



**AMERICAN
SOCIETY FOR
MICROBIOLOGY**

Host Microbe Biology Retreat Summary

ASM Headquarters,
July 24-25, 2018

Members of the Host Microbe Biology (HMB) community met for a retreat July 24-25, 2018 at ASM headquarters. The meeting was led by COMS members Magdia De Jesus, Suzi Fleiszig, and Raphael Valdivia, and included 17 other members of the HMB community; COMS Chair Victor DiRita, Igor Brodsky, Kris Chadee, Michael Donnenberg (COMS), Leigh Knodler, Laura Knoll, Carolina Lopez (COMS), Luis Martinez, John Parker (COMS), Joao Pedra, Eric Skaar, Sarah Stanley, Rita Tamayo, Casey Theriot, Victor Torres, Daria Van Tyne and Marvin Whiteley. ASM staff who attended all or part of the meeting included Stefano Bertuzzi (ASM CEO), Amy Chang (ASM Education Director), and Christine Charlip (ASM Press Director).

The purpose of the retreat was to:

- Define the mission of the HMB community
- Identify new emerging themes in HMB-related science.
- Identify potential opportunities for ASM to promote the field of HMB-related research.
- Strategies for engaging members in ASM and the annual Microbe meeting.

1. Mission Statement:

- We are scientists at the interface of multiple disciplines who study interactions between microbes and their hosts, and how these interactions influence their fitness, health and disease.

This mission statement is the result of a vigorous discussion that reflected the diversity of views as to how we should define a “host” in a host-microbe system, especially as the field has evolved beyond classical human pathogenesis studies. HMB should cover the myriad diverse interactions that can occur between microbes, metazoans, plantae and even other microbes. Furthermore, we sought to broaden the scope of interest and significance of HMB beyond clinical and economic importance by acknowledging that the ultimate outcome of the interaction between a microbe and its host should be viewed through the prism of their evolutionary fitness. The final version of this mission statement aims to capture the unique aspects of HMB research versus other ASM tracks, while being in the spirit of inclusivity. It also recognizes that many HMB scientists will likely affiliate with one or more other ASM tracks, a desirable trait for inter-track information exchange and networking.

2. New emerging themes of HMB research

- Increasing focus on quantitative approaches including, integration of large multi-omic data sets through computational approaches, mathematical modeling, single cell and single molecule analysis, with a renewed emphasis on rigor and reproducibility.

- Adopting and developing new technological tools including high throughput genome editing, advanced high-resolution imaging, and big data & machine learning.
- A renewed emphasis on HMB interdisciplinary research including immunology, neuroscience, engineering & computational biology, microscopy & structural biology, environmental sciences, and clinical sciences, through outreach to other societies.

3. Opportunities for ASM to support HMB investigators and research:

Networking/Disseminating Information:

- Regular HMB retreats to help link the community and define emerging themes and opportunities as the field evolves.
- Empower chapters and branches to set their own scientific agendas and disseminate best practices.
- Continue to evolve strategies to connect people with each other and to information including:
 - Leverage social media for networking and career development.
 - Set up an HMB specific community
 - Expand online resources/data bases of information for researchers (e.g. jobs, funding opportunities, research tools, etc.).
 - Add a feature at membership signup or renewal time to self-identify in to subtrack(s), provide key words or tags to enable searching for people with unique interests.
 - Promote opportunities for HMB interaction with other ASM tracks.

Conferences/Journals/Membership:

- Support sessions within other conferences, e.g. meetings of international microbiological societies and within meetings of other disciplines that have an interest in microbes.
- Encourage other societies to hold and sponsor sessions at ASM meetings.
- Continue to work towards improving ASM journal review to enhance the author and reviewer experience.
- Support strategies to diversify the HMB community beyond bacteriology.

4. Increasing member engagement:

Social Media:

- HMB-specific website and social media presence.
- Leverage selected hashtags in social media.

Membership:

- Provide access to updated, searchable lists of members with interest in HMB.
- Establish mentor pairing programs, perhaps also through Microbe App.

Journals:

- Dissemination of emerging technologies should be highlighted at Microbe and through multi-track supported commentaries and special journal issues on emerging areas of collaboration
- Simplify review process, and transfer of articles to and from other journals or preprint services

Branches:

- Empowering Branches to host theme-specific HMB meetings.
- Travel awards for students from Branches to attend Microbe

Recommendations Specific to the Microbe Meeting:

- Simplify the program and reduce overlap among sessions
- Virtual and/or live orientation sessions for attendees to help navigate the HMB track
- Lower costs for attendance
- Diversify speakers
- More focus on unpublished data, “late breaking” oral sessions and some shorter talks.
- Smaller, focused venues for symposia at Microbe.
- Consistently highlight emerging technologies, themes and areas of collaboration
- Integrate and leverage other disciplines/outreach to other societies.
- Continuously evolve strategies enabling attendee networking; e.g.
 - Poster invite in the App to enable investigators to directly contact others
 - Extend functionality of App to enable a mentor-pairing program
 - Involve more junior people in the Microbe programs (i.e. form a new Junior advisory committee with a rotating faculty mentor).
 - Provide volunteer opportunities for trainees/junior investigators that enable them networking opportunities.
 - Sponsor a student fellow common room.
 - Host an HMB mixer

Guiding questions used for discussion purposes:

Development of HMB Mission Statement:

1. Who are we and what is our purpose?
2. What research areas define us?
3. What are our roles & responsibilities (e.g. research, education, advocacy & outreach, etc.) as a Track within ASM?
4. What should be our relationship to other Tracks?
5. Does the name HMB cover the scope of our activities and interests?

Identify horizons of HMB research

1. What are new areas emerging in HMB?
2. What are the new resources/technologies needed?
3. How can we leverage other disciplines to enhance HMB research?
4. How do we better integrate clinical research findings with HMB basic science?
5. How do we broaden HMB research beyond disease?

Opportunities for ASM

1. Are ASM Journals meeting HMB's needs?
2. How can ASM best support scientific conferences and meetings focused on HMB?
3. How can ASM better promote interdisciplinary work and new HMB collaborations?
4. How can ASM assist researchers in identifying new sources of HMB funding?
5. How can HMB help serving ASM's various missions?

Enhancing ASM member engagement

1. How might we facilitate communication within HMB?
2. How do we increase attendance of HMB investigators at Microbe?
3. How can we foster better networking at the meeting among all levels of training?
4. Can we create volunteer opportunities for trainees and new investigators?
5. Should we have special interest groups within HMB?