

Communicating Genomics:GTL

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To help build the critical multidisciplinary community needed to advance systems microbiology research, the Genome Management Information System (GMIS) contributes to DOE Genomics:GTL program strategies. GMIS also communicates key scientific and technical concepts emanating from GTL and related programs to the scientific community and the public. We welcome ideas for extending and improving communications and program integration to represent GTL science more comprehensively.

Accelerating GTL Science

For the past 17 years, we have focused on presenting Human Genome Project (HGP) information and on imparting knowledge to a wide variety of audiences. Our goal always has been to help ensure that investigators could participate in and reap the genomic revolution's scientific bounty, new generations of students could be trained, and the public could make informed decisions regarding complicated genetics issues. Since 2000, GMIS has built on this experience to communicate about the DOE Office of Science's Genomics:GTL program.

GTL is a departure into a new territory of complexity and opportunity requiring contributions of interdisciplinary teams from the life, physical, and computing sciences and necessitating an unprecedented integrative communication approach. Because each discipline has its own perspective, effective communication is highly critical to the overall coordination and success of GTL. Part of the challenge is to help groups speak the same language from team and research-community building and strategy development through program implementation and results reporting to technical and lay audiences. Our mission is to inform and foster participation by the greater scientific community and administrators, educators, students, and the general public.

Specifically, our goals center on accelerating GTL science and its applications. They include the following:

- Foster information sharing, strategy development, and communication among scientists and across disciplines to accomplish synergies, innovation, and increased integration of knowledge. A new research community centered around the advanced concepts in GTL will emerge from this effort.
- Help reduce duplication of effort.

- Increase public awareness about the importance of understanding microbial systems and their capabilities. This information is critical not only to DOE missions in energy and environment but to the international community as well.

During the past 2 years, we have worked with DOE staff and teams of scientists to develop the next program and facilities roadmap for GTL. This roadmap, a planning and program-management tool, is being reviewed by the National Academy of Sciences. Related tasks have included helping to organize workshops, capture workshop output, and conduct the myriad activities associated with creating a technical document of the roadmap's size and importance. In the past 5 months, as part of the mission goals set forth in the GTL roadmap, we have helped to organize the Biomass to Biofuels workshop and produce the draft report of a joint GTL–DOE Energy Efficiency and Renewable Energy research plan for lignocellulosic bioethanol.

For outreach and to increase program input and grantee base, we identify venues for special GTL symposia and presentations by program managers and grantees. We present the GTL program via our exhibit at meetings of such organizations as the American Association for the Advancement of Science, American Society for Microbiology, American Society for Industrial Microbiology, Plant and Animal Genomes, American Society of Plant Biologists, American Chemical Society, National Science Teachers Association, National Association for Biology Teachers, and Biotechnology Industry Organization.

We mail some 1600 packages of technical and educational material each month to requestors and furnish handouts in bulk to meeting organizers who are hosting genomics educational events. We continue to create and update handouts, including a primer that explores the impact of genomics on science and society and flyers on careers in genetics and other relevant issues of concern to minority communities. We supply educational materials in print and on the web site about ethical, legal, and social issues (called ELSI) surrounding the increased availability of genetic information.

All GTL publications are on the public web site, which includes an image gallery, research abstracts, and links to program funding announcements and individual researcher web sites. Additional site enhancements are being developed and implemented, including specific pages for DOE missions that will be impacted by the GTL program and its facilities. In addition to the GTL web site, we produce such related sites as Human Genome Project Information, Microbial Genome Program, Microbial Genomics Gateway, Gene Gateway, Chromosome Launchpad, and the CERN Library on Genetics. Collectively, our web sites receive more than 15 million hits per month. Over a million text-file hits from more than 300,000 user sessions last about 13 minutes—well above the average time for web visits. We are leveraging this web activity to increase visibility for the GTL program.

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