



Research
Office for Research & Discovery

INDUSTRY-ORIENTED CORE FACILITIES AND RESEARCH CENTERS – UNIVERSITY OF ARIZONA

GENERAL INFORMATION

Experience: Industry Oriented Core Facilities and Research Centers- University of Arizona

Country: United States of America

Coordinating Institution: University of Arizona

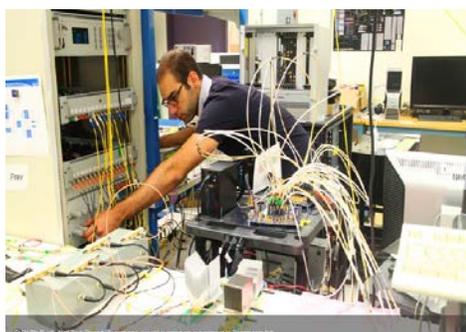
Duration of the experience: 2008 – present

Webpage: <http://rgw.arizona.edu/resources/core-facilities>

Area of the successful experience: Involvement of the private sector

DETAILED INFORMATION

1) Description



The University of Arizona (UA), as part of its role as a super-land grant university, has developed several Core Facilities and Research Centers which support unique research, development, and test activities, and help to enhance competitiveness of emerging and established regional businesses. Core Facilities with strong private sector usage and collaboration include: i) the UA Genetics Core Facility and the Functional Genomics Core; ii) the University Spectroscopy and Imaging Facility; iii) the W.M. Keck Center for Nano-Scale Imaging. Centers which line University researchers with regional and national private sector include: i) Center for Integrated Access Networks (developing novel integrated microelectronics and photonics telecommunication technologies); ii) BIO5 (improving health and agriculture through basic science and engineering); iii) Water and Energy Sustainable Technology Center (focused on new approaches to large scale and efficient water re-use and purification) and; iv) the iPlant Collaborative (new approaches to Big Data/Informatics across disciplines).

2) Beneficiaries

Beneficiaries of these Core Facilities and Research Centers include regional utilities (e.g. Tucson Electric Power), public and private businesses (e.g. Raytheon Missile Group), and Department of Defense facilities, including Davis-Monthan and Kirtland Air Force Bases.

3) Implementation

Core Facilities and Research Centers are managed and coordinated by the Office for Research and Discovery at the University of Arizona (ORD), overseen by the Senior Vice President for Research. Associate VPs for Research manage many of the day-to-day activities of these research entities, and facilitate new relationships between these UA capabilities and businesses that need the expertise and capabilities of UA faculty, staff, students and research infrastructure. Each Core Facility and Research Center is expected to be unique, enabling of new research and outreach activities, accessible to a wide variety of users, and sustainable, with robust business plans and plans for renewal of each capability.

4) Accomplishments and Results

CIAN

- Funded by the National Science Foundation, the Center for Integrated Access Network (CIAN) was established to create a transformed Internet that would enable user access to emerging real time, on demand, network services at data rates up to 100Gbps, at low cost with high energy efficiency.
- To achieve that capability, researchers have to reduce the cost and energy consumption of the photo-electronic components. A key technology developed by CIAN involves miniaturized mirrors to control laser pulses that in turn modulate high-speed electronic signals.
- The research at CIAN has garnered industry interest, attracting over 30 industry affiliates ranging from startups to industry heavyweights including Fujitsu and Intel. Nearly three dozen patents have been filed.
- CIAN has attracted additional funding to bring research experience to undergraduates and teachers with an emphasis on minorities and underserved communities.

WEST CENTER

- The WEST Center (Water & Energy Sustainable Technology), located in a partnering site with Pima County, is a world renowned venue focused on water and wastewater treatment and monitoring, alternative energy and related technologies. The WEST Laboratories target the water-energy nexus by ensuring safe drinking water to meet community needs, while meeting sustainable energy requirements.
- WEST focuses on creating additional jobs and economic development in the region, while simultaneously providing advanced educational and training opportunities.
- This partnership brings together water/energy experts, the public, government and private corporations.

iPlant

- Researchers at iPlant are taking UA's collaborative spirit globally by enabling biologists to do data-driven science simultaneously by providing them with powerful computational infrastructure for handling huge datasets and complex analyses.
- Established by the National Science Foundation in 2008 with a \$50M grant, the iPlant mission was to develop cyberinfrastructure for life sciences research and democratize access to U.S. supercomputing capabilities. The project, renewed with another \$50M NSF grant in 2013, has been successful in attracting partners and furthering science. In FY2014: 1,281 academic institutions participated in iPlant and there were 539 non-academic participants, including industry, states, and other federal agencies.

5) Offers of cooperation with the region to exchange good practices

WEF Workshops (No date given)

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The collection of experiences showcasing successful projects implemented by stakeholders in countries of the Americas is one of the most important tasks of the Inter-American Competitiveness Network (RIAC). There are more than 200 experiences available in the Signs of Competitiveness in the Americas Reports 2012 -2015: www.riacreport.org.

The Organization of American States (OAS) serves as the RIAC Technical Secretariat to facilitate the knowledge sharing between countries, multilateral and academic institutions. The experiences and

intellectual contributions presented by RIAC members for the 2015 Signs of Competitiveness in the Americas Report will provide valuable input for the RIAC Annual Meetings and the panel discussions during the IX Americas Competitiveness Forum (ACF) to be held in Guatemala City, on November 16-18, 2015.

For the latest information about the RIAC and the 2015 Signs Report follow us on Twitter @riacnet.org #RIACreport