Building a Research Future on Past Success

By Eric W. Abelquist, Arlene A. Garrison and Cordell Overby

Introduction

Oak Ridge Associated Universities (ORAU) is a Federal contractor and university consortium, headquartered in Oak Ridge, TN. As a 501(c) (3) nonprofit contractor, ORAU advances national priorities and serves the public interest by integrating academic, government, and scientific resources globally. The university consortium consists of more than 120 major Ph.D.-granting institutions—a significant resource to leverage as a Federal contractor. ORAU’s flagship contract is the Oak Ridge Institute for Science and Education (ORISE) managed for the U.S. Department of Energy. ORISE is dedicated to enabling critical scientific, research, and health initiatives of the Department and its laboratory system by providing world class expertise in STEM workforce development, scientific and technical reviews, and the evaluation of radiation exposure and environmental contamination.

ORAU is focused on revitalizing and sharpening its strategic focus on research. A primary thrust of ORAU’s mission is to create collaborative partnerships with member universities. Development of ORAU’s first Strategic Research Agenda was a significant milestone in 2018. It provides direction on how effort and resources will be focused to ensure alignment with ORAU’s strategic priorities. The strategic focus on research defines strategic drivers, research goals, and research focus areas. These areas include:
• Worker Health/Epidemiology
• Health Physics/Radiation Protection
• Atmospheric Science/Studies
• Data Analytics
• Health Communication, Marketing and Training Capabilities
• STEM Workforce Assessment & Evaluation Studies
• Peer Review Practice/Technology

It is thought that ORAU, in collaboration with its university partners, will experience increased externally-funded research, and potentially new ORAU business lines.

ORAU history

ORAU’s history and ongoing programmatic activity is deeply rooted in research activities. Since ORAU began in 1946, it has provided science education and research fellowships to help navigate the new field of atomic energy, highlighted by pioneering research in the use of radioisotopes to diagnose and treat cancer. Indeed, research has been a pillar of ORAU’s long-standing vision for success.

Consider some examples of the value that ORAU’s research offers ORAU as a Federal contractor and university consortium:
• ORAU’s largest programmatic activity is the support of research participation programs—supplying roughly 10,000 qualified researchers to national labs and other research centers
• ORAU’s technical peer-review supports hundreds of millions of dollars in research funding decisions
• Research has facilitated ORAU’s ability to deliver world-class solutions to customer problems, in radiological health physics, health related radiation emergency response, worker health, independent verification surveys, and laboratory analyses
For a number of reasons, ORAU’s research has significantly declined over the past few decades. The current plan includes investment and a focus on metrics to reemphasize the value of research in maintaining cutting-edge capability in the services ORAU provides.

Research as a differentiator (value for ORAU)

Today, ORAU’s Research Enterprise is focused on two primary objectives of 1) strengthening core competencies through innovation, and 2) enhancing the consortium-member university value proposition.

Research is widely recognized for its value in innovating products and services. ORAU researchers are regarded as thought leaders in many of our scientific disciplines. Research leads to greater technical differentiation of products/services, and it inherently promotes innovation. Greater differentiation, coupled with deep subject matter expertise in specific disciplines and strong focus on customer value, is a key to business growth. Research directly supports what ORAU does best—enabling our customers to excel at delivering their mission.

The value of collaborative research (to universities)

ORAU’s university value proposition model focuses on bridging ORAU’s capabilities with the expertise at the universities. Research is the currency between ORAU university members and ORAU subject matter experts on staff. Collaborative research is manifested through a variety of contract vehicles, avenues for joint proposals, and opportunities to engage in applied research with ORAU. The goal is to provide a strong benefit to consortium members and ORAU alike by supporting research and scientific advancement in mutually beneficial areas, enhanced collaborations between university-consortium members and ORAU, and increased ORAU support for university initiatives that align with private sector and Federal customer needs. To advance this objective, ORAU provides small collaborative grants, focused networking opportunities, and access to contract vehicles. External collaborative research success is measured through funding and joint publications.

ORAU’s overall success reflects execution of the dual mission as a Federal contractor and university consortium. The fact that university consortium activities and ORAU business activities have been independently successful is partially responsible for the minimal integration of these efforts.
Stronger engagement between ORAU's university partners and program business lines will: 1) improve value of ORAU consortium to member universities, and 2) increase ORAU's business revenue growth.

The ORAU Directed Research and Development program (ODRD) is a significant investment by ORAU in building member-university collaboration. Grants through this program have enabled preliminary work that has led to external publications and funding in areas as disparate as "fake" news tracking and beryllium health impacts. As an example, the National Science Foundation is funding development of a survey instrument for measuring people's susceptibility to "fake" news and refinement of a machine learning tool designed to identify "fake" news. ORAU is partnered with Penn State University on this project.

**ORAU current strategy and vision**

The ODRD program, which is now in its fourth year and was funded to strengthen ORAU and university collaborative research, leads to external funding and joint publications that will enhance the visibility of ORAU researchers and their university collaborators. Through collaborations between ORAU and member universities, ODRD harnesses innovation to strengthen and expand the scientific and technical capabilities of ORAU programs; enhances ORAU's ability to address current and future customer needs; and supports university-engaged, applied research that strengthens customer solutions. ODRD creates a means to support additional exploratory, collaborative research opportunities with other ORAU programs, and results in a greater potential for significant external research funding.

ORAU's research enterprise seeks to be an integrated program aligned with priorities that enable the development of products and services that strengthen ORAU's competitiveness. The investment in research infrastructure and focus on external research grants bodes well for ORAU's research enterprise. We are motivated by the challenge of growing our externally-funded research portfolio, and look forward to the valuable research collaborations necessary for us to achieve our goals.

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leads ORAU's research enterprise, focused on increasing research collaborations with our member universities via initiatives like ORAU-Directed Research and Development (ODRD), strengthening research compliance infrastructure and pursuing grant opportunities. A recent UT MBA graduate, Abelquist leads entrepreneurial and innovative initiatives that develop business growth for the organization. He can be reached at eric.abelquist@orau.org.

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