

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH (NIH)
NATIONAL LIBRARY OF MEDICINE (NLM)
BOARD OF REGENTS (BOR) COMPARATIVE GENOMICS RESOURCE (CGR)
WORKING GROUP (WG) MEETING
JANUARY 6, 2022**

MEMBERS PRESENT

Kristi L. Holmes, PhD, Northwestern University, Chair

EXTERNAL MEMBERS PRESENT

Alejandro Sanchez Alvarado, PhD, Stowers Institute for Medical Research

Hannah Carey, PhD, University of Wisconsin-Madison

Wayne Frankel, PhD, Columbia University Medical Center

Ani W. Manichaikul, PhD, University of Virginia School of Medicine

Len Pennacchio, PhD, Lawrence Berkeley National Laboratory

Valerie Schneider, PhD, DHHS/NIH/NLM/NCBI, Executive Secretary

Tandy Warnow, PhD, University of Illinois, Champaign-Urbana

Rick Woychik, PhD, NIEHS & NTP, NIH CGR Steering Committee Liaison

Cathy Wu, PhD, University of Delaware

EXTERNAL MEMBERS NOT PRESENT

Kenneth Stuart, PhD, Seattle Children's Research Institute

OTHERS PRESENT

Anne Ketter, Sr. Product Manager, NCBI

Sarah Kinling, Strategic Communications Principal, MITRE

Kim Pruitt, Chief, Information Engineering Branch, NCBI

Holly Rapport, Business and Healthcare Strategist, MITRE

I. WELCOME AND INTRODUCTIONS

Kristi Holmes, PhD, Chair

Valerie Schneider, PhD, Executive Secretary

Dr. Schneider welcomed Working Group members and introduced Dr. Holmes, Chair of the CGR Working Group.

Dr. Holmes greeted the Working Group members and asked each to introduce themselves, as well as note their research background. She emphasized interaction with research communities as a vital component in the development of the CGR.

II. INTRODUCTION TO CGR

Valerie Schneider, PhD, Executive Secretary

All Working Group Members

Dr. Schneider presented the “Introduction to the NIH Comparative Genomics Resource (CGR),” slideshow presentation. She reviewed the vision, strategic goals, and core structural elements of the CGR, an NIH-funded initiative to support pan-eukaryotic comparative genome analysis. The CGR will address the limitations and challenges of the current landscape of genome data resources. Dr. Schneider reviewed preparatory activities currently underway, highlighting outreach efforts to the scientific community. CGR Stakeholders, in addition to the user communities who are the intended CGR audience, include the CGR Working Group, the NIH CGR Steering Committee (SC), and the National Center for Biotechnology Information (NCBI), which leads the development of the CGR. Recent development process highlights include beta testing of a new web portal for genome-related data, as well as the examination of organism representation in PubMed and the NIH research portfolio. Metrics by which the success of CGR would be quantified were provided; in addition, Dr. Schneider sought feedback from the Working Group on how to best measure the scientific impact of CGR once implemented. Finally, Dr. Schneider posed questions for discussion regarding connecting with research communities and establishing criteria by which organisms can be prioritized within CGR.

Regarding the knowledge base of the team working to develop CGR, Dr. Schneider noted the goal of growing this knowledge base through research and outreach during 2022. Regarding the boundaries of activity of the CGR initiative, Dr. Schneider noted the vision of CGR to expand the reach of existing genomic analysis tools; with input from the research community, her team hopes to identify and fill gaps in this area of research. Dr. Schneider requested ongoing input from Working Group members on potential opportunities to interface with research institutions and communities. Regarding the prioritization of data within CGR, she noted that value will be awarded particularly to organism-agnostic components based on their relevance to human health.

III. DISCUSSION OF CGR GOVERNANCE BODY ROLES AND RESPONSIBILITIES

Kristi Holmes, PhD, Chair

Valerie Schneider, PhD, Executive Secretary

Rick Woychik, PhD

All Working Group Members

Dr. Holmes presented the Board of Regents Working Group Charge. The Working Group is primarily tasked with outreach to the scientific community regarding CGR to understand the needs of various research areas. The Working Group will explore ways in which the NIH can engage with the scientific community, establish priorities for CGR development, guide the development of scientific discovery based on genome data from research organisms, and liaise with the NIH CGR SC. The Working Group will meet virtually four to six times per year, and will report regularly to the full BOR. The Group’s activity will be temporary by design; the

charge and meeting frequency of the Working Group will be reassessed at the conclusion of the CGR project's second year.

Dr. Schneider reiterated the role of the Working Group as torchbearers for CGR, in both outreach to the scientific community as well as interfaces with federal agencies. She noted a goal for the Working Group of operating as efficiently as possible.

Dr. Woychik presented an overview of the NIH CGR SC. The SC will monitor the budget, milestones, and success metrics of the Working Group, to report progress and provide recommendations to the NIH Scientific Data Council (SDC). The SC will consist of an Institute or Center (IC) Director, the Office of Data Science Strategy (ODSS) Co-Chair, and senior level scientific staff from representative Institutes and Centers. The SC will conduct strategic oversight of CGR, including establishing a 5-year Strategic Plan for the CGR Initiative with the NLM; the Plan will be updated and reaffirmed annually. Based on the Strategic Plan, the SC will also oversee the budget and resources for CGR on behalf of all NIH ICs; the CGR initiative will be financially supported in an NIH-wide fashion as designated by the Office of the Director. SC goals for the CGR include promoting high-quality data submission and re-use, offering the best and most complete content, and supporting efficient and effective scientific discovery at the NLM-NCBI website. FY22 high-level goals for the CGR Initiative include fully embarking on outreach and engagement activities, continuing product deliveries, and filling remaining staffing vacancies. Dr. Woychik noted that the SC will invite Dr. Holmes to related meetings to report on the strategy and activities of the CGR Working Group.

IV. WORKING GROUP DISCUSSION

All Working Group Members

Dr. Schneider posed discussion questions to the Working Group with a focus on connecting with research communities and sharing the vision of the CGR Initiative. Suggested entities to interface with in developing and implementing CGR included the Alliance of Genome Resources, Genome 10K, groups and individuals conducting downstream analyses of annotated genome data, and analysis workshops such as TOPMed and CHARGE Consortium. Collaboration with groups conducting genome analyses with a variety of research organisms was also suggested, for example the American Society for Cell Biology, the Society for Developmental Biology, and the International Society for Regenerative Biology. It was also suggested to host workshops for community engagement in partnership with other extramural genome resource or analysis programs. Engagement with private industry institutions was also suggested, with examples provided including Fauna Bio and The Zoonomia Project. Follow up with IC Advisory Councils and Program Officers (POs) across NIH regarding opportunities for implementing CGR in ongoing research projects was suggested. Finally, the potential for engagement with family and advocacy groups as intermediaries between the CGR Initiative and primary researchers was noted.

The Working Group agreed with Dr. Holmes' suggestion to pursue the dissemination of perspective articles about CGR, coauthored by Group members, in journals; however, it was

noted that this would not be a sufficient way to generate and accumulate recommendations from the scientific community. Dr. Holmes noted work underway to develop a web portal to receive comments and recommendations, as well as discussion of issuing a Request For Information (RFI) to formalize community input.

Dr. Schneider highlighted the importance of conveying CGR as a valuable member of the existing community of genome data resources. She noted that the scope of CGR, as envisioned at NCBI, will not include data management or content generation, but rather focused on ensuring the availability of information. Dr. Woychik noted the promise of emphasizing the facilitation of collaboration across groups and agencies in messaging to Congress. Dr. Schneider clarified the intended application of CGR as a resource for both current and prospective researchers, rather than a tool directed for use by the lay public. Finally, it was suggested that educational resources be developed and made available to diverse communities to encourage further interaction and use of the CGR.

The Working Group requested that NCBI provide the CGR-related talking points presentation slides to aid in outreach to the scientific community.

V. WRAP-UP

Valerie Schneider, PhD, Executive Secretary

Rick Woychik, PhD

Kristi Holmes, PhD, Chair

The next Working Group meeting is anticipated for April 2022 to coincide with the NLM BOR Meeting on May 10, 2022. The following Working Group meeting is anticipated for August 2022 to coincide with the September 13, 2022, BOR meeting. Dr. Schneider noted that she will follow up with Working Group members after today's meeting to confirm their availability.

Dr. Schneider also noted that a report on the meeting discussions will be generated to be provided to the BOR. She will follow up with Working Group members for collaboration in compiling the report.

Dr. Woychik addressed potential concerns regarding funding for the CGR Initiative and emphasized that the CGR is intended as a complementary resource, not a competitor with existing genome data resources.

Dr. Holmes thanked the Working Group members for their participation and work in support of the CGR Initiative.