

OFFICE OF RESEARCH INFRASTRUCTURE PROGRAMS

Summary of “Evolution of Disease Models Resources,” the Ninth Comparative Medicine Resource Directors Meeting

August 15-16, 2012

Introduction

“Evolution of Disease Models Resources”, the Ninth Comparative Medicine Resource Directors Meeting, was held August 15-16, 2012 in Bethesda, Maryland. Principal Investigators were invited to attend if they held resource-related grants or contracts from the Division of Comparative Medicine (DCM), Office of Research Infrastructure Programs (ORIP), Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI), Office of the Director (OD). This biannual meeting provides a forum to exchange information among grantees and extramural program staff members from many NIH Institutes and Centers (ICs) and the NIH Office of the Director, and to highlight activities of the DCM-supported resource centers. At this meeting, 26 presentations and more than 50 posters highlighted aspects of “Strengthening DCM Resources’ Impact in Biomedical Research,” “Strategies for Linking Genotypes with Phenotypes,” and “Promoting a Resource.” Fifty resource grant representatives and 32 NIH staff from 13 NIH divisions plus NSF attended. Thirty seven resources were represented from 19 states, Puerto Rico, and the District of Columbia. The attendees included the Principal Investigators of DCM-supported centers funded by contracts, P40, U24 and U42 grant mechanisms, as well as grantees that have resource-related projects funded via the R24 mechanism.

Objectives of this Ninth Meeting, guided by the Conference Grant’s Scientific Advisory Board, were to provide information to DCM-funded Resource Directors, to develop synergistic working groups/interactions/collaborations and to share best practices among Resources. Another important aspect of the meeting was to provide a forum for Resource Directors and NIH staff to discuss optimization of administrative processes. Various NIH program officers and other staff from various NIH ICs were invited in order to further optimize national use of DCM-funded resources. The meeting generated additional interest in Resources, discussed “lessons learned,” and conveyed a sense of what has been done and what can be done in the future.

Meeting Agenda

Dr. Elizabeth Bryda welcomed the attendees to Bethesda. Dr. Franziska Grieder, Director of the DCM, and Acting Director of ORIP provided opening remarks and introduced the DCM staff members.

Dr. James Anderson, Director of the Division of Program Coordination, Planning, and Strategic Initiatives ([DPCPSI](#)), Office of the Director (OD), National Institutes of Health, presented the opening address.

Session 1 of the meeting titled “**Strengthening DCM Resources’ Impact in Biomedical Research**” showcased four resources that presented ideas on: 1. What do our current resources look like? What are the similarities and differences (in program income, acquisition, distribution, phenotyping, genotyping, model development activities, etc.); 2. Linking DCM resources to ongoing research activities (R01, R24, R21, High-end Instrumentation, Construction/G20, Common Fund programs); 3. Adding value to DCM resources (program income, linking to other NIH Resources, animal model databases, cataloging/curation); and 4. Planning to meet future needs of both customers and Resources.

The individual Session 1 talks were: “Overview” – Dr. Franziska Grieder; “The UC Davis Mouse Biology Program ... A Model for Animal Resources in the Post-Genomic Era” – Dr. Kent Lloyd (University of California at Davis); “The Primate Center Consortium Model”- Dr. Stuart Zola (Yerkes National Primate Research Center); “Next Generation Aquatic Resources: Both In the Lab and In the Field”– Dr. Ronald Walter (Texas State University); “Challenges for Model Organism Resource Centers” – Dr. Kevin Cook (Indiana University); and a Round Table Discussion.

Session 2 titled “**Strategies for Linking Genotypes with Phenotypes – What are the Next Steps?**” showcased four resources that discussed their programs and resources, including cross-cutting informatics – what is available and what others are needed? Each presentation gave a short introduction to a state-of-the-art scientific field/technological tool, followed by how the field/tool has advanced their resource. Time was reserved for attendees to clarify the potential benefits and costs of adding this field/tool to their resource.

The individual Session 2 talks were: “Overview” – Dr. Ray O’Neill; “Mutant Mouse Research Modeling Human Disease and Health” – Dr. Terry Magnuson (University of North Carolina Chapel Hill); “Animal Models for Understanding Gene Regulation and for the Identification of Therapeutics”- Dr. John Postlethwait (University of Oregon); “The Role of the Sea Urchin Genome Resource in Describing Gene Regulatory Networks” - Dr. R. Andrew Cameron (California Institute of Technology); “Characterization of Macaque Breeding Colonies by MHC Haplotyping and Ancestry SNP Analysis” – Dr. Roger Wiseman (University of Wisconsin); and a Round Table Discussion.

All resources were invited to present at the **Poster Session**, including both a resource- and a research-related poster. **The poster session provided** an opportunity for the attendees to have individual and detailed discussions with resource directors from scientific fields that differed from their own fields. There were multiple detailed examples of state-of-the-art, basic and translational research being conducted at DCM-funded resources.

On Day 2, Session 3 titled “**Promoting a Resource: Products, Services, Benefits, Solutions, and Identifying Scientific Gaps**” consisted of ten examples of three- to five-minute ‘Elevator Speeches’ or ‘Promotional Messages’ about a resource, for use in networking, via oral, written, and/or video formats. The speakers defined the resource, described services, identified customer benefits, and stressed innovative solutions to overcome challenges. The first goal of these presentations was to help the resources promote themselves, especially with respect to researchers who might be or become users. A second goal was to promote the resource to NIH staff as well as other resources, an effort that may lead to collaborations. The format of the presentations was not restricted, *e.g.*, they could be oral, slides, video.

The individual Session 3 talks were by: Dr. Theodore Clark (Cornell University); Dr. Leah Rae Donahue (The Jackson Laboratory); Dr. Mark Haskins (University of Pennsylvania); Dr. Monica Justice (Baylor College of Medicine); Dr. Randall Prather (University of Missouri); Dr. R. Balfour Sartor (University of North Carolina Chapel Hill); Dr. Michael Schmale (University of Miami); Dr. S. Randal Voss (University of Kentucky); Dr. Monte Westerfield (University of Oregon); Dr. Stuart Zola (Yerkes National Primate Research Center). A Round Table Discussion ended this session.

Session 4 titled "Administrative Issues" was moderated by Dr. Jack Harding, Acting Director

of DCM, and included the following individual presentations: “Science Education Partnership Awards (SEPA)” – Dr. L. Anthony Beck; “Remote cryopreservation at a central site” – Dr. Michael Chang; “Demonstration of the overall value of DCM resources for the biomedical research community and achieving proper acknowledgments of NIH support” – Dr. Oleg Mirochnitchenko; “Selecting cost-effective publicity for resources – Dr. Manuel Moro; and “Evaluation of 2012 meeting and planning for 2014” – Dr. Jack Harding.

Overall, the resource directors as a group gained additional insight into the new ORIP and DPCPSI administrative structure as it coordinates with the rest of NIH’s efforts in basic and translational biomedical research. This Ninth Meeting increased collaborations and sharing among DCM-funded Resources, informed Resource and NIH Staff about accomplishments and challenges, identified best practices, and highlighted new methods for publicizing resource capabilities (e.g., videos).

Evaluation forms were provided to the participants and this feedback will be considered in planning the 2014 meeting. The 2014 meeting will address among other topics, the major needs for: 1) improved data sharing across Resources and with the research community; 2) interactive informatics systems that can be used across Resources; and 3) systems for integrating large amounts of genetic data related to disease models. Additional feedback from the DCM community should be communicated to Dr. Jack Harding, Acting Director of DCM.