technology, Tokyo Tech

**P1-080 [ASME]** The novel sorting method using magnetic nanoparticles to gain the microbial populations with different utilizing rate of the substrate in a complex environment

O Jee Hyun No, Eun Sun Lyou, Soo Bin Kim, Tae Kwon Lee

Yonsei university
P1-082 Unique labyrinthulomycete lineages in aquatic mosses inhabiting an Antarctic lake

1) AIST 2) Univ. of Tsukuba 3) Toho J&H H.S. 4) NIPR 5) Keio Univ. 6) SOKENDAI

P1-083 Current generation and electron absorption by shewanella isolated from a deep-sea hydrothermal field

Mariko Shitara1), Masahiro Yamamoto2), Akiko Tanizaki2), Hiroyuki Kashima2), Takuro Nunoura2), Ken Takai2)
1) Nanobio, Grad. Sch. of Yokohama City Univ. 2) JAMSTEC

P1-084 Cultivation of electrosynthetic microorganisms by using deep-sea hydrothermal power generation

Masahiro Yamamoto, Akiko Tanizaki, Miwako Tsuda, Yoshihiro Takaki, Ken Takai
JAMSTEC

P1-085 Characterization of temperate phages induced from Persephonella sp

Yukari Yoshida, Yoshihiro Takaki, Takuro Nunoura, Ken Takai
JAMSTEC

P1-086 Evidence for denitrification in deep aquifer

Kanta Ashinuma1), Makoto Matsushita4), Yu Sato5), Masahiro Uchino2), Hiroyuki Kimura1), 2), 3)
1) Graduate School of Integrated Science and Technology, Shizuoka Univ. 2) Department of Geoscience faculty of Science, Shizuoka Univ. 3) Green Science and Technology, Shizuoka Univ. 4) Department of Biogeochemistry, JAMSTEC. 5) Graduate School of Engineering, Osaka Univ.

P1-087 Ecophysiology of previously uncultivated thermophiles revealed by long-term continuous cultivation and metagenomics

Shingo Kato1), 2), Sanae Sakai1), Miho Hirai1), Eiji Tasumi1), Manabu Nishizawa1), Katsuhiko Suzuki1), Ken Takai1)
1) JAMSTEC 2) JCM, RIKEN-BRC

P1-088 Improvement of Terrestrial Groundwater Sampling Method Significantly Affects the Results of Microbial Community in Terrestrial Lignite Seams

Akio Ueno1), Satoshi Tamazawa1), Shuji Tamamura1), Noritaka Aramaki1), Badrul AKM Alam1), Takuma Murakami1), Shinji Yamaguchi2), Hideo Aoyama2), Junya Yamagishi3), Hideyuki Tamaki4), Daisuke Mayumi5), Takeshi Naganuma6), Katsuhiko Kaneko1)
1) H-Rise 2) Mitsubishi Material Co. Ltd. 3) Hokkaido University 4) AIST BPRI 5) AIST Geo-Res. Env. 6) Hiroshima University

P1-089 Ecophysiology of a novel thermophilic N2O-reducing epsilonproteobacterium isolated from a deep-sea hydrothermal field

Muneyuki Fukushi1), Hirohisa Tanaka1), Sayaka Mino1), Satoshi Nagasawa2), 3), Ken Takai3), Tomoo Sawabe1)
1) Faculty of Fisheries Sciences, Hokkaido University 2) Graduate School of Agriculture, Kyoto University 3) Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
* **P1-090** Distribution pattern of microbial communities in the shallow-water hydrothermal field off Kueishan Island, Taiwan

台湾亀山島の浅海熱水活動域に生息する微生物群集の分布様式

○Chiaki Tominaga1), Sayaka Mino1), Jesse McNichol2), Benny Chan3), Sen-Lin Tang3), Satoshi Nakagawa4), 5), Junichi Miyazaki5), Ken Takai5), Tomoo Sawabe1)
1) Faculty of Fisheries Sciences, Hokkaido University  2) Department of Biological Sciences, University of Southern California  3) Biodiversity Research Center, Academia Sinica  4) Graduate School of Agriculture, Kyoto University  5) Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

**P1-091** Characterization of a novel mesophilic bacterium in the class Thermotogae isolated from a hydrothermal field

海底熱水域より分離したThermotogae綱に属する新規中温性細菌sy52株の諸性状

○Koji Mori1), Kenta Sakurai1), Takeshi Kakegawa2), Satoshi Hanada3)
1) NBRC, NITE  2) Tohoku Univ.  3) Tokyo Metro. Univ.

**P1-092** Polyphasic characterization of novel acidophilic bacterium strain KY-1 isolated from Yubatake, Kusatsu hot spring

草津温泉湯畑から分離した新規好酸性細菌KY-1株の多相分類学的解析

○Suzuka Kajiwara, Norio Kurosawa
Grad. Sch. Soka Univ

**P1-093** Taxonomic study of a novel thermoacidophilic archaeon Acidianus sp. strain HS-5 isolated from Unzen hot spring in Japan

雲仙温泉から分離した新規好熱好酸性アーキアAcidianus sp. HS-5株の分類学的解析

○Hiroyuki Sakai1), 2), Norio Kurosawa1)
1) Grad. Sch. Soka Univ.  2) JSPS Research Fellow DC2

**P1-094** Changes in marine microbial communities along salinity gradients

○Haneul Kim, Heeyoung Kang, Inseong Cha, Jinkyeong Kang, Kiseong Joh
Hankuk University of Foreign Studies

## Interface and Biofilm

* **P1-095** Characterization of biofilm formation and degradation of biodegradable plastic films by bacterial isolates from seawater

生分解性プラスチック分解活性を有する海洋性バイオフィルム形成細菌の機能解析

○Kento Ogata1), Jing Lu1), Shunsuke Sato2), Tomohiro Morohoshi1)
1) Grad. Sch. Eng., Utsunomiya Univ.  2) Kaneka Corp.

* **P1-096** Analysis of dissolved-saccharide component in the interstitial water of biofilm formed on the surface of stones in several rivers

河川の石表面上バイオフィルムの間隙水に含まれる溶存糖酸成分の解析

○Yuki Tsuchiya1), Erina Hirota2), Akihiro Kitamura2), Hisao Morisaki2)

* **P1-097** Iron starvation-dependent biofilm formation and metal corrosion on stainless steel by marine isolate FT01

海洋単離株FT01の鉄飢餓に依存したステンレス鋼へのバイオフィルム形成および金属腐食

○Nanako Ito1), Hiroki Watanabe1), Tomohiro Inaba3), Nozomu Obana4), Yasuyuki Miyano5), Nobuhiko Nomura4)

* **P1-098** Localization of alginate production in mucoidy Pseudomonas aeruginosa biofilms

緑膿菌ムコイド株のバイオフィルム中におけるアルギン酸産生の局在解析

○Kanako Itagaki1), Masanori Toyofuku2), Nozomu Obana3), Andrew Utada3), Nobuhiko Nomura2)
<table>
<thead>
<tr>
<th>P1-099</th>
<th>Biofilm formation by <em>Bacillus subtilis</em> and its effect on the microbial fuel cell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yuji Fukumoto, Hiroshi Yukimoto, Shohei Ebe, Tatuya Ohike, Masahiro Okanami,</td>
</tr>
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<td>Takashi Ano</td>
</tr>
<tr>
<td></td>
<td>Grad. Sch. BOST, Kindai Univ., Wakayama, Japan</td>
</tr>
</tbody>
</table>

* P1-100 [ASME] Microbial community analysis of anode and cathode biofilm
  ○Huei-Chen Chen¹, Chang-Ping Yu¹  
  ¹) Graduate Institute of Environmental Engineering (GIEE), National Taiwan University

* P1-101 [ASME] Performance of different external resistances on anaerobic activated
  sludge in laminar flow microbial fuel cells
  ○Zhong-Xian Wu¹, Chang-Ping Yu¹  
  ¹) Graduate Institute of Environmental Engineering (GIEE), National Taiwan University

P1-102～P1-121 Symbiosis and Interaction

<table>
<thead>
<tr>
<th>P1-102</th>
<th>Reproducibility of reconstruction of soil microbial community</th>
</tr>
</thead>
</table>
|         | Hiromi Kato², Hiroshi Mori³, Ken Kurokawa¹, Masataka Tsuda¹, Yuji Nagata¹  
  ¹) Graduate School of Life Sciences, Tohoku University  
  ²) NIG

<table>
<thead>
<tr>
<th>P1-103</th>
<th>Isolation of carrageenan/alginate degrading bacteria and understanding macroalgae-microbe relationships</th>
</tr>
</thead>
</table>
|         | Yasuhito Yoko², Toshiyuki Shibata³, Reji Tanaka³, Hideo Miyake², Tetsushi Mori³  

<table>
<thead>
<tr>
<th>P1-104</th>
<th>Analysis of competitive exclusion and niche differentiation among bacterial species associated to duckweed <em>Lemna minor</em></th>
</tr>
</thead>
</table>
|         | Hidehiro Ishizawa¹, Masashi Kuroda¹, Kanako Inoue², Daisuke Inoue¹, Masaaki Morikawa³, Michihiko Ike¹  
  ¹) Graduate School of Engineering, Osaka Univ.  
  ²) Research Center for Ultra-High Voltage Electron Microscopy, Osaka Univ.  
  ³) Graduate School of Environmental Science, Hokkaido Univ.

<table>
<thead>
<tr>
<th>P1-105</th>
<th>Microbial community analysis and cultivation of predominant microorganisms in button mushroom media utilizing sewage sludge</th>
</tr>
</thead>
</table>
|         | Kyohi Kuroda¹, Manami Kotsusa¹, Yujiro Tokuda², Shoji Ikeda³, Yuga Hirakata³, Masashi Hatamoto³, Masayoshi Yamada³, Takashi Yamaguchi³, Fumio Yagi³, Masahito Yamauchi³  
  ¹) NIT, Miyakonojo College  
  ²) NIT, Kagoshima College  
  ³) Nagaoka Univ. of Tech.  
  ⁴) Kagoshima Univ.

<table>
<thead>
<tr>
<th>P1-106</th>
<th>Intracellular symbiosis in lygaeoid species</th>
</tr>
</thead>
</table>
|         | Shunta Kurihara¹, Kazuki Takeshita², Yu Matsura², Gaku Tokuda¹, Teruo Sone¹, Hideomi Ito², Yoshitomo Kikuchi¹,³  
  ¹) Univ. of the Hokkaido  
  ²) TBRC, Univ. of the Ryukyu  
  ³) AIST. Hokkaido

<table>
<thead>
<tr>
<th>P1-107</th>
<th>Paracoccus denitrificans sequesetrs quorum-sensing signals from other bacteria via membrane vesicles</th>
</tr>
</thead>
</table>
|         | Kana Morinaga¹, Andrew S. Utada¹, Nozomu Obana³, Nobuhiko Nomura³, Masanori Toyofuku³  
  ¹) Grad. school of Life and Env. Sciences, Univ. of Tsukuba  
  ²) Faculty of Life and Env. Sciences, Univ. of Tsukuba

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P1-108 Contribution of spatial heterogeneity and interspecies interactions to community and evolutionary dynamics of pathogenic bacteria in a two-species co-culture system

Kyosuke Yamamoto1, Hiroyuki Kusada1, Yoichi Kamagata1, Hideyuki Tamaki1
1) BPRI, AIST 2) Faculty of Life and Environ. Sci., Univ. of Tsukuba 3) BRC, Univ. of Tokyo

P1-109 Discovery of algidical substances from a red tide derived bacteria

Liyang Wang1,2, Jiahui Wu3, Huirong Chen1,2,3, Shuangfei Li1,2,3, Xiaofan Li1,2,3, Zhangli Hu1,2,3
1) College of Life Sciences, Shenzhen University 2) Shenzhen Key Laboratory of Marine Bioresource and Eco-environmental Science 3) Shenzhen Key Laboratory of Microbial Genetic Engineering

P1-110 Antifungal activity of volatile substances produced by bacteria from soil and plant

Toshiyuki Morita, Noriko Ryuda, Daisuke Ueno, Takashi Someya
Faculty of Agriculture, Saga University

P1-111 PGPR against plant pathogens causing potato common scab; application of bacterial inoculants derived from potato tuber surface as a soil amendment

Megumi Takegoshi1, Miyuki Ishikawa1, Masahiro Mitsuboshi1, Yuzo Kioka1, Katsunori Naguchi1, Masao Sakai1, Makoto Ikenaga1, Yutaka Nishi1, Kiyofumi Mor1, Yasuhiro Suga1, Kazuyuki Okazaki1, Kenji Asano1, Seishi Ikeda1
1) Katakura & Co-op Agri Corporation 2) Kagoshima University 3) Kagoshima Prefectural Institute for Agricultural Development 4) Kagoshima Prefectural Institute for Agricultural Development Osumi Branch 5) Nagasaki Agricultural and Forestry Technical Development Center 6) Hokkaido Agricultural Research Center, NARO

P1-112 Ant- and nest-associated bacterial communities revealed by meta-genomic analyses

Hiroyuki Shimoji, Hideomi Itoh, Yu Matsuura, Yoshitomo Kikuchi
1) Kwansei Gakuin Univ. 2) AIST 3) Univ. of the Ryukyus

P1-113 [ASME] Dual species calcium carbonate-biofilm formation by alkali generating Lysinibacillus boronitolerans YS11 and alkaliphilic Bacillus sp. AK13

Yun Suk Lee, Woojun Park
Laboratory of Molecular Environmental Microbiology, Department of Environmental Science and Ecological Engineering, Korea University, Seoul, 02841, Republic of Korea

P1-114 [ASME] Community structure of arbuscular mycorrhizal fungi of Chamaecyparis formosensis in the forests alone altitudes

Hsuan-Ming Cheng, Pi-Han Wang
Department of Life Science, Tunghai University

P1-115 [ASME] Do ectomycorrhizal plants associate with arbuscular mycorrhizal fungi? The study of AMF community structure in a coniferous forest

Liu Ren-Cheng, Wang Pi-Han
Tunghai University, Department of Life Science

P1-116 [ASME] Complex interaction of genetics factors and migration history on the gut microbiota in a species complex

My-Hanh Le1,2,3, Daryi Wang1
1) Biodiversity Research Center, Academia Sinica, Taipei, Taiwan 2) Department of Life Science, National Taiwan Normal University, Taipei, Taiwan 3) Biodiversity Program, Taiwan International Graduate Program, Academia Sinica and National Taiwan Normal University, Taipei, Taiwan

P1-117 [ASME] Symbiotic interaction between Microcystis aeruginosa and Rhizobium species by quorum sensing and oxidative stress defense

Bora Shin1, Yunho Lee1, Minkyung Kim1, Che Ok Jeon1, Woojun Park1
1) Laboratory of Molecular Environmental Microbiology, Department of Environmental Sciences and Ecological Engineering, Korea University, Seoul 02841, Republic of Korea 2) Department of Life Science, Chung-Ang University, Seoul 06974, Republic of Korea
**P1-118 [ASME]** Identification and characterization of Siboglinidae tubeworms from South Good Weather Ridge and their microbial symbionts
Sheng-Chung Chen, Mei-Chin Lai, Yi-Ting You
Department of Life Sciences, National Chung Hsing University

**P1-119 [ASME]** Gut microbiota of cephalopods determined by host phylogeny
Woorm Kang, Pil Soo Kim, Eun Jung Tak, Hojun Sung, Na-Ri Shin, Dong-Wook Hyun, TaeWoong Whon, Hyun Sik Kim, June-Young Lee, Jin-Woo Bae
Department of Life and Nanopharmaceutical Sciences and Department of Biology, Kyung Hee University

**P1-120 [ASME]** Hologenomic study of Ephydatia muelleri elucidates the constitution of microbial communities of freshwater sponges
Liisi Karlep¹, Barbara Lindhard², Simon Rasmussen³, Joshua I. James⁴, Sünje J. Pamp²
¹ DCB, Tallinn Univ. of Technology, Estonia ² NFI, Technical Univ. of Denmark, Denmark ³ DBHI, Technical Univ. of Denmark, Denmark ⁴ DFIRE, Hallym Univ., South Korea

**P1-121** Bacterial communities associated with the coral Acropora pulchra in inshore and offshore reef of Biawak Island, Indonesia.
Muhammad W. Lewaru¹,², Mochamad Untung K. Agung¹,², Syawaludin A. Harahap¹
¹ Department of Marine Science, Padjadjaran University. ² Biotecnology Laboratory, Faculty of Fisheries and Marine Science, Padjadjaran University.

**P1-122〜P1-128 Plant Pathology**

**P1-122** Discovery of an anaerobic microbes involved in suppressive of tomato bacterial wilt symptom using soil microbe information and microbial bioresource
Chol Gyu Lee, Takashi Itoh, Toshiya Iida, Moriya Ohkuma
RIKEN BRC

**P1-123** Bacteria isolated from low concentration ethanol disinfecting soil suppresses tomato wilt disease fungi even at low temperature
Taro Isoyama¹, Tomoyuki Hori², Noriaki Momma³, Toshiyuki Usami³, Seigo Amachi¹
¹ TGSH, Ciba Univ. ² AIST ³ Inst. Hort. Plant. Breed.

**P1-124** Suppressing effects of wild grass compost in Aso, Kumamoto, as well as its antagonistic bacterial isolates on Fusarium rot of onion seedlings
Yuko Sueishi¹, Noriko Ryuda¹, Yutou Kame², Daisuke Ueno¹, Takashi Someya¹
¹ Fac. Agr., Saga Univ. ² Dep. Life and Environ. Sci., Kagoshima Prefectural College

**P1-125** Development of microbial pesticide by actinomycetes with antifungal activity
Minori Maeda, Tatsuya Ohike, Masahiro Okanami, Tetsuya Matsukawa, Shinichiro Kajiyama, Takashi Ano
Grad. Sch. BOST, Kindai Univ.

**P1-126** Inhibition of fungal plant pathogens by using Okinawa microbial library
Yuki Sueishi¹, Noriko Ryuda², Yutou Kame², Daisuke Ueno¹, Takashi Someya¹
¹ Fac. Agr., Saga Univ. ² Dep. Life and Environ. Sci., Kagoshima Prefectural College

**P1-127 [ASME]** Characterization of podoviridae-type bacteriophages infecting Ralstonia solanacearum and potential to control tomato bacterial wilt
Seung Yeup Lee, Hyo Jeong Kim, Roniya Thapa Magar, Kihyuck Choi, Seon-Woo Lee
Department of Applied biology, Dong-A Univ.
**P1-128** [ASME] Tomato rhizosphere microbiota plays a role of protecting tomato from bacterial wilt

〇Pyeong An Lee¹, Kihyuck Choi¹, Hyun Gi Kong¹, Soo Yeon Choi¹, Eun Joo Jung¹, Min-Jung Kwak², Jidam Lee², Ju Yeon Song³, Jihyun Kim³, Seon-Woo Lee¹

1) Dong-A Univ. 2) Yonsei Univ.

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**P1-129** Survival of *Listeria monocytogenes* in vegetable field

野菜栽培環境におけるリステリアの生残性

〇Nobuyuki Kijima¹, Ken-ichi Honjo², Masayuki Maeda³

1) Institute of Vegetable and Floriculture Science, NARO  2) Dept. Biosci. and Biotechnol. Kyusyu Univ.  3) Niigata Agricultural Research Institute

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**P1-130** Extracellular electron transport Recovers Fermentation suppressed by Highly Reductive Potential in *Streptococcus mutans*

〇Divya Naradasu¹, Shu Zhang², Tatsuji Nishihara³, Kazuhiito Hashimoto², Akihiro Okamoto²

1) Department of Advanced Interdisciplinary Studies, Rcast, Graduate School of Engineering, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904 Japan.  2) Interfacial Energy Conversion Group, National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan.  3) Division of Infections and Molecular Biology, Department of Health Promotion, Science of Health Improvement, Kyushu Dental University, 2-6-1 Manazuru, Kokurakita-ku, Kitakyushu, 803-8580, Japan.

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**P1-131** Lipopolysaccharide structure impacts the physical properties and attachment of membrane vesicles

緑膿菌リポ多糖はメンブレンベシクルの物性及び付着性に影響する

〇Yuma Susa¹, Masaharu Kurosawa¹, Masanori Toyofuku², Nozomu Obana², Nobuhiko Nomura²


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**P1-132** Functional analysis of proteins accumulated in membrane vesicles of *Clostridium perfringens*

宿主の免疫を誘導するウェルシュ菌メンブレンヴェシクルに集積されたタンパク質の機能解析

〇Hibiki Okuwaki¹, Nozomu Obana², Kyoko Nagayama¹, Ryomo Nakao³, Hidenobu Senpuku³

1) Grad. Sch. Life Environ. Sci., Univ. Tsukuba  2) Fac. Life Environ. Sci., Univ. Tsukuba  3) Department of Bacteriology, NIID

---

**P1-133** Genomic variation substantiates strain-to-strain diversity of biofilm formation in *Campylobacter jejuni*

*Campylobacter jejuni*が顕すバイオフィルム形成とゲノムの多様性

〇Hiroshi Asakura

NIHS

---

**P1-134** Functional analysis of a novel sporulation regulator CtrAB conserved in *Clostridium*

クロストリジウム属細菌に保存される新規の芽胞形成制御因子 CtrAB の機能解析

〇Naoki Muto¹, Nozomu Obana², Nobuhiko Nomura²


---

**P1-135** [ASME] Multi-omics profiling of rectal microbiome reveals active populations of *Enterobacteriaceae* and their lytic bacteriophages in diarrheic calves

〇Tae Woong Whon¹, Hyun Sik Kim¹, Hojun Sung¹, Min-Soo Kim¹, Woorim Kang¹, Pil Soo Kim¹, Na-Ri Shin¹, Dong-Wook Hyun¹, Hoon Je Seong¹, Woo Jun Sul¹, Jin-Woo Bae¹

1) Department of Biology and Department of Life and Nanopharmaceutical Sciences, Kyung Hee University, 26 Kyungheedae-ro, Dongdaemun-gu, Seoul 02447, Republic of Korea  2) Department of Systems Biotechnology, Chung-Ang University, 4726 Seodong-daero, Daedeok-myeon, Anseong-si, Gyeonggi-do 17546, Republic of Korea

* Pathogenic Microbes

Pathogenic Microbes

P1-129 ~ P1-135
P1-136 Promotion of antibiotic production by Bacillus sp. IA in the presence of rice husk biochar

Shohei Ebe, Tatsuya Ohike, Masahiro Okanami, Takashi Ano
Grad. Sch. BOST, Kindai Univ.

P1-137 Investigation of culture conditions for isolation of nitrifying bacteria

Akinori Ando, Wakako Okada, Kenji Miyamoto, Yasuo Kato, Makoto Shinhara, Jun Ogawa

P1-138 Early responses in carbon-starvation and induction of the photosynthetic apparatus in Roseateles depolymerans

Tetsushi Suyama, Satoko Matsukura, Nanako Kanno, Satoshi Hanada, Naohiro Noda
1) BMRI, AIST 2) Tokyo Metropolitan Univ.

P1-139 Hydrogen gas production using anaerobic hot groundwater containing a subterranean microbial community

Takuya Tsubuku, Hiroyuki Kimura
1) Graduate School of Integrated Science and Technology, Shizuoka Univ. 2) Research Institute of Green Science and Technology, Shizuoka Univ.

P1-140 Mechanism of greigite-dependent enhancement of methanogenesis

Kensuke Igarashi
BPRI, AIST

P1-141 Adaptive mechanism of heterotrophic soil bacteria toward ultra-oligotrophic conditions

Shinnosuke Inaba, Hiromi Kato, Yoshiyuki Ohtsubo, Masataka Tsuda, Yuji Nagata
Tohoku Univ.

P1-142 Characterization of a yeast-like fungus Aureobasidium pullulans TL-6 isolated from flowers on Mt. Tateyama

Yohei Nishikawa, Akihiro Sakatoku, Daisuke Tanaka, Hiroshi Ishii, Shogo Nakamura
Graduate School of Science and Engineering, Univ. of Toyama

P1-143 The observation of "MIZUMOTO (SAKE)" using NGS metagenomic analysis and the brewing technique of TOJI

Shinnosuke Okuhama, Masatake Aoki, Yuga Hirakata, Takashi Yamaguchi, Masataka Kusube
1) Department of Ecosystem Engineering, National Institute of Technology, Wakayama College, Advanced Course 2) Department of Applied Chemistry and Biochemistry, National Institute of Technology, Wakayama College 3) Department of Civil Engineering, National Institute of Technology, Wakayama College 4) Department of Science Technology Innovation, Nagaoka University of Technology

P1-144 Extracellular electron transfer in a methanotrophic bacterium Methylococcus capsulatus (Bath)

Kenza Tanaka, Masahito Ishikawa, Sho Yokoe, Katsutoshi Hori, Shuji Nakanishi, Souichiro Kato
1) Grad. Sch. Eng. Sci., Osaka Univ. 2) Grad. Sch. Eng., Nagoya Univ. 3) RCSEC, Osaka Univ. 4) AIST
| **P1-145** | Growth controlling mechanism of *Nitrospira* -dormancy and resuscitation- 亜硝酸酸化細菌*Nitrospira* の休眠と覚醒 -未知増殖制御の解明- 〇Hiroyasu Terachi¹, Chiho Murakami¹, ³, Atsushi Tamura², Tomonori Kindaichi¹, Akiyoshi Ohashi¹, Yoshiteru Aoi²  
¹) Dept Civil & Environm Engn, Univ. of the Hiroshima  ²) Dept Mol Biotechnol, Univ. of the Hiroshima  ³) Dept Pharmacy, Yasuda Women's University |
| **P1-146** | Completion of aerobic estrone degradation pathway in Alphaproteobacteria 〇Kan Wu、Yi-Lung Chen、Yin-Ru Chiang Academia Sinica |
| **P1-147** | Interaction between bovine hormones and intestinal microorganisms 〇Hyun Sik Kim、Tae Woong Whon、Jin-Woo Bae  
Department of Life and Nanopharmaceutical Sciences, and Department of Biology, Kyung Hee University |
| **P1-148** | Diversity and antibacterial activity of culturable *Micromonospora* sp isolated from *Monochoria korsakowii* plant in freshwater, Korea 〇Sanghwa Park、Yoonjong Nam、Mi-hwa Lee  
Bacterial Resources Research Division, Freshwater Bioresources Research Bureau, Nakdonggang National Institute of Biological Resources(NNIBR), |
| **P1-149** | The role of commensal bacterium Star 2018 in modulation of immune cell response. 〇Yu-Ling Tsai¹, ², ³, Hsin-Chih Lai¹, ², ³  
¹) Microbiota Research Center, College of Medicine, Chang Gung University, Gueishan, Taoyuan 33302, Taiwan  ²) Department of Medical Biotechnology and Laboratory Science, Chang Gung University, Gueishan, Taoyuan 33302, Taiwan.  ³) Department of Laboratory Medicine, Linkou Chang Gung Memorial Hospital, Gueishan, Taoyuan 33305, Taiwan. |
| **P1-150** | Development of environmental preservation with Urease productive microbe 微生物機能を用いた環境保全技術の開発 〇Yuki Nakashima、Kazuyuki Hayashi、Masataka Aoki、Shinya Maki、Masataka Kusube National Institute of Technology, Wakayama College |
**P2-001** Predatory preference of protozoa to *Escherichia coli* and *Salmonella enterica*

**Kiyoshi Sato**, **Noriko Ryuda**, **Daisuke Ueno**, **Takashi Someya**

1) Faculty of Agriculture, Saga University 2) UGSAS, Kagoshima University

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**P2-002** Relationship between bacterial strains isolated from a γ-HCH-degrading microbial community

**Hiromi Kato**, **Chiaki Haga**, **Yoshiyuki Ohtsubo**, **Masataka Tsuda**, **Yuji Nagata**

Graduate School of Life Sciences, Tohoku Univ.

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**P2-003** Identification and utilization of microbes indicating high affinity to the root and frond of *Spirodela polyrhiza*


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**P2-004** Diversity and community composition of native arbuscular mycorrhizal fungi associated with different rice cultivars in Ghana

**Sarkodee Addo Elsie**, **Yasuda Michiko**, **Okazaki Shin**

Tokyo university of Agriculture and Technology

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**P2-005** Symbiotic protist community of *Reticulitermes* spp. in Kume Is., Northern Miyako Is. and Yonaguni Is

**Osamu Kitade**

College of Sci., Ibaraki Uiv.

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**P2-006** Cryptic phage may regulate cell-to-cell communication through MV formation

**Marina Yasuda**, **Masanori Toyofuku**, **Kana Morinaga**, **Nozomu Obana**, **Nobuhiko Nomura**


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**P2-007** Examination of the relation between the gut microbiota in *Aporia crataegi adhberal* and microorganisms on the larval food

**Toshihiro Shimizu**, **Yasuyuki Hashidoko**

EcoChem, Univ. of the Hokkaido

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**P2-008** Growth and movement of *Bacillus subtilis* along fungal hyphae

**Momoka Kuchira**, **Nozomu Obana**, **Nobuhiko Nomura**, **Norio Takeshita**


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**P2-009** Why does growing "in situ" allows recovery of fastidious microbial types from nature?

**Jung Dawoon**, **Koshi Machida**, **Yoichi Nakao**, **Tomonori Kindaichi**, **Akiyoshi Ohashi**, **Yoshiteru Aoi**

1) Dept. Molecular Biotechnology, Univ. of Hiroshima 2) Dept. Chemistry and Biochemistry, Univ. of Waseda 3) Dept. Civil and Environmental Engineering, Univ. of Hiroshima
* P2-010 Characterization of penicillin G acylase AirP for inhibition of quorum sensing in gram negative bacteria

格トウジを介するオーキアセンスを制御するペニシリンGアシルアミラーゼAirPのキャラクタリゼーション
○Yuya Sasaki, Eri Nasuno, Norihiro Kato
Utsunomiya University

* P2-011 Rare sugar, D-psicose suppresses high-fat diet-induced obesity through gut microbiota alteration

希少糖摂取による腸内細菌叢変化は抗肥満効果をもたらす
○Nao Takeuchi1, 2, Kazuki Tanaka1, 3, Wanping Aw1, 3, Masaru Tomita1, 2, 3, Shinji Fukuda1, 3, 4, 5, 6

* P2-012 A novel T3 effector of Bradyrhizobium elkanii plays a dual function in symbiosis with legumes

マメ科植物との共生において二つの機能を有する根粒菌の新規3型分泌エフェクター
○Hien P Nguyen1, 2, Safirah T. N. Ratu2, Wint Y. T. Phoo2, Michiko Yasuda2, Shin Okazaki2
1) United Graduate School of Agricultural Science, Tokyo University of Agriculture and Technology, Tokyo, Japan 2) Graduate School of Agriculture, Tokyo University of Agriculture and Technology, Tokyo, Japan

* P2-013 Infection mechanism of Bradyrhizobium elkanii by type III secretion system

ダイズ根粒菌のタイプ3分泌装置を介する感染メカニズムの解析
○Michiko Yasuda, Shin Okazaki
Tokyo University of Agriculture and Technology

* P2-014 Ecological robustness of the human intestinal environment in response to daily dietary fluctuation

ヒトの腸内環境は日常的な食事の変化に対して頑健性を有する
○Chiharu Ishii1, 2, Miyuki Suzuki3, Yoshiomi Soejima4, Masaru Tomita1, 2, 5, Shinji Fukuda1, 2, 6, 7, 8

* P2-015 Pathways toward genome reduction in the obligate endosymbiont of cockroach, Blattabacterium.

○Yukihiro Kinjo, Thomas Bourguignon
EGU, OIST

* P2-016 Comparative analysis of human-microbe and non human-microbiome

ヒト常在細菌と非ヒト常在細菌の分類と比較解析
○Hikaru Watanabe, Shinya Suzuki, Takuji Yamada
Dept. of Life Science and Technology, Tokyo Institute of Technology

* P2-017 [ASME] The ability of a photosynthetic bacterium, Rhodopseudomonas palustris PS3 in improving salinity tolerance in Chinese cabbage

オキアミを介するオーキアセンスを制御するペニシリンGアシルアミラーゼAirPのキャラクタリゼーション
○Hsiao-Lin Chien1, 2, Shu-Hua Hsu2, Chi-Te Liu1, 3
1) Institute of Biotechnology, National Taiwan University 2) Department of agronomy, National Taiwan University 3) Agricultural Biotechnology Research Center, Academia Sinica

* P2-018 [ASME] Symbiotic Bacterial Populations within the Accessory Nidamental Glands of the Pharaoh Cuttlefish Sepia pharaonis

モンフーコリの性腺栄養細胞内に存在する共生細菌群
○Mong-Fong Lee1, Jing-Duan Huang1, OShin-Yu Yu2, Shiu-Mei Liu3
1) Department of Aquaculture, National Penghu University of Science and Technology, Taiwan 2) Institute of Biomedical Engineering, National Taiwan University, Taiwan 3) Institute of Marine Biology, National Taiwan Ocean University, Taiwan
**P2-019** [ASME] Surrounding Environmental Characteristics Converge Microbiome in Fish Gut, nor Phylogenic Traits of Host
Pil Soo Kim¹, Jae Bong Lee², Na-Ri Shin, Min-Soo Kim, Tae Woong Whon, Dong-Wook Hyun, Ji-Hyun Yun, Mi-Ja Jung, Jin-Woo Bae
1) Department of Life and Nanopharmaceutical Sciences, Kyung Hee University, Korea 2) Dokdo Fisheries Research Center, National Fisheries Research & Development Institute, Korea

**P2-020** Quorum-sensing signalling in fluorescent pseudomonads isolated from plant roots
Yuto Ogasawara¹, Yudai Ito¹, Xiaonan Xie², Nobutaka Someya³, Tomohiro Morohoshi¹

**P2-021** Quorum-sensing signaling in plant pathogenic *Pseudomonas* species in Japan
Yudai Ito¹, Yuto Ogasawara¹, Xiaonan Xie², Nobutaka Someya³, Tomohiro Morohoshi¹

**P2-022** Diversity of culturable bacteria isolated from tomato seeds on selective media for *Clavibacter michiganensis* subsp. *michiganensis*
Nobutaka Someya¹, Tomphiro Morohoshi², Masaharu Kubota¹, Yasuhiro Inoue³
1) NIVFS/NARO 2) Grad. Sch. Eng., Utsunomiya Univ. 3) CARC/NARO

**P2-023** Screening of microorganisms that degrade 2’-deoxyuridine, infection promoting factor of rice blast fungus
Hiroka Maeshima, Sotaro Chiba, Daigo Takemoto, Kazuhito Kawakita, Ikuo Sato
Plant pathology, Nagoya Univ.

**P2-024** Novel deoxynivalenol-degrading microorganisms isolated from Poaceae planted soils
Hiroyuki Morimura, Sotaro Chiba, Daigo Takemoto, Kazuhiro Kawakita, Ikuo Sato
Plant pathology, Nagoya Univ.

**P2-025** Imaging-based analysis of behavior of *Pseudomonas syringae* pv. *tomato* DC3000 in planta
Yuta Amano¹, Nobuhiko Nomura², Shigeyuki Betsuyaku²
1) Schl.Life&Env.Sci, Univ. of Tsukuba 2) Fac.Life&Env.Sci, Univ. of Tsukuba

**P2-026** Molecular biological characterization of two strains of cucumber mosaic virus isolated from banana plants in Okinawa
Ken-Taro Sekine, Rui Usami, Reiko Tomita, Kaho Takayasu, Juri Uchima, Satoshi Taba
Dep. of Agri, Univ. of the Ryukyus

**P2-027** [ASME] Biological control potential of an elite probiotic strain and Asteraceae plant
Yen-Yu Liu¹, Wen-Chin Yang², Chi-Te Liu¹
1) Institute of Biotechnology, National Taiwan University, Taiwan 2) Agricultural Biotechnology Research Center, Academia Sinica, Taiwan 3) Department of Aquaculture, National Ocean University, Taiwan 4) Institute of Pharmacology, Yang-Ming University, Taiwan 5) Department of Life Sciences, National Chung Hsing University, Taiwan
### Public Health

| P2-028 | Distribution of *Escherichia coli* strain based on partial sequences of beta-galactosidase gene in Lake Hibara
| P2-029 | Novel β-lactamases (lactonases) mediate antibiotic resistance and cell-cell communication disruption
| P2-030 | Survey on the possession of *Clostridium perfringens* in wild rats captured at Ami campus of Ibaraki University
| P2-031 | [ASME] Mode and structure of bacterial community found on human hair
| P2-032 | [ASME] Vancomycin-resistant *Enterococcus faecalis* isolated from a healthy dog
| P2-033 | [ASME] Microbiota analysis of a family with chronic kidney disease indicates the dominant *Escherichia* species and the presence of *Akkermansia* in patient feces

### Physiology and Metabolism

| P2-034 | Effect of bovine serum on persister cell formation in *Escherichia coli*
| P2-035 | Evaluation of antiprotozoan drugs for suppressing protozoan growth in hydroponic medium
| P2-036 | Discovery of an Anaerolineae bacterium capable of reductive dehalogenation of organohalogen compounds

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<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution of <em>Escherichia coli</em> strain based on partial sequences of beta-galactosidase gene in Lake Hibara</td>
<td>Mayuko Noda, Kei Okuda, Kenji Nanba</td>
<td>Univ. of the Fukushima, Univ. of the Hiroshima Shudo</td>
</tr>
<tr>
<td>Novel β-lactamases (lactonases) mediate antibiotic resistance and cell-cell communication disruption</td>
<td>Hiroyuki Kusada, Takamasa Miura, Yu Zhang, Yoichi Kamagata, Hideyuki Tamaki</td>
<td>BRI, AIST, Univ. of Tsukuba, NBRC, NITE, Univ. of Chinese Academy of Sciences</td>
</tr>
<tr>
<td>Survey on the possession of <em>Clostridium perfringens</em> in wild rats captured at Ami campus of Ibaraki University</td>
<td>Koichiro Seki, Koji Uetsuka</td>
<td>the Graduate School of Agriculture, Ibaraki University</td>
</tr>
<tr>
<td>Vancomycin-resistant <em>Enterococcus faecalis</em> isolated from a healthy dog</td>
<td>Jae-Ik Han, Sunyoung Kim, Jieun Bae, Wonkeun Song, Hee-Myung Park</td>
<td>College of Veterinary Medicine, Chonbuk National Univ.</td>
</tr>
<tr>
<td>Microbiota analysis of a family with chronic kidney disease indicates the dominant <em>Escherichia</em> species and the presence of <em>Akkermansia</em> in patient feces</td>
<td>Chen-Tsung Weng, Hsin Chen, Wen-Geng Shu, Yuh-Ting Kuo, Po-Chun Tsai, Chih-Chen Chen, Shir-Ly Huang</td>
<td>Institute of Microbiology and Immunology, National Yang-Ming University, Taiwan</td>
</tr>
<tr>
<td>Effect of bovine serum on persister cell formation in <em>Escherichia coli</em></td>
<td>Erika Suzuki, Sumio Maeda</td>
<td>Grad. Sch. Humanities and Sciences, Dept. Food Science and Nutrition, Nara Women's Univ.</td>
</tr>
<tr>
<td>Discovery of an Anaerolineae bacterium capable of reductive dehalogenation of organohalogen compounds</td>
<td>Nozomi Nakahara, Eiji Tasumi, Naoko Yoshida, Masaru Nobu, Hideyuki Tamaki, Takashi Yamaguchi, Ken Takai, Hiroyuki Imachi</td>
<td>Nagaoka Univ. of Technol., JAMSTEC, NITech, AIST</td>
</tr>
</tbody>
</table>
* P2-037 Functional analysis of lanthanide inducible proteins of *Methylobacterium aquaticum* 22A
  ○Yoshiko Fujitani, Akio Tani
  IPSR, Okayama Univ.

* P2-038 Multiple formaldehyde oxidation pathways in *Methylobacterium aquaticum* strain 22A
  ○Patcha Yanpirat, Akio Tani
  IPSR, Okayama Univ.

* P2-039 Growth heterogeneity in pure cultures affects the culturability
  難培養微生物の可培養化を目指したシングルセルレベルでの増殖不均一性の解析
  ○Rino Isshiki1), Hirotsugu Fujitani2), 3), Daiki Tanaka2), Tetsushi Sekiguchi3), Satoshi Tsuneda1), 2)

* P2-040 Potential – dependent regulation of NADH oxidation pathways in *Shewanella oneidensis* MR-1
  *Shewanella oneidensis* MR-1株におけるNADH酸化経路の電位依存性
  ○Atsumi Hirose, Atsushi Kouzuma, Kazuya Watanabe

* P2-041 Characterization of oxidative stress response at a single-cell level by autofluorescence profile analysis
  自家蛍光プロファイル解析を用いた1細胞レベルでの酸化ストレス応答評価
  ○Chigusa Okano, Nobuhiko Nomura, Yutaka Yawata
  Faculty of Life and Environmental Sciences, Univ. of Tsukuba

P2-042 A novel culture method for methanogens and acetogens preferring low H₂ conditions using iron-corrosion reaction
  鉄織反応を利用した低水素濃度環境を好むメタン生成菌・酢酸生成菌の新規培養法
  ○Souichiro Kato1), Motoko Takashino1), Kensuke Igarashi1), Hanako Mochimaru2), Daisuke Mayumi2), Hideyuki Tamaki1)
  1) NBRC, AIST  2) GREEN, AIST

* P2-043 [ASME] Phylogeny and diversity of *arxA* gene and *arx* operon-like gene cluster, presumably encoding arsenite oxidase
  ○Melody Christine Cabrera Ospino1), 2), Hisaya Kojima1), Manabu Fukui1)
  1) The Institute of Low Temperature Science, Hokkaido University  2) Graduate School of Environmental Science, Hokkaido University

P2-044 [ASME] Probiotic, CGB-1, ameliorated high fat diet related metabolic syndrome in mice
  ○Chih-Jung Chang, Hsin-Chih Lai
  1) Microbiota Research Center, College of Medicine, Chang Gung University
  2) Department of Medical Biotechnology and Laboratory Science, Chang Gung University, Gueishan, Taoyuan 33302, Taiwan.

P2-045 [ASME] Herbal mushroom polysaccharides and a novel probiotic modulated dysbiosis in high fat diet mice
  Yu-Shan Lo1), 2), ○Hsin-Chih Lai1), 2), 3)
  1) Department of Medical Biotechnology and Laboratory Science, Chang Gung University, Gueishan, Taoyuan 33305, Taiwan.  2) Microbiota Research Center, Chang Gung University, Gueishan, Taoyuan 33305, Taiwan.  3) Department of Laboratory Medicine, Linkou Chang Gung Memorial Hospital, Gueishan, Taoyuan 33305, Taiwan.

* P2-046 [ASME] Catabolism and stress responses of ethoxylated surfactants in *Pseudomonas nitroreducens* TX1 using transposon mutagenesis and omics approaches
  ○Po-Chun Tsai1), Ngoc Nguyen Tuan1), Chun-Yen Lin1), Hsin Chen3), Shir-Ly Huang1)
  1) Institute of Microbiology and Immunology, National Yang Ming University, Taiwan
  2) Department of Life Sciences, National Central University, Taiwan
P2-047 Effects of the traditional tea-grass integrated system, Chagusaba, on nitrogen cycle in tea field soils
土草場農法が茶園土壌の窒素循環に及ぼす影響
Reiko Sameshima, Saki Sonoda
Agr. , Shizuoka Univ.

P2-048 Fish egg-associated microbiota acquired from ambient soils
水生動物の卵が土壌から獲得する細菌叢
Yuki Sano, Minoru Kihara, Tomoyuki Hori, Teruo Sone, Yoshitomo Kikuchi
1) Graduate School of Agriculture, Hokkaido Univ. 2) Dept. of Biological Science, Tokai Univ. 3) Bioproduction Research Institute, AIST 4) Environmental Management Research Institute, AIST 5) Graduate School of GROBAL FOOD SOURCES, Hokkaido Univ.

P2-049 Involvement of actinomycetes in the increase of Lysobacter in chitin-added soil
キチン添加土壌でのLysobacter属細菌の増加への放線菌の関与
Yukari Iwasaki, Akihiro Saito

P2-050 Diversities and dynamics of seed endophytic bacteria in individual rice seedlings
水稲種子共存細菌の群集構造と動態に関する研究
Makoto Ikenaga, Naoto Minoda, ChenHua Li, Megumi Takegoshi, Katsunori Noguchi, Masao Sakai

P2-051 Diversities of Seed Endophytic Bacteria of Rice Plants (Oryza sativa cv. Kosihihari) Cultivated throughout Japan
日本各地で栽培されたコシヒカリ種子共存細菌の群集構造に関する研究
Chenhua Li, LAU Yu Ling Sharon, Megumi Takegoshi, Katsunori Noguchi, Masao Sakai, Makoto Ikenaga

P2-052 Genomic diversity and symbiotic nitrogen fixation capability of indigenous Bradyrhizobium diazoefficiens strains belonging to USDA110 lineage
土着USDA110系統ダイズ根粒菌のゲノム多様性と共生窒素固定能
Manabu Itakura, Shintaro Hara, Go Watanabe, Kosuke Mitsuya, Takakazu Kaneko, Kiwamu Minamisawa
1) Fac. Life Sci., Kyoto Sangyo Univ. 2) Grad. Sch. Life Sci., Tohoku Univ.

P2-053 Predicted functional profiles of bacterial communities in paddy soil applied with organic liquid fertilizer
有機液肥を施用した水田土壌細菌叢の推定機能プロファイリング
Mizuki Watanabe, Aya Inoue, Minori Saito, Yuhihiro Tashiro, Kenji Sakai
1) Grad. Sci Bioresour. Bioenviron.Sci, Univ. of the Kyushu

P2-054 Structure and physiology of soil microbial communities in naturally saline-alkaline soils
土壌微生物群の構造と生理
Márton Mucsi, Orsolya Gazdag, Gergely Krett, Andrea Borsodi, Tibor Szili-Kovács
1) Institute for Soil Sciences and Agrochemistry, CAR, Hungarian Academy of Sciences 2) Department of Microbiology, Faculty of Science, Eötvös Loránd University 3) Graduate School of Horticulture, Chiba University
**P2-055** [ASME] Some aspects of biochar and microbial inoculant combined application on sandy soil
○Botond Bernhardt1), Péter Ragályi 1), Márk Rékási 1), Eszter Draskovits 1), József Kutasi 2), Mónika Molnár 3), Nikolett Uzinger 1)
1) Institute for Soil Sciences and Agricultural Chemistry, CAR, Hungary 2) BioFil Microbiological, Biotechnological and Biochemical Ltd. 3) Budapest University of Technology and Economics, Faculty of Chemical Technology and Biotechnology, Department of Applied Biotechnology and Food Science

**P2-056** [ASME] Comparing organic and conventional farming systems at three different soils by physiological profiles of the soil microbial assemblage
○Orsolya Gazdag1), Tünde Takács1), László Ködöbőcz1), Márton Mucsi1), Kazuyuki Inubushi2), Tibor Szili-Kovács1)
1) Institute for Soil Sciences and Agricultural Chemistry, CAR Hungary 2) Graduate School of Horticulture, Chiba University Matsudo, Chiba, Japan

**P2-057** Distinct drivers of biogeographic patterns in soil bacterial, archaeal and fungal communities in forests
森林土壌のバクテリア、アーキア、カビの生物地理分布
○Yuta Ise1), Kazuo Isobe1), Rieko Urakawa2), Keishi Senoo1), 3), Shigeto Otsuka1), 3), Nobuhito Ohte4)

**P2-058** Ectomycorrhizal fungal communities associated with Quercus spp. seedling in conifer plantation
針葉樹人工林内に侵入した広葉樹実生の外生菌根菌相
○Akira Ishikawa1), Iwao Uehara2), Megumi Tanaka2)
1) Grad. sch. of Agriculture, Tokyo Univ. of agriculture 2) Faculty of Regional Environment Sci., Tokyo Univ. of Agriculture

**P2-059** Ectomycorrhizal fungal communities associated with Quercus serrata and Pinus densiflora in a secondary forest
コナラ・アカマツ二次林における外生菌根菌群集
○Makoto Shirakawa1), Iwao Uehara2), Megumi Tanaka2)
1) Tokyo Univ. of Agriculture 2) Faculty of Regional Environment Sci., Tokyo Univ. of Agriculture

**P2-060** Quantitative Analysis of "Termite Frass" and "Termite Droppings" against Rotted and Un-Rotted Food
腐朽餌と未腐朽餌に対するシロアリの「削り」と「食べ」の定量的解析
○Kumiko Kihara1), Takafumi Nakagawa1), Akinori Yamada2), Tsuyoshi Yoshimura3)
1) NIT, Kumamoto College 2) Nagasaki Univ. 3) Kyoto Univ.

**P2-061** Studies on Plant Growth Promoting Bacteria isolated from beech in the Shirakami Mountains
白神山地ブナから分離した植物成長促進細菌に関する研究
○Sae Osaka、Akio Tonouchi
Graduate School of Faculty of Agriculture and Life Science, Hirosaki University

**P2-062** [ASME] Fungal assemblage of rotted heartwood of Cyclobalanopsis pachyloma
○Yu-Ting Wu1), Witoon Purahong2), Ya-Chien Lin3), Chaur-Tzuhn Chen1)
1) Dept. of Forestry, National Pingtung University of Science and Technology 2) Helmholtz-UFZ, Centre for the Environmental Research
P2-063 ~ P2-075  Aquatic Ecosystem

* P2-063  Comparison of the gut microbiota of captive common bottlenose dolphins (Tursiops truncatus) at aquaria in Japan
国内飼育下バンドウイルカの腸内細菌叢の比較
○Akihiko Suzuki1), Takao Segawa1), 2), Syusaku Sawa3), Chika Nishitani4), Keiichi Ueda5), Takuya Ito1), Kiyoshi Asahina1), Miwa Suzuki1)
1) BSR, Nihon Univ. 2) BSR, Mie Univ. 3) Tsukumi Dolphin Island 4) Enoshima Aquarium 5) Okinawa Churashima Foundation

P2-064  Diversity and distribution of microbiota associated with medaka fish
メダカ常在細菌叢の多様性と分布: エラ、体表、ヒレ、腸、卵に発達する細菌叢の解明
○Hideomi Itoh1), Tomoyuki Hori2), Yoshitomo Kikuchi1), 3)
1) Bioproduction Research Institute, AIST 2) Environmental Management Research Institute, AIST 3) Graduate School of Agriculture, Hokkaido Univ.

P2-065  Bacterial symbionts in Axinella sponges from the Ryukyu Archipelago are closely related to those from the Caribbean Sea, the opposite side of the Earth
沖縄産Axinella属カイメン類の共生微生物相 - 地球の反対側との比較
Haruki Sunagawa1), Sanghwa Park1), 2), Hiroaki Aoyama1), 3), Hideki Nagahama1), Akihiko Kanamoto4), OSeikoh Saitoh1), 5), Michihiro Ito1), Naoya Shinzato1) 6)
1) TBRC, Univ. of the Ryukyus 2) FBRB, Nakdonggang Nat. Inst. of Biol. Resour. 3) CSRP, Univ. of the Ryukyus 4) OP Biofactory Co. Ltd. 5) Dept. Regional Econ. & Environ. Policy, Okinawa Intl. Univ. 6) BPRI, AIST

P2-066  Microbial population of Prolixibacter accommodating metal-corroding bacteria
金属腐食細菌を擁するProlixibacter属細菌の定量解析
○Takao Iino1), Kimio Ito2), Chol Gyu Lee1), Moriya Okkuma1)
1) RIKEN-BRC JCM  2) Nippon Steel and Sumitomo Metal Corp.

P2-067  Anoxic enrichment of phototrophic bacteria with aromatic hydrocarbons
芳香族炭化水素を基質とした光合成細菌の嫌気集積培養
○Kyoko Kubo
Dept. Creative Engineering, NIT, Tsuruoka College

* P2-068  Using global ocean metagenomes to unravel the role of viruses in carbon export
地球規模の海洋メタゲノムを用いて炭素輸送におけるウイルスの役割に迫る
○Hiroto Kaneko, Romain Blanc-Mathieu, Hisashi Endo, Hiroyuki Ogata
ICR, Kyoto Univ.

P2-069  Analysis of Infection process of a phycodnavirus, Heterosigma akashiwo virus
赤潮原因藻ヘテロシグマに感染するHeterosigma akashiwo virusの感染過程解析
○Shoko Ueki
IPSR, Okayama Univ.

* P2-070  Detection and isolation of not-yet cultured Epsilonproteobacterium from gills of shallow water invertebrates
浅海性無脊椎動物のエラに生息する未培養Epsilonproteobacteriumの検出と培養の試み
○Yukino Mizutani1), 3), Kazuki Fujiwara2), Satoshi Fukuzaki1), Reiji Tanaka1)
1) Graduate School of Bioresources, Mie Univ. 2) Faculty of Bioresources, Mie Univ. 3) JSPS Research Fellow (DC2)

* P2-071  Microbial community structure associated with eelgrass (Zostera marina) along the coast of Japan
日本沿海域におけるアマモ(Zostera marina)場の微生物群集構造解析
○Rocky Md. Mehedh Iqbal, Masahiko Nishimura, Susumu Yoshizawa, Kazuhiro Kogure
Atmosphere and Ocean Research Institute (AORI), The University of Tokyo
**P2-072** Interplay of a non-conjugative integrative element and a conjugative plasmid in the spread of antibiotic resistance via suicidal plasmid transfer from an aquaculture *Vibrio* isolate

養殖場由来*Vibrio*属細菌が保有する伝達性多剤耐性プラスミドpSEA1のTn6283を介した受容菌染色体への組込み

Lisa Nonaka¹, Tatsuya Yamamoto², Fumito Maruyama³, Yuu Hirose⁴, Yuki Onishi⁵, Takeshi Kobayashi⁶, Satoru Suzuki⁷, Hirokazu Yano⁸


**P2-073** Physiological roles of *Synechocystis* halorhodopsin (SyHR) in freshwater cyanobacteria

淡水性シアノバクテリアが持つロドプシン（SyHR）の生理的役割

Masumi Hasegawa¹, Kaisei Maeda², Masahiko Ikeuchi³, Susumu Yoshizawa¹,²


**P2-074** [ASME] Bacterial Community in Water and Air of Two Sub-Alpine Lakes in Taiwan

キシティン・テンソン¹,²,³, Shan-Hua Yang¹, Min-Tao Wan, Chia-Chin Yang¹, Bayanmunkh Baatar¹, Chih-Yu Chiu¹, Jeng-Wei Tsai³, Wen-Cheng Liu³, Sen-Lin Tang¹

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**P2-075** [ASME] Metagenomic Genotyping-by-Sequencing Shedding Light on Genomic Diversity in Ocean Microbiome

Hoong Je Seong¹, Chung Yeon Hwang², Hong-Hee Won³, Woo Jun Sul¹

1) Chung-Ang University, South Korea 2) Korea Polar Research Institute, South Korea 3) Sungkyunkwan University, South Korea

**Wastewater Treatment**

**P2-076** Enrichment culture of Anammox sludge at low temperature condition

低温耐性Anammox汚泥の集積

Mai Nakano¹, Tatsuru Kamei¹, Yasuhiro Tanaka³, Futaba Kazama³

1) Integ., Grad., Sch. of Med., Eng., and Agri., Sci., Univ. of Yamanashi 2) ICRE, Univ. of Yamanashi 3) Dept. of Life Env, Univ. of Yamanashi

**P2-077** Nitrate removal from aeration-treated swine wastewater using a two-chamber biocathodic system

2槽式バイオカソード電気化学システムを用いた養豚曝気処理水の硝酸除去

Mami Kainuma¹, Anna Prokhorova¹, Rie Hiyana¹, Anatoly Sorokin³, Olga Vasieva⁴, Igor Goryanin¹,²

1) OIST 2) University of Edingburgh 3) Russian Academy of Science 4) Ingenet

**P2-078** Anaerobic filamentous bulking caused by several uncultured filamentous bacteria in the EGSB reactor

EGSBリアクターにおける数種の未培養糸状性細菌群が関与する嫌気性バルキング

Jun Harada¹, Yuki Okazaki¹, Masako Hamada¹, Tsuyoshi Yamaguchi³, Atsushi Nakano¹, Takashi Narihiro², Takeshi Yamada¹

1) Toyohashi Univ. of Tech. Dept. of Environ. and Life Sci. 2) AIST Bioproduction Res. Inst. 3) Natl. Inst. of Tech. Matsue College., Dept. of Civil and Environ. Eng. 4) Sumitomo Heavy Industries Environment Co., Ltd.
**P2-079** Physiological function of microorganisms isolated from anaerobic wastewater treatment process

Yuto Kurashima¹, Yuki Chiba², Mayumi Hayashi³, Kazuki Nomura², Masashi Hatamoto¹, Takashi Yamaguchi³, Yuji Sekiguchi³, Toru Shigematsu³, Akinori Iguchi²

¹NUPALS ²NUPALS ³Nagaoka Univ. Technol. ⁴AIST

**P2-080** Investigation of growth conditions of Candidatus Saccharibacteria in activated sludge

Ryota Takenaka¹, Yoshiteru Aoi², Noriatsu Ozaki¹, Akiyoshi Ohashi¹, Tomonori Kindaichi¹

¹Hiroshima univ. Engineering ²Hiroshima univ. Advanced Sciences of Matter

**P2-081** Evaluation of effectiveness of bacterial cell wall treatment by high-hydrostatic pressure for CARD-FISH

Akinori Iguchi, Hikaru Hirata, Saori Ujiie, Mayumi Hayashi, Kazuki Nomura, Toru Shigematsu

NUPALS

**P2-082** Power production and purifying wastewater using UV-visible light powered single-chamber microbial fuel cell

Hwapyong Kim, Su-il In

DGIST, Daegu Gyeongbuk Institute of Science and Technology

**P2-083** Insignificant effect of inoculum on the final bacterial community structure after rapid enrichment of anaerobic ammonium oxidation activity

Hyokwan Bae¹, Kyungjin Cho¹, Minkyu Choi², Dawoon Jeong³

¹Department of Civil and Environmental Engineering, Pusan National University (PNU) ²Center for Water Resource Cycle Research, Korea Institute of Science and Technology (KIST) ³Graduate School of Water Resources, Sungkyunkwan University (SKKU)

**P2-084** Promising oxidative enzymes for micropollutant removal derived from wood rotting fungal species of Ascomycota

Bo Ram Kang, Min Sung Kim, Tae Kwon Lee

Yonsei University

**P2-085** Reduction of the waste sludge enhanced by rhamnolipid treatment coupled with thermal hydrolysis

Gui Nam Wee, Hye Rim Hyun, Tae Kwon Lee

Department of Environmental Engineering, Yonsei University

**P2-086** The Effects of Different Mediators on Extracellular-Electron Transfer When the Acetate is Utilized by Shewanella spp. as an Electron Donor

Shiue-Lin Li¹, Chang-Ping Yu¹, Shiu-Mei Liu²

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**P2-087** Study on microbial community structure in thermophilic anaerobic digestion of acetate or propionate as a sole carbon source

Dan Zheng, Huizhong Wang, Yue Yi, Yating Chen, Yueqin Tang

College of Architecture and Environment, Sichuan University

**P2-088** Population Dynamics in an Autotrophic Nitrogen Removal System

Yung-Hsien Shao, Jer-Horng Wu

National Cheng Kung University

**P2-089** Debutylation and dephenylation of organotin compounds by the fungal laccase-mediator systems

Jun You Liu, Shiu-Mei Liu

National Taiwan Ocean University
### Phylogeny and Taxonomy

**P2-090** Freshwater isolates of anoxygenic photosynthetic bacteria able to oxidize ammonia under anaerobic conditions
淡水性嫌気的アンモニア酸化光合成細菌の分離
○Haruna Tanaka, Sumire Nakakouji, Satoshi Hanada
Fac. of Biol. sci., Tokyo Met. Univ.

**P2-091** Effect of heat or salt stresses on primary structure of photosynthetic reaction center subunits
塩・熱ストレスの影響による光合成反応中心のアミノ酸一次構造の変化
○Yurika Morioka, Setsuko Hirose, Sakiko Nagashima, Satoshi Hanada
Fac. of Biol. sci. Tokyo Met. Univ.

**P2-092** Enrichment, isolation and cultivation of rarely cultivated bacterial phylum Verrucomicrobia by using duckweed-microbes interaction
ウキクサを釣り針とした難培養性細菌群Verrucomicrobia門細菌の集積と分離培養
○Erina Tozawa¹, Yasuhiro Tanaka¹, Hideyuki Tamaki², Yasuko Yoneda², Ayaka Makino², Tadashi Toyama³, Masaaki Morikawa⁴, Yoichi Kamagata², Kazuhiro Mori²

**P2-093** Genetic Characterization of Soybean Rhizobia Isolated from Germany soil
ドイツにおけるダイズ根粒菌の単離と遺伝的特性解明
○Kun Yuan¹, Artigas Ramirez Maria Daniela ¹, Moritz Reckling², Soh Sugihara³, Takeji Ohyama¹, Sonoko Dorothea Bellingrath-Kimura², Naoko Ohkama-Ohtsu¹
1) Univ. of Agriculture and Technology  2) Leibniz Centre for Agricultural Landscape Research (ZALF)  3) Univ. of Agriculture and Technology  4) Univ. of Agriculture

**P2-094** Lactococcus termiticola sp. nov., isolated from the gut of the higher termite Nasutitermes takasagoensis
高等シロアリNasutitermes takasagoensisの腸内から単離したLactococcus属の新種（L. termiticola）
○Chihiro Aihara¹, Megumi Katsuhara¹, Mitsuo Sakamoto², Moriya Ohkuma³, Satoshi Noda³
1) Univ. of Yamanashi  2) PRIME, AMED  3) BRC/JCM, RIKEN

**P2-095** Comparative analysis of single nucleotide polymorphisms within Mimiviridae
ゲノム上の一塩基多型情報に基づくミミウイルス科ウイルスの比較解析
○Motohiro Akashi, Masaharu Takemura
Fac. of Science, Tokyo Univ. of Science

**P2-096** Investigation on large-scale gut microbiome of Japanese
日本人を対象とした腸内細菌叢の大規模調査
NIBIOHN, National Institutes of Biomedical Innovation, Health and Nutrition

**P2-097** [ASME] Phenotypic and Genomic Properties of Brachybacterium vulturis sp. nov. and Brachybacterium avium sp. nov.
○Euon Jung Tak, Pil Soo Kim, Dong-Wook Hyun, Hyun Sik Kim, June-Young Lee, Woorim Kang, Hojun Sung, Na-Ri Shin, Min-So Kim, Tae Woong Whon, Jin-Woo Bae
Kyung Hee University

**P2-098** [ASME] Isolation and Identification of Sphingorhabdus sp. LPB0140
○Min-gyung Baek¹, Su-Kyoung Shin², Hana Y²
1) Department of Public Health Sciences, Graduate School, Korea University, Seoul, Republic of Korea  2) School of Biosystem and Biomedical Science, Korea University, Seoul, Republic of Korea
P2-099 [ASME] A Novel Genus of the Family Enterobactericeae, isolated from Freshwater
Chaeyun Baek1, Su-Kyoung Shin2, Hana Yi1, 2
1) Department of Public Health Sciences, Graduate School, Korea University, Seoul, Republic of Korea 2) School of Biosystem and Biomedical Science, Korea University, Seoul, Republic of Korea

P2-100 [ASME] Strain HYN0046 gen. nov., sp. nov. belonging to the family Moraxellaceae
MinJi Kim1, Su-Kyoung Shin2, Hana Yi1, 2
1) Department of Public Health Sciences, Graduate School, Korea University, Seoul, Republic of Korea 2) School of Biosystem and Biomedical Science, Korea University, Seoul, Republic of Korea

P2-101 [ASME] Tumebacillus avium sp. nov., isolated from the gut of a cinereous vulture, Aegypius monachus
Hojun Sung1, Hyun Sik Kim1, June-Young Lee2, Woorim Kang1, Pil Soo Kim1, Dong-Wook Hyun1, Euon Jung Tak1, Mi-Ja Jung1, Ji-Hyun Yun1, Min-Soo Kim1, Na-Ri Shin1, Tae Woong Whon1, Jeong Rae Rho2, Sun Duk Park2, Jin-Woo Bae1
1) Department of Life and Nanopharmaceutical Sciences and Department of Biology, KyungHee University, Republic of Korea 2) Seoul Grand Park, Gwacheon-si, Gyeonggi-do, Republic of Korea

P2-102 [ASME] Paracoccus intestinalis sp. nov., isolated from the gut of blood cockle, Tegillarca granosa
June-Young Lee, Dong-Wook Hyun, Jin-Woo Bae
Dept. of Life and Nanopharmaceutical Sciences and Dept. of biology, Kyung Hee University

P2-103 [ASME] Bacterial community of insect vector of pine wilt disease
Su-Kyoung Shin1, Hana Yi2
1) Institute for Biomaterials, Korea University, Seoul, Republic of Korea 2) Department of Public Health Sciences, Graduate School, Korea University, Seoul, Republic of Korea

P2-104 [ASME] Improving Screening efficiency of Novel Freshwater Microorganisms using MALDI-TOF/MS
Mi-Hwa Lee, Sanghwa Park, Ji-Hye Han, Kiwoon Baek
NNIBR

Genomics and Molecular Biology

P2-105 Cell locomotion of a novel phagotrophic bacterium
Yukako Kakizawa1, Takashi Shiratori1, 2, Ken-ichiro Ishida1
1) Univ. of Tsukuba 2) JAMSTEC

P2-106 Genome analysis of filamentous sulfate-reducing bacterium Desulfonema ishimotonii strain Tokyo 01
Miho Watanabe1, 2, Hisaya Kojima1, Manabu Fukui1
1) ILTS, Hokkaido University 2) JSPS Postdoctoral Research Fellow

P2-107 Genome features of Ktedonobacteria, a class of Actinomycetes-like bacteria within the phylum Chloroflexi
Yu Zheng1, Atsushi Toyoda2, Yohei Minakuchi2, Chiuang-Mei Wang1, Yasuteru Sakai1, Keietsu Abe1, Akira Yokota1, Shuhei Yabe1
1) Grad. Sch. Agric. Sci., Tohoku Univ. 2) NIG

P2-108 Comparative genomic analysis of dissimilatory sulfate reduction and sulfur disproportionation
Kazuhiro Umezawa, Hisaya Kojima, Manabu Fukui
ILTS, Hokkaido Univ.
* P2-109 Comparative Genomics of Ecophysiologically Unique Rumoiensis Clade Species, **Vibrio**naceae

 rationing strain from Vibrio species of the Rumoiensis clade
 1) Laboratory of Microbiology, Faculty of Fisheries Sciences, Hokkaido University
 2) Department of Bacteriology, Faculty of Medical Sciences, Kyushu University

* P2-110 Transphyla gene transfer mediated by broad-host range gene transfer particles originating from actinomycetes

 1) TUMSAT, Tokyo University of Marine Science and Technology  2) AORI, Atmosphere and Ocean Research Institute, The University of Tokyo

* P2-111 **Smithella** propionica LYP uses a novel fourth pathway for syntrophic propionate degradation

 1) Bioproduction Research Institute, AIST  2) University of Illinois, Urbana-Champaign  3) Wageningen University  4) University of Minho  5) University of Oklahoma

* P2-112 Library construction method for determining both ends of single-stranded RNA

 1) MFbio, JAMSTEC  2) Life and Environmental Sciences, Univ. of Tsukuba

* P2-113 Evolution of bacteria with the rRNA genes on a plasmid rather than the chromosome

 1) GSS, UTokyo  2) BRC-JCM, RIKEN  3) NIG  4) AORI, UTokyo  5) GSFS, UTokyo

* P2-114 [ASME] Complete Genome Sequencing of *Salmonella enterica* Serovar Virchow FORC_038 Isolated from Raw Chicken Meat in South Korea

 1) Laboratory of Molecular Environmental Microbiology, Department of Environmental Science and Ecological Engineering, Korea University, Seoul, 02841, Republic of Korea

* P2-115 [ASME] Genomic and Phenotypic Analyses of *Methylobacterium* Species Isolated from a Car Air-conditioning System

 1) Laboratory of Molecular Environmental Microbiology, Department of Environmental Science and Ecological Engineering, Korea University, Seoul, 02841, Republic of Korea

* P2-116 [ASME] Detection of microalgal species by DNA-based analysis

 1) D-SUGAR, JAMSTEC  2) MFbio, JAMSTEC

* P2-117 Development of a continuous bioreactor for piezophiles

 1) D-SUGAR, JAMSTEC  2) MFbio, JAMSTEC

* P2-118 Cellulose-degrading ability and cellulose-utilizing bacteria in thermophilic chemosynthetic microbial communities at Nakabusa hot springs

 1) University of Tokyo Metropolitan Univ.
P2-119 Study on extreme thermophilic bacteria in volcanic ash derived from Mt. Sinabung, Indonesia
インドネシア国シナブン火山灰に由来する高度好熱細菌に関する研究
○Yukihiro Tashiro1, Fandi Hidayat1, 2, Ryo Fujimoto1, Yuki Okugawa1, Hasril H. Siregar3, Kenji Sakai1

P2-120 *Sulfurisphaera javensis* sp. nov., a hyperthermophilic and acidophilic archaeon isolated from Indonesian hot spring, and reclassification of *Sulfolobus tokodaii* as *Sulfurisphaera tokodaii* comb. nov
インドネシアの温泉から分離した新規超好熱好酸性アーキア *Sulfurisphaera javensis* の分類学的解析および *Sulfolobus tokodaii* の *Sulfurisphaera* 属への再分類
○Norio Kurosawa1, Kazuhiro Tsuboi1, Hiroyuki D. Sakai1, 2, Kenneth M. Stedman3, Naswandi Nur4, Antonius Suwanto4
1) Facul. Sci. Eng., Soka Univ.  2) JSPS Research Fellow DC2  3) Portland State Univ.  4) Bogor Agri. Univ.

P2-121 High-pressure stress response of sake yeast in moromi
日本酒醪中における清酒酵母の高圧ストレス応答の解析
○Kazuki Nomura, Chihiro Kataoka, Saori Ujiie, Akinori Iguchi, Toru Shigematsu

P2-122 Photosynthetic response to changes in environmental factors of a cultivated strain cyanobacterium *Phormidium priestleyi* isolated from cryoconite on Qaanaaq Glacier, northwest Greenland
氷河上に生息する糸状性シアノバクテリア *Phormidium priestleyi* の光合成の環境変化に対する応答
○Ayumi Kizawa1, 2, Jun Uetake1, Makiko Kosugi1, Shigeki Ehira1, Nozomu Takeuchi2
1) GSS,TMU  2) GSS, Chiba univ.

P2-123 Thermal tolerance of the cyanobacterium *Thermosynechococcus* sp. distributed in Nakabusa hot springs
好熱性シアノバクテリア *Thermosynechococcus* sp. の耐熱性
○Mio Shinada, Nozomi Kawamura, Katsumi Matsuura, Shin Haruta
Dept. Biol. Sci., Tokyo Metropolitan Univ.

P2-124 Measurement of the torque generated by the archaellar rotary motor in microscopic detail
アーキアベん毛モーターが発生するトルクの精密測定
○Seiji Iwata, Yoshiaki Kinosita, Daisuke Nakane, Takayuki Nishizaka
Department of Physics, Gakushuin University

P2-125 Analysis of microbial communities in air samples collected using Andersen sampler
アンダーセンエアサンプラーを用いて分級捕集した大気試料における微生物群集の解析
○Motoshi Goto1, Sayori Miyazaki1, Shinichi Koyama2, Kayoko Kita3, So Fujiyoshi3, Akihiro Sakatoku1, Shigehiro Kagaya1, Shogo Nakamura1, Daisuke Tanaka1
1) Univ. of Toyama  2) Murata Keisokuki Service Co., Ltd  3) Kyoto Univ.

P2-126 Participation of three DNA polymerases in DNA repair of UV damage in thermophilic crenarchaeon *Sulfolobus acidocaldarius*
好熱性クレンアーキア *Sulfolobus acidocaldarius* の3つのDNAポリメラーゼのUV損傷修復への関与
○Hiroki Miyabayashi1, Shoji Suzuki2, Norio Kurosawa3, 2

P2-127 Sulfur and hydrogen metabolism linked to CO$_2$ fixation by abundant Nitrospirae in the deep subsurface
深部地下環境において優占するNitrospirae門の硫黄および水素代謝とCO$_2$ 固定
○Yuki Amano1, Karthik Anantharaman2, Brian C. Tomas 2, Matt Olm2, David Burstein2, Cindy J. Castelle2, Hikari Beppu1, Kazuya Miyakawa1, Teruki Iwatsuki1, Yohey Suzuki2, Jillian F. Banfield2
1) JAEA  2) UC Berkeley  3) Univ. of Tokyo
P2-128 Exploring the aerotaxis of chemolithoautotrophs isolated from deep-sea hydrothermal fields
深海底熱水活動域から分離された化学合成独立栄養微生物の走気性の探索
○Shun Abe1), Sayaka Mino1), Kazunari Ozasa2), Tomoo Sawabe1)
1) Faculty of Fisheries Sciences, Hokkaido University  2) Bioengineering Lab., RIKEN

P2-129 Characterization of the Lignocellulose-degrading Potential in Soil near Antarctic King Sejong Station Using Single Molecule, Real-Time Metagenomic Sequencing
〇Han Na Oh1), Doyoung Park1), Dockyu Kim2), Woo Jun Sul1)
1) Department of Systems Biotechnology, Chung-Ang University  2) Division of Polar Life Sciences, Korea Polar Research Institute

P2-130 Key microbial drivers in carbon cycling of Phaeocystis blooms in an Antarctic polynya
〇So-Jeong Kim1), Jong-Geol Kim1), Sung-Keun Rhee2)
1) Geologic Environment Research Division, Korea Institute of Geoscience and Mineral Resources, Daejeon 34132, Republic of Korea  2) Department of Microbiology, Chungbuk National University, Cheongju 28644, Republic of Korea

P2-131~P2-141 Material Cycling

P2-131 Diversity of ammonia-oxidizing bacteria at seabird colony in Ny-Ålesund, Svalbard in the European High Arctic
高緯度北極・スバールバル諸島・ニーノルスンの海鳥営巣地におけるアンモニア酸化細菌の多様性
〇Masahito Hayatsu1), Kanako Tago1), Yong Wang1), Masaki Uchida2), Kentaro Hayashi1)
1) NARO Institute for Agro-Environmental Sciences  2) National Institute of Polar Research

P2-132 Isolation and genomic analysis of denitrifying bacteria from crop residue
作物残さに存在する脱窒菌の分離とそのゲノム解析
〇Kanako Tago1), Shin-ichi Tokuda2), Guo Yong3), Megumi Kuroiwa1), Tomotaka Nakamura4), Tomoyasu Nishizawa5), Yuichi Suwa1), Masahito Hayatsu1)
1) NIAES, NARO  2) Western Region Agricultural Research Center, NARO  3) College of Agriculture, Ibaraki University  4) Department of Biological Sciences, Faculty of Science and Engineering, Chu University

P2-133 Degradation and assimilation of carbonyl sulfide by soil fungi
土壌真菌によるCOSの分解と同化
〇Yusuke Kosaka
Biodegradation control laboratory, Tokyo Univ. of Agriculture and Technology

* P2-134 Changes in nitrifying community and NO2- production rate in forest soils incubated at different soil moisture conditions
森林土壌の含水率操作培養によるNO2-生成速度と硝化微生物の変化
〇Riho Nakagomi1), Shiori Nagano1), Hiroki Takahashi1), Naoto Tanaka1), Tomoki Oda2), Megumi Kuroiwa1), Yuichi Suwa1)
1) Chuo univ.  2) Tokyo univ.

* P2-135 Characterization of a dissimilatory antimonate [Sb(V)]-reducing Geobacteraceae bacterium strain SBR isolated from antimony mine soil
アンチモンで呼吸できるモン！ Geobacter sp. SBR株のアンチモン還元・結晶化の秘密
〇Chisato Iida1), Shigeki Yamamura1), Nobuyoshi Nakazima2), Seigo Amachi1)
1) Horticult, Univ. of the Chiba  2) National Institute for Environmental Studies

* P2-136 Evidence of cultivating novel ammonium-oxidizing archaea using soil extract medium
土壌抽出液培地による新規な硝化関培養の可能性
〇Chiharu Umezawa1), Megumi Kuroiwa1), Tomoyoshi Hashimoto2), Kazuo Isobe3), Yuichi Suwa1)
1) Chuo univ.  2) NARO  3) Tokyo univ.
* P2-137 Characterization and diversity of microbial antimony transformation pathways
アンチモン酸化還元微生物および代謝機構の多様性解析
〇Yoriko Yamashita¹, Natsuko Hamamura²
1) SLS, Kyushu Univ. 2) Biology, Faculty of Science, Kyushu Univ.

* P2-138 Identification of a novel iodate reductase from an iodate-respiring bacterium
Pseudomonas sp. Strain SCT
ヨウ素酸呼吸細菌Pseudomonas sp. SCT株のヨウ素酸還元酵素の同定
〇Chihiro Yamazaki¹, Yasuhiro Kasahara², Seigo Amachi¹

* P2-139 Prokaryotic community composition in the water column of a seasonally hypoxic enclosed bay (Omura Bay, Japan)
季節的に貧酸素化する閉鎖性内湾の水柱細菌群集組成
Kousuke Washio¹, Kento Otsuka¹, Kentaro Azuma¹, Fumiaki Mori¹, Yu Umezawa¹, Minoru Wada¹
1) GFES, Nagasaki Univ. 2) GSA, Tokyo Univ. Agr. and Tech.

P2-140 [ASME] Study on the total amount and pathway of non-point source pollutants from nearshore wetlands
〇Si Chen
Shenzhen University

P2-141 [ASME] Catabolism of Octylphenol Polyethoxylate by Human Skin Bacteria
Munkhtsatsral Ganzorig¹, Ji Yoon Jung¹, Shir-Ly Huang², OYoung Lee¹
1) Department of BioHealth Science, Changwon National University, Korea 2) Institute of Microbiology and Immunology, National Yang-Ming University, Taiwan

P2-142〜P2-149 Interface and Biofilm

* P2-142 Photo-sterilization of Pseudomonas aeruginosa in biofilm utilizing its heme acquisition protein
ヘム獲得蛋白質を用いたバイオフィルム形成緑膿菌の光線力学的殺菌
〇Miho Otake¹, Yuma Shisaka¹, Shiiho Yamada¹, Osami Shoji¹, Yoshihito Watanabe²
1) Dept. Chem., Grad. Sch. of Sci., Univ. of Nagoya 2) RCMS, Univ. of Nagoya

* P2-143 Visualization of DNA stress environment in biofilm
バイオフィルム内部におけるDNAストレス環境の可視化解析
〇Toru Isawa¹, Masanori Toyofuku², Tatsunori Kiyokawa¹, Jiayue Yang¹, Nozomu Obana², Nobuhiko Nomura²

* P2-144 Temperature effect and characteristics of biofilm formed by Listeria monocytogenes
Listeria monocytogenesのバイオフィルム形成に及ぼす温度影響とその特性
〇Shiori Yamamoto, Hiroshi Asakura

* P2-145 Microbiota analysis of slime stains isolated from industrial dishwashers
食品業界で用いる業務用機器に付着するヌメリの細菌叢解析
〇Tadashi Inamoto¹, Shigemitsu Tanaka², Asao Yamauchi², Ryuhei Fukushima¹, Kenji Yoshida¹, Takashi Matoba¹, Shinji Maruyama¹, Toshihiro Nagao²
1) Niitaka CO.,Ltd 2) Osaka Research Institute of Industrial Science and Technology Morinomiya Center

* P2-146 Involvement of c-di-GMP in Paracoccus denitrificans biofilm formation
Paracoccus denitrificansにおけるc-di-GMPのバイオフィルム形成への関与
〇Shun Miyazaki¹, Kana Morinaga¹, Nozomu Obana², Shunshu Masuo², Masanori Toyofuku², Nobuhiko Nomura
1) Grad. Sch. Life Environ., Univ. of Tsukuba 2) Fac. Life Environ. Sci., Univ. of Tsukuba
**P2-147** *Paenibacillus* species spores derived from biofilm have a higher resistance

*Paenibacillus*属細菌のバイオフィルム中に形成される芽胞は耐性が向上する

○Hiroko Kato¹, Kana Yokoyama², Nozomu Obana³, Hiromi Kubota⁴, Seizou Yashiro², Satoshi Nagai³, Nobuhiko Nomura³


**P2-148** [ASME] Effects of Quorum Quenching on Membrane Microbial Community in Membrane Bioreactor

○So-Yeon Jeong¹, Taewoo Yi², Chung-Hak Lee³, Tae Gwan Kim¹

1) Pusan National University 2) National Institute of Ecology 3) Seoul National University

**P2-149** [ASME] Long-range electron transfer in the conductive duel species aggregates of sulphate reducing bacteria and iron reducing bacteria

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