Report on DOE support for GSC13 travel award

This report details the outcome of the 13th meeting of the Genomic Standards Consortium. The 3-day conference was held at the Kingkey Palace Hotel, Shenzhen, China, on March 5-7th, 2012, and was hosted by the Beijing Genomics Institute (BGI). The meeting was entitled 'From Genomes to Interactions to Communities to Models' and aimed to be a scientific meeting that highlighted the role of data standards associated with genomic, metagenomic and amplicon sequence data, and the contextual information associated with the sample that data was generated from. To this end the meeting focused on genomic projects for animals, plants, fungi and viruses, metagenomic studies in host-microbe interactions, and community dynamics in microbial communities. In addition the meeting hosted a Genomic Observatories Network session, a GSC biodiversity working group session, and a Microbiology of the Built Environment session sponsored by the Alfred P. Sloan Foundation. The meeting was very well organized by the local hosts at BGI, and all attendees reported that they were very happy with the outcome, service and quality of the science presented. Highlights were keynotes by Rita Colwell, Mitch Sogin and Jim Tiedje. The 5 attendees paid for by the DOE award were Daniel Smith and Jared Wilkening (University of Chicago); Patrick Chain (Los Alamos National Laboratory), Austin Davis-Richardson (University of Florida) and Greg Caporoaso (University of Northern Arizona). Each attendee was able to either present or become involved with the attending scientists, and each reported that they had got something significant out of the meeting. Here are detailed their personal accounts of the GSC13 meeting. We thank DOE for the helping to fund this valuable outreach initiative, and for supporting the attendance of these bright young scientists at this important meeting.

Daniel Smith:
The GSC13 meeting was an excellent forum for Daniel Smith to present his findings from the Home Microbiome Study, and to network with other built environment investigators. His presentation summarized sampling methodologies and metadata collection strategies, which were highly relevant to the focus of the meeting. He also discussed his observations of how bacterial communities developed and differed within a home, and the degree to which human microbiomes spread to the surfaces that we come into contact with. Over the course of the meeting, Daniel met and spoke at length with several researchers who are leading complementary projects, including Greg Caporaso, the head developer of the QIIME bioinformatics software suite, Lynn Schriml, leader of the MIMARKS metadata standard, and Jeffrey Siegel, who has much experience examining the impact of HVAC systems and metal concentrations on indoor microbial populations. By funding Daniel's attendance at GSC13, he was able to hear these researchers' presentations and meet with them in person to discuss collaborations that will enhance the interpretive power of these current and future research efforts.

Austin Davis-Richardson:
Attending the GSC13 workshop in Shenzhen, China was highly beneficial to my research work as a PhD student. The conference was densely packed with interesting talks pertinent to my career. My fellow attendees were from backgrounds similar to mine

enabling discussions of topics in my field. I had the chance to meet with people working on projects similar to my own. Some of these people will hopefully become collaborators. I returned from the conference with a full notebook and lots of new ideas and I am already planning for the next GSC meeting.

Patrick Chain:
The meeting was very useful and enlightening. I liked the flavor of this GSC meeting, as it was more scientific and the scope was broad. There were key talks on viral genomics that I had not heard before, both from small labs and large centers (JCVI). Of course the most interesting part was the mega-projects of amazingly broad scope, that are only partly feasible today given costs and infrastructure. The talks by BGI were also enlightening, and provides a glimpse as to what a single center will be doing to revolutionize a field, not only in China, but the rest of the world. Due to the short meeting and relatively few breaks, it was not the easiest to network all that much – many folks to talk to and chat with, but I enjoyed it nonetheless….and one or two collaborations may come out of it!

Jared Wilkening
GCS13 participants and speakers focused more on science than previous GCS meetings. While the quality of most presentations were quite high and informative it wasn't always clear what was their interest or involvement in the GSC. There were several presentations made by individuals from disciplines outside *omics that made the meeting. Overall I would consider the meeting very worthwhile and successful. I expect several long term collaborations to come from attending.

Greg Caporaso
The GSC 13 meeting was an excellent opportunity to connect with existing collaborators and make new contacts with the backdrop of a very interesting program. Some highlights for me include discussions with Jared Wilkening, an existing collaborator, to plan further integration of our bioinformatics tools (MG-RAST and QIIME); discussions with Scott Kelley, an existing collaborator, on next steps in our development and application of tools to study of phage metagenomes; and discussions with Jeffrey Siegel, who I met for the first time at this meeting, about the microbiology of indoor environments, such as homes and offices. Spurred by discussions that were initiated at the conference, Jeffrey Siegel, Scott Kelley, and I have decided to work on a Sloan Foundation proposal together (pre-proposal deadline of June 1st). This meeting also gave me the opportunity to meet with Hayian Chu, who I have worked with in the past, and who I have an on-going project with, but had not previously met in person. Overall the meeting was very beneficial for me, and I hope to attend more GSC meetings in the future.