



Oklahoma Innovation
INSTITUTE

ANNUAL REVIEW

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OKLAHOMA INNOVATION INSTITUTE UPDATE

The Oklahoma Innovation Institute (OII) is a 501(c)(3) not-for-profit corporation committed to building an innovative economy in the Tulsa region with the central theme of “**Research to High Impact Jobs**”. The Institute fosters collaborative research and development, STEM education, entrepreneurship, company creation and retention, life-long learning and creative, future-oriented thinking. These objectives are driven by private sector, government, education and philanthropic partnerships through the following OII initiatives: the Tulsa Research Partners, the Tandy Supercomputing Center, the Tulsa Regional STEM Alliance, the Entrepreneurship Center, the Best Thinking Forum and the Community Innovation Fund.



Throughout the first year of operations, the Oklahoma Innovation Institute has continued to grow in both personnel and programmatic support. In recognition of the work that OII and its staff have accomplished, the Oklahoma Innovation Institute was awarded the Journal Record 2014 overall Innovator of the Year Award for its work on the Tandy Supercomputing Center project. In addition, OII’s new Tulsa Regional STEM Alliance (TRSA) project has enjoyed national exposure and was one of 13 finalist cities in the new US2020 Innovated STEM City Competition. As a result, two representatives of the TRSA were invited to attend a White House STEM event to be held on May 27th to celebrate Tulsa’s response to the President’s call for public and private sectors to commit to mentoring to inspire young students in the important fields of science, technology, engineering, and mathematics (STEM). These are just a few examples of the progress OII has made over the last year and we will continue to develop and pursue the following new and existing programs:

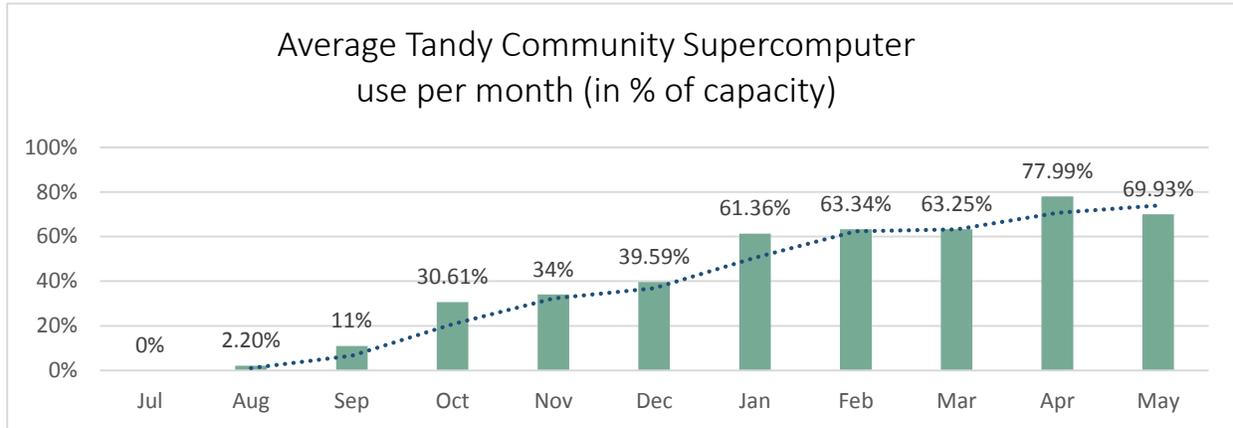
TULSA RESEARCH PARTNERS

Tulsa Research Partners (TRP) is an historic research collaboration and sharing of resources among our 4 major higher education institutions: The University of Tulsa, OSU-Tulsa, OU-Tulsa and Tulsa Community College. The Oklahoma Innovation Institute (OII) will continue to grow staffing and researcher support for grant identification and research matching, technology transfer, commercialization and market identification leading to the creation of capital formation resources for emerging growth companies in the Tulsa region.

In alignment with OII’s 2014 strategic plan, the TRP Community Office of Technology Transfer and Commercialization will be established. OII will continue in its role of convener and facilitator and focus on new ways to accelerate the transfer of technology research from all TRP members in a timely and sophisticated manner. The community transfer office will be designed to help expedite the unusual and dramatic opportunities arising out of TRP and the corporate research base of scientists and entrepreneurs in our region. This technology maturation process will be supplemented by the extraordinary scientific resource tool in the Tandy Community Supercomputer and be considered in connection to the newly proposed entrepreneurial activities hub to be located in the Brady District.

TANDY SUPERCOMPUTING CENTER

The Tulsa Research Partner's Tandy Community Supercomputer Business Development Plan is being finalized with the objective of attracting a commercial base of users from corporations, public and governmental agencies, the private sector, small business, academia, and emerging growth companies. A member subscription model will ensure the sustainability of this exceptional community and regional resource. There exists a segment of the Tandy Community Supercomputer available for early stage companies to use donated nodes on a free access basis for their applications. Tulsa has the designation of having the only Community Regional Supercomputer in the United States open to all users.



The Tandy Supercomputing Center's (TSC) activities since formally opening its doors in June 2013 have served dozens of individual academic users from TU, OSU-Tulsa, OU-Tulsa and TCC, as well as a number of entrepreneurs and small business enterprises. The graph above indicates the growth in usage of the system in the past months during our soft opening. With the implementation of the business development plan and the addition of new community members, supercomputer usage is project to increase significantly in 2014. Some examples of milestones and achievements are listed below.

July 2013 – First production code runs on the Tandy Community Supercomputer

Dr. Brek Wilkins, a postdoctoral researcher from the OSU Center for Health Sciences, was the first to run real research code on Tandy. His work involves the automatic signal processing of electrocardiogram data to predict the onset of heart attacks, a computationally intensive task that was not possible on his lab workstations. Using the same cost of resources on the Tandy Community Supercomputer his work went from turnaround times of 5 hours to 5 minutes.

August 2013 – Users from all members

As of August 2013, TSC had supercomputer users from each of our academic members: TCC, OSU-Tulsa, OU-Tulsa, and TU. In the early days of *Tandy's* production, all users were volunteers who agreed to help test the system in exchange for early access to the supercomputer, a program that approximately 10 individual users took advantage.

September 2013 to present– Private sector proofs of concept

TSC has conducted three private sector proofs of concept to date. The first was in September of 2013, in which we advised a small meteorology company on the advantages high performance computing could bring to their system. We are under consideration as a service provider when their current hardware needs replacement. Moomat, a local Tulsa business that helps users curate archives of digital content, is using *Tandy* for a pilot program to catalog and compare museum content. EMR Technical Solutions is developing a product to use computer models to detect fraud automatically in Medicare and Medicaid claims systems that would be powered by the Tandy supercomputer.

April 2014 – TCC Joint Workshop

In April 2014, TSC facilitated a workshop in next generation gene sequencing using the Tandy supercomputer. Attendees included faculty from TSC academic members, as well as three high school faculty, who received hands-on training from professionals from Tulsa Community College, Oklahoma State University, the Tandy Supercomputing Center, and Johns Hopkins.

TANDY SUPERCOMPUTING CENTER FELLOWSHIP PROGRAM

An important mission of the Oklahoma Innovation Institute is to seed the Tulsa region with technology-based companies, create high impact jobs, expand the depth and breadth of the computational sciences and engineering workforce, and to improve the Tulsa economy. To further that mission, the Oklahoma Innovation Institute has offered research fellowships through the Tandy Supercomputing Center, a division of TRP, to graduate students pursuing advanced degrees in science and engineering fields that have a need for high performance computing to advance research that has the potential for significant commercialization opportunities. The Tandy Supercomputing Center Fellowship (TSCF) program comprises a graduate program of study, an 8-week practicum in research counseling and entrepreneurial training, and research presentations at the annual Tulsa Research Partners conference and fellowship symposium. The Tulsa Research Partner's Tandy Supercomputing Center will work to complete the fundraising required for the TSCF program which will award such fellowships to our founding institutions: TU, OU-Tulsa, OSU-Tulsa and Tulsa Community College. An existing relationship has been created with Stanford University involving a Tulsa student in a research and mentoring program with the plan of commercializing this research based technology in the Tulsa region.

TULSA REGIONAL STEM ALLIANCE

OII will continue to develop the Tulsa Regional STEM Alliance (TRSA) which positions OII as a neutral convener and facilitator of a collaborative alliance of over 60 STEM related programs throughout the state to share resources and to substantially impact the effective delivery of STEM education and programs throughout our region. At present, the delivery of STEM programs is highly fragmented, however the TRSA is encouraging the concept of enlightened self-interest in addition to the ability to stop duplication of efforts and start sharing resources across the community. The alliance has been working together over the past six months and is convinced that a shared vision under the OII umbrella with a dedicated TRSA staff supporting the mission of the alliance members will be a successful collaborative role model for the region.

ENTREPRENEURSHIP CENTER

The Entrepreneurship Center is part of OII's phase 2 implementation plan and focuses on leveraging existing entrepreneurial resources and filling identified gaps by providing education, training, promotion and networking to the research and entrepreneurial communities, including entrepreneurs, investors and children. The Center's objective is to support, retain and to build emerging growth companies in the Tulsa region and create and encourage a business climate of innovation and entrepreneurial activity. The Center will offer best practice programs oriented to the entrepreneur and the investor along with mentoring and internship programs through OII relationships with colleges and universities' entrepreneurial studies programs, as well as reaching out to technical training institutions across Oklahoma. All of these programs will be collaboratively driven with other like-minded service providers. Our mission is to eliminate silo driven agencies and ensure collaboration is the byword of the future.

BEST THINKING FORUM

The Best Thinking Forum modeled after the Aspen Institute provides a safe, calm harbor for civil and deliberative dialogue in order to timely confront the pressing issues of the day. Over a period of several years, the discussions of regionalization and the change in demographics of the region have been in the forefront of some of the challenges facing our citizenry. It is now time to take ACTION. The OII Best Thinking Forum has been asked to collaborate with the regional community for a discussion of best thinking on a regional and national basis. Bringing together leaders in business, education, philanthropic foundations, government, religious and social service agencies for a rational and civil discourse on our future. All of these key leaders will be a part of this significant undertaking while our speakers will come from the battle lines of achievement of this type of dream. THIS DREAM WILL BE REALIZED. OII is pleased to work closely with our community and regional partners in this exciting project. Dr. Gerry Clancy, Phil Dessauer, Larry Wofford, Susan Neal in addition to the Chamber, INCOG, TYPros and have been some of our partners in planning.

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CONCLUSION

Going forward, OII will continually evaluate future programs to ensure that we have carefully assessed our manpower needs for our existing staff in order to properly and on a timely basis deliver our prioritized and effective work outcomes.

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