

## Meeting Report:

### Gordon Research Conference on Applied & Environmental Microbiology 2017

The Gordon Research Conference on Applied and Environmental Microbiology was held at Mount Holyoke College, South Hadley, Massachusetts, USA on July 16-21, 2017. This biennial meeting subtitled *Human and Microbial Perspectives of Microbial Economics* was chaired by Yuri Gorby, Rensselaer Polytechnic Institute, New York, USA, the Vice Chair was Kirsten Küsel, Friedrich Schiller University Jena, Germany, and the Co-Chair was Colin Murrell, University of East Anglia, Norwich, UK. A new Vice Chair Joel Kostka, from Georgia Institute of Technology, USA was elected to assist the new Chair, Kirsten Küsel at the AEM-GRC in 2019.

Applied and Environmental Microbiology (AEM) is one of the longest running of all Gordon Research Conferences. It's success and resilience results from the profound influence that microorganisms have on life on Earth, sustaining our environment, influencing our health and driving many industrial biotechnology processes. Research areas that are central to this GRC include terrestrial, subsurface, marine and freshwater biogeochemical cycles and the influence of microbes on climate change through consumption and production of greenhouse gases, bioremediation of contaminated land and water, production of biofuels and use as biocatalysts, the importance of microbes in human health, interactions of microbes with animals and plants. Areas of microbiological research covered have an immense impact on the environment and mankind and thus AEM remains a very vibrant and highly topical research field. This was reflected in the 2017 Conference with nearly 130 attendees from over 20 different countries.

The Conference provided an open forum for the presentation and discussion of latest research findings on the ecology and industrial applications of microorganisms from the single cell to ecosystems level, embracing a diverse range of research areas, including the ecophysiology of microbes, molecular ecology, genomics, metagenomics and postgenomic technologies, evolutionary diversity of microbial life, the complex roles that microorganisms play in life on Earth, and the many important applied aspects of microbes.

Scientific sessions included Synthetic Genomics, From Microbiomes to the Holobiont, Applied and Environmental Electro-microbiology, Biofilms and Interactions, Subsurface Microbiology, Microbial Diversity and Chemical Interactions, Aquatic Microbiology, Applied Aspects of Microbiology, and Global Perspectives. Scientific sessions encompassed contributions from 9 Discussion Leaders and from 33 Speakers, including four excellent short poster talks given by junior researchers. Emerging topics included a critical reflection on the use of next-generation sequencing technologies to applied microbiome work. One highlight was the talk of Ken Takai speaking about the Hadal Biosphere. There were four afternoon poster sessions to allow time for discussions of almost 100 posters presented at the AEM-GRC. Four junior researchers were awarded with a poster prize. Overall, the Conference was deemed a great success both scientifically and socially. All the early career researchers asking lots of questions exemplified the spirit of the GRC. So the balance between young and senior participants was important for a great exchange and lively discussion.

We are very grateful to the sponsorship from NASA for the 2017 AEM-GRC. This, together with a number of other donations, allowed the Chair to provide assistance to 64 young researchers and researchers especially from developing countries in attending the conference.

Kirsten Küsel, September 2017.