

## Ensuring the Quality and Credibility of Scientific Information and Funded Research

### Capabilities in Scientific and Technical Peer Review

- Implement custom peer reviews for small to multimillion dollar projects and products
- Identify and recruit expert reviewers from academic, medical, government, nonprofit, and other communities of expertise
- Ensure confidentiality and manage conflict of interest of reviewers
- Integrate PeerNet—ORAU's cyber secure, Web-based review management system—with the full review process, which makes collection, aggregation, and reporting of reviewer comments and ratings fast and reliable
- Assist customers with planning research needs and assess project success through workshops and other meetings

When organizations or the government disseminate scientific information or fund research proposals, it is critical that the information or the proposals be scientifically feasible and have verifiable technical merit. Through a customizable peer review process using independent, external experts, ORAU is helping its customers make informed decisions regarding the quality of the science.



### FY08 by the Numbers

- Coordinated 37 scientific peer reviews of 1,232 research proposals involving 1,650 reviewers with potential funding of awards totalling nearly \$223 million
- Adapted and applied the peer review model to more than 1,000 health risk assessments, postdoctoral applications, ongoing research programs and projects, abstracts, user facility time applications, and technical work products involving 1,256 reviewers
- Assisted with 180 program, project, and site reviews to evaluate ongoing and completed research activities or to disseminate research efforts to the research community or the general public in basic energy sciences, biological and environmental sciences, computational science, and homeland security

### Customers and Partners

- U.S. Department of Energy (DOE)
  - Office of Science
  - Office of Civilian Radioactive Waste Management (OCRWM)
  - National Nuclear Security Administration (NNSA)
  - Office of Energy Efficiency and Renewable Energy (EERE)
- U. S. Department of Homeland Security (DHS)
  - Science and Technology Directorate
  - Southeast Region Research Initiative - Oak Ridge National Laboratory
- Pennsylvania Department of Health
- Florida Board of Governors
- Kansas Bioscience Authority

## Improving Scientific Research through Rigorous Peer Review

When the stakes are as high as they are in finding alternative energy sources, leading the world in technology innovation, addressing climate change, or improving medical systems, a robust scientific research enterprise is important. In order to fund and support the best research, funding agencies must have confidence in the quality and credibility of the science. This confidence can come from rigorous peer review, which provides:

- Assurance of scientific or technical merit of proposed research and accountability for dollars spent
- Assurance that research conclusions and results are credible before being widely distributed
- Assurance that progress is being made in ongoing research or development projects and that they are suitable for continued effort or that the project goals have been met



### 2008 Key Accomplishments

- Coordinated four reviews focused on atmospheric science, atmospheric radiation, integrated assessment, and climate change prediction, which ultimately enabled DOE to announce more than \$6 million in research grants geared towards helping the nation predict and respond to climate changes.
- Coordinated performance reviews for three separate DOE Bioenergy Research Centers, which enabled DOE to evaluate whether each center is on course and should continue to receive the allotted funding of up to \$125 million over a five-year period.
- Facilitated a panel review where independent reviewers learned from vendors and Los Alamos National Laboratory program managers about progress being made on the IBM Roadrunner's design, implementation and operation. The world's first computer to break the petaflop barrier of one quadrillion calculations per second, Roadrunner was developed to aid in the assessment of the aging of nuclear weapons through simulating and modeling problems and takes the place of underground testing.
- Coordinated independent review of the scientific merit and economic viability of more than 40 proposals submitted to the Florida Board of Governors for establishment of centers of excellence for commercially promising advanced technologies.

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