

Anne's Note



The academic year is off and running! With the success of think[box], we hosted the International Symposium on Academic Makerspaces (ISAM), which brought over 400 academic, industry, and government partners to discuss how makerspaces can impact universities and industry across the country. Case is in very good company partnering with Stanford, Carnegie Mellon, MIT, and Georgia Tech, among others.

Along with partnerships across the country, we have a new partnership right here on campus. In this issue we are highlighting Humanities@Work which is run out of the Baker Nord Center. This program is working with Career Services and Corporate Relations to find new opportunities in industry for our English, History, and other Humanities majors. With their analytical, written and verbal strength, in addition to their ability and access to technology, these young people would be an asset to any of your organizations.

To test out the product – Corporate Relations has hired two student interns to work with us on our marketing efforts. Cameron Childers is a senior majoring in religion, sociology, and gender studies, and Richard Pannullo is a sophomore majoring in theatre. Cameron is working on developing a brand new website for us on opportunities to support diversity scholarships, programs, and the like, while Richard is working on updating our corporate website, managing our metrics, and sending out this newsletter. Needless to say they have hit the ground running.

I would encourage everyone of you to consider hiring one of our humanities students for your marketing communications, sales, HR, strategic planning, or government relations offices, just to give you some ideas. If you want to know more you can contact me at corporaterelations@case.edu or Brian Clites at brian.clites@case.edu.

— — —

Philanthropy

PNC Provides Support for the Maltz Performing Arts Center



In 2010, Case Western Reserve University entered into an historic partnership with The Temple-Tifereth Israel and began a renovation of the Temple: from a revered place of worship and a Cleveland landmark, into the university's premiere performing arts complex. The only project of its kind in the country, the repurposing of the 95-year-old building was driven by the extraordinary generosity and vision of Milton and Tamar Maltz as well as the nearly 50 individuals, foundations, and corporations that have supported this unprecedented project.

The entire complex will be completed in a phased approach. The Temple building was the first priority, with its space serving as the heart of the complex. With the help of a generous donation from PNC Bank, Phase One of the project was completed in 2015. Phase One included a renovation of Silver Hall, the Recital Hall, and proximate spaces. Of the many donations made to the Temple project, support from our corporate partners, and PNC Bank in particular, served to hasten the completion of the renovation. As such, the repurposing of the Temple building is now complete. The building now begins a new chapter as the Milton and Tamar Maltz Performing Arts Center.

Support for the arts and education is integral to our university, as about two-thirds of our students participate in performing arts classes even though they are earning degrees in other fields. Additionally, this investment into a new University Circle performing arts center impacts scores of residents, workers, and students, and attracts broader audiences from our campus and the community. Understanding the value to the community was a major attraction for PNC to this project.

Looking forward to Phase Two of the Maltz Performing Arts Center project, we envision greater space for all of Case Western Reserve University's performing arts programs: theater, dance

and music. New performance spaces will include the proscenium-style theater and the new black box Fowler-Green Studio Theater for innovative productions and student workshops.

Preliminary plans also include rehearsal studios, practice rooms, and costume and scene shops—all with state-of-the-art technology to foster the kind of in-depth learning, creativity, and innovation that will enrich our students' learning and experience, and contribute to our overall academic environment.

The Milton and Tamar Maltz Performing Arts Center at The Temple-Tifereth Israel has become a place for music, lectures, and other forms of cultural enrichment. Silver Hall, seating up to 1,200 people, has begun to showcase students from Case Western Reserve's music department, whose 19 ensembles include a symphony orchestra, an Early Music vocal ensemble, Baroque chamber ensembles and orchestra, ensembles for jazz, wind, and popular music, and the Case Concert Choir. The Maltz Performing Arts Center is also home to Think Forum, the university's distinguished lecture series, and will host signature cultural programs that engage the larger Cleveland community. Importantly, Silver Hall will continue to be used by The Temple's congregation for major religious observances and life-cycle events.

Case is strongly committed to the arts and humanities. If your company is likewise interested in preserving and promoting these areas of culture and creativity, please contact us at corporaterelations@case.edu.

— — —

Human Capital

HUMANITIES@WORK - Our Students, Your Employees



In the course of their academic studies, humanities students develop superior skills in written and verbal communications, research and analysis of information and data, and short and long-term project management that prepare them to work in a variety of positions within the corporate environment. English majors are keenly able to work within marketing and communications departments to craft messages that engage and connect with a company's client base. History majors have the ability to provide context of economic and political implications of business decisions. However, it is less common for companies to target these valuable resources directly when developing their talent pipelines.

The Humanities@Work program connects Case Western Reserve University humanities students with corporate, government, nonprofit, and other partners through community discussions, networking events, and paid career opportunities (COOPs, internships, practicum, etc.) for junior and senior-level undergraduate students. This program provides an opportunity for your organization to increase its brand name in the CWRU network and connect our students to the national workforce. Additionally, it not only allows you to benefit from the creativity and talent of our humanities students, but also provides an avenue for recruiting and evaluating potential employees for your company.

The ultimate purpose of the Humanities@Work program is to create opportunities for CWRU humanities students to explore career paths and gain hands-on experience in positions across a wide range of fields and sectors. All Humanities@Work positions are administered through the Baker-Nord Center. Positions are mutually beneficial opportunities for humanities students and local and national employers to collaborate.

The Baker-Nord Center is dedicated to highlighting and celebrating the arts and humanities at CWRU. Its programming and initiatives support research and creative work, and also encourages new and innovative directions in creativity. Baker-Nord is committed to facilitating cross-disciplinary and interdisciplinary collaborations among CWRU faculty, members of other cultural and educational institutions, and corporate partners to address questions and problems of broad human interest.

To take advantage of the unique and powerful perspective of CWRU's humanities community toward the benefit of your organization, please contact corporaterelations@case.edu.

— — —

Co-Branding

Find Ways to Brand your Company on our Campus



Co-branding with Case Western Reserve University increases your company's visibility. Working together connects your organization's values and image with the university's credibility and acclaimed programming. And, it spreads a strategic message to a targeted audience.

There are many ways to brand on CWRU's campus. One of the easiest methods of engagement is through event sponsorship, which connects your organization's brand with CWRU's highly acclaimed cultural, educational, and professional events. For example, one of our signature events, Research ShowCASE, brings together researchers, scientists, and scholars to show how their research brings value through collaboration, creativity, and innovation. Exhibits of real-world applications, critical insights, and creative and intellectual activities will be on view for students, faculty, staff, alumni, business and industry leaders, and the community, highlighting the full range of research at CWRU. Research ShowCASE is free and open to the public. This year's event was held on April 21st in Case Western Reserve University's Veale Convocation Center. **Sherwin Williams took advantage of this opportunity to highlight their strength in research by naming the Advanced Materials Corridor at ShowCASE.**

Co-branding can also be accomplished through an investment in facilities and capital. Rockwell Automation has supported their Rockwell Automation Machinery Diagnostics and Control

Laboratory here on campus, which is focused upon machinery diagnostics and failure prediction. A number of test stands provide instrumentation for machinery lifetime prediction and sensor development, with additional instrumentation providing for remote operation of the test stands

Alumni events provide another opportunity to celebrate your organization's partnership with Case Western Reserve University. Hosting these events can bring together CWRU alumni from your organization to provide a source of pride, a sense of community, and the resources for continued success by connecting them to each other.

— — —

Research

CWRU Creates a Living Laboratory at Breckenridge



Through a unique collaboration between the university and continuing care retirement community Breckenridge Village, professors from CWRU's Frances Payne Bolton School of Nursing and the Case School of Engineering hope to explore the promising possibilities that exist for improving the well-being of the senior population. The vision is to develop a transformational living laboratory focused on developing technologies to enhance the lives of the aging within our communities. This will allow CWRU and our partners to be at the cutting edge of providing more appropriate and improved care, enhancing elder quality of life, and the unusual opportunity for seniors to participate in research activities that are focused directly toward their personal interests and issues.

In 2014, CWRU initiated a partnership with Breckenridge Village, located in Willoughby, OH. In first exploring this opportunity, work was done with community members on a clinical basis, engaging them to improve our technology. Subsequent on-site studies pursued a better understanding of the accuracy of fitness bands when used by an elder constituency. Dr. Liz Madigan, Professor of Nursing, randomly placed four brands of bands on the wrists of participants and videotaped the residents walking. Researchers found that the bands under-counted steps for those using walkers. In general, the most accurate bands were accurate for only 5 of the thirty participants. In another instance, Dr. Kiju Lee, Assistant Professor in the Department of Mechanical and Aerospace Engineering, has been conducting a study, in collaboration with Liz Madigan and Breckenridge Village staff member Cleve Gilmore. The study, which tests TAG-Games (Tangible Geometric Games) to assess the cognition of older adults, aims to design a tangible, highly-instrumented technology that can be used for

personalized cognitive assessment and training for each individual's different cognitive, health, and age conditions. This particular research has been funded by NSF.

To date, CWRU has invited enthusiastic participants from the Breckenridge community to take part in activities which allow them to receive direct insight and feedback toward addressing their specific challenges, health issues, and interests. As this living laboratory has the potential to significantly improve the lives and technologies of the growing senior citizen population, we believe the possibilities to partner with this group are extensive.

As a further expression of the close partnership enjoyed by CWRU and Breckenridge, the Village has generously allotted 2,500 square feet of dedicated space within their complex for CWRU to create an innovation laboratory, in which necessary tools and equipment will be housed to support ongoing research projects. Plans are in development to create a number of suites to enable testing of individuals for cognitive and motor skills and, potentially, telemedicine. These specific quarters will supplement other research initiatives in which group assessments will take place, also serving as unexpected but important social interaction opportunity for the Breckenridge community members.

If your company wishes to support the interests of the senior population and better their quality of life, we encourage you to contact us at corporaterelations@case.edu to discuss ways to help fund outfitting of the laboratory or become involved.

— — —

Economic Development

CWRU Spin-Out Synapse Provides Relief to Patients

Case Western Reserve University's Institute for Functional Restoration (IFR) and Synapse Biomedical Inc. have entered a partnership to commercialize fully implantable systems that restore muscle function in paralyzed patients.

Initial support from the Craig H. Neilsen Foundation with \$1.05 million in seed money to IFR, a nonprofit designed to make neuroprosthetics developed by Case Western Reserve faculty, helped make this technology more quickly available to patients not served by traditional medical-device makers.

"The business model we're creating is designed to be a lasting partnership, serving the small population with spinal cord injury as well as patients who've suffered a stroke and other neurological disorders," said Hunter Peckham, the Donnell Institute Professor of Biomedical Engineering and Distinguished University Professor at Case Western Reserve.

Peckham and his team have sought a for-profit manufacturing partner that's committed to serving the population. For 14 years, Synapse Biomedical has been developing and commercializing a neurostimulation system to assist breathing in patients with spinal cord injuries (SCI), ALS or other illnesses.

"We have a long history of transferring technology from the advanced development labs of Case Western Reserve to the commercial marketplace and look forward to making this available to a broader group of patients," said Anthony R. Ignagni, President and Chief Executive Officer of Synapse Biomedical, Inc.

Earlier-generation systems developed at Case Western Reserve had components outside the body, but demonstrated that neurostimulation allows paralyzed individuals to grasp and drink from a cup, maintain balance, breathe and cough, regain bladder control, or stand.

The technology uses electrical stimulation to activate neural pathways and create or restore motion. Smaller, more powerful and longer-lasting batteries and microelectronics now allow surgeons to embed an entire customized system under the skin. A patient will recharge the battery nightly with a wireless charger.

The Neilsen Foundation wants to ensure patient access to the technology doesn't rely solely on for-profit businesses that can halt production if investors fail to see a large return—a scenario that took an earlier, proven system off the market.

"Our goal in funding IFR is to give the nonprofit enough support to get off the ground and begin working to bring this new technology to the people who need it as soon as possible," said Kim Eisner, the foundation's executive director.

The Ohio Development Services Agency awarded a \$3 million Third Frontier Innovation Platform Program grant to support the effort in 2013. Case Western Reserve, Synapse Biomedical and Cleveland-based Valtronic, which specializes in combining mechanical, electrical, control and computer engineering in design work, will match the funding as they move forward.