

March 30, 2015 | By Doug Ramsey

Qualcomm Institute Launches Industry Innovation Space on UC San Diego Campus

Working closely with other campus entities to translate ideas from the lab into products and companies in the marketplace, the Qualcomm Institute has launched an Innovation Space where qualified faculty startups, industry partners or national laboratories can lease office or lab space inside the research institute's headquarters building on the University of California, San Diego campus.

"The Qualcomm Institute Innovation Space is an important new addition to the university's growing ecosystem supporting entrepreneurship and technology transfer," said UC San Diego Chancellor Pradeep K. Khosla. "The facility will complement existing campus units that include venture-capital accelerators, incubators, tech transfer and entrepreneurship centers to promote commercialization of research findings." Those units include the Triton Fund and the recently created UC Ventures fund, EvoNexus (open to campus startups), the university's Technology Transfer Office, as well as the Moxie Center for Student Entrepreneurship, The von Liebig Entrepreneurism Center, and The Basement, a combined incubator/accelerator program for student entrepreneurs launched in February.

The Qualcomm Institute is the UC San Diego division of the California Institute for Telecommunications and Information Technology (Calit2), whose original mandate included close engagement with industry. Consistent with that mandate, the Qualcomm Institute Innovation Space (QIIS) has carved out roughly 6,000 square feet of space on the second floor of Atkinson Hall. Most of the available space has already been committed to the first half-dozen applicants that were accepted into the program.

"Tenants in the Innovation Space lease space and avail themselves of our technical services at external user's rates," said Qualcomm Institute Director Ramesh Rao. "Our goal is to nurture these companies by helping them leverage the state's investments in science and innovation and help with California's economic development when they move off campus."

QIIS tenants must go through a rigorous selection process to lease space for a maximum of two years, after which they are expected to exit the facility to make room for newcomers.

Among the earliest tenants, Comhear, Inc. recognized the importance of being close to the institute's researchers after signing a multi-million-dollar deal in 2014 to develop products jointly with the Qualcomm Institute's Sonic Arts R&D group, led by Peter Otto. "We are building a line of new products based on an exclusive license to audio beamforming technology originally developed by Peter Otto's group," said Comhear CEO Randy Granovetter. "In our collaboration with the Qualcomm Institute, Comhear has now developed a suite of innovative audio software, products and services for Spatial Conferencing in Unified Communications, Gaming, Music, and Streaming Video. We continue to work closely with his team, but our business is expanding so we had to locate some of our people outside of the Innovation Space close to the University, while leaving a few who work most intensively with their university counterparts."

Another established company and newcomer to the QIIS facility is Technosylva, which has offices in Spain and California. The company develops advanced GIS-enabled software solutions for wildfire protection planning, operational response as well as firefighter and public safety. Products include software models and programs for fuels mapping, fire behavior analysis, simulation modeling and wildfire risk assessment. Technosylva has worked closely with Qualcomm Institute researchers on the WIFIRE project and recognized the value of setting up shop just an elevator-ride away from the WIFIRE team. "Our expertise in predictive modeling and field emergency-response technology is a perfect complement to QI's expertise in communications, sensors, and visualization technologies," said Technosylva's President, Dr. Joaquin Ramirez, who was a visiting scholar at the Qualcomm Institute in summer 2013. "By having the opportunity to co-locate, we have a tremendous opportunity to incubate disruptive technologies to change the way real-time wildland fire modeling, mitigation and response is done."

RAM Photonics, LLC, has worked closely with the Qualcomm Institute's Photonic Systems Lab over the past three years, and currently licenses technology from UC San Diego. "Having an office located in the QI Innovation Space will facilitate more rapid development from university research results into commercialized products," said RAM Photonics President John Marciante. "Closer interaction with UCSD researchers in photonics and electronics is invaluable to transitioning that technology, and hopefully future technologies, to the marketplace." The company has three target markets for its specialty, high-performance fiber systems: telecommunications; data communications; and medical imaging.

Startups

While the Innovation Space is open to outside companies such as Technosylva, RAM Photonics and Comhear that benefit from proximity to university collaborators, half of the initial tenants are startup ventures led by UC San Diego faculty, staff or students. Those ventures include VirBELA, Sinopia Biosciences, and SteamEngine.



VirBELA created a 3D virtual reality world for business simulationis used by MBA students in Asia, Europe and North America.

VirBELA was incubated at UC San Diego’s Rady School of Management with a \$1.7 million grant from the Graduate Management Admission Council. VirBELA used that grant to develop and demonstrate an immersive, 3D virtual-reality campus environment that hosted a global business-simulation competition for management students at top universities on three continents. “We have several ongoing customers for our virtual campus technology, but we are also expanding into other 3D virtual worlds and games for learning and development,” said VirBELA CEO Alex Howland, who was program director of VirBELA prior to its spinout from the Rady School last December. “Having space in the QIIS facility will allow us to stay close to the large community of developers on campus, while we also expand our efforts to find new customers as well as financial support from the venture-capital community.”

STEAM Engine, Inc. is an education technology startup co-founded by Qualcomm Institute research scientist/explorer Albert Yu-Min Lin; chief creative officer Vijay Lakshman, a master game designer behind such titles as *Lord of the Rings Online*, the *Elder Scrolls* series, and *Animal Jam*; and former National Geographic president and STEAM Engine chief executive officer, Tim Kelly, based in Washington, DC. The STEAM Engine team at QIIS will be part of developing the first game-based immersive learning platform focused on Science, Technology, Engineering, Arts and Math.

“We are excited to have offices in the Qualcomm Institute Innovation Space and to be part of this cutting-edge research community,” said STEAM Engine CEO Kelly. “We intend to collaborate closely with several of the research groups in QIIS, including Albert’s labs and the

UC San Diego Design Lab, among others.”

Sinopia Biosciences is a startup spun out of UC San Diego bioengineering professor Bernhard Palsson’s Systems Biology Research Group. Co-founder Aarash Bordbar is a recent graduate (B.S. ’08, Ph.D.’14) and former president of the Bioengineering Graduate Society at UC San Diego. Sinopia applies systems biology and bioinformatics to hematology and pharmacology. “We are developing a computational platform that is comprised of statistical and mechanistic models for analyzing large, high-throughput data sets for a couple of biomedical problems,” said Bordbar. “Our predictive platform attempts to use such high-powered computation for transfusion medicine applications and for understanding the mechanisms of how pharmaceuticals cause side-effects. We believe these computational approaches uniquely position us to quickly develop novel experimental and clinical strategies that would have been daunting to devise otherwise.” Palsson and Bordbar gave talks discussing Sinopia’s platform at the 2014 annual meeting of the American Association of Blood Banks and the 2015 annual meeting of the American Society for Clinical Pharmacology and Therapeutics. Last year, Sinopia received a Phase 1 Small Business Innovation Research (SBIR) grant from the NIH National Heart, Lung and Blood Institute.

Non-Profit

Not all occupants of the Qualcomm Institute Innovation Space are for-profit enterprises. A team of UC San Diego researchers is helping to make universal education a reality through the Foundation for Learning Equality (FLE). As its website proclaims, FLE is “bridging the global digital divide by bringing the online learning revolution offline.”

“It’s estimated that one in three children worldwide lacks access to a quality basic education,” said Jamie Alexandre, a recent UC San Diego alumnus in cognitive science (Ph.D. ’14) who interned at Khan Academy before forming FLE along with a group of other UCSD students. “Sixty percent of the global population lacks the connectivity needed to access online education, so we have been developing an offline version of Khan Academy. Since being launched in December of 2012, the open-source platform, KA Lite, has now been installed in more than 140 countries and is used by thousands of schools, orphanages, community centers, refugee camps and prisons.” The offline server can be downloaded and run on a basic device such as a Raspberry Pi or on aging Windows PCs, then other devices nearby can connect to that server to access the Khan Academy videos, do exercises, and track their progress. A teacher with a single server can provide a classroom of 35 students with simultaneous access to KA Lite, and track their progress using teacher dashboard tools to enable them to most effectively intervene and help students who are struggling.

Single Point of Engagement

The Qualcomm Institute provides a single point of engagement to enable all campus transactions ahead of occupancy. The approved lease is executed through the campus Real Estate Office. If any service agreement is involved, it is processed through the university's Procurement Office, while any IP arrangements or material transfer agreements are secured through the Tech Transfer Office. On-campus parking permits are also available for purchase by QIIS occupants.

Limited square footage is still available for leasing in the Innovation Space. Interested parties can download the [Application for Admission](#) online and email the completed application to innovation@calit2.net. Applications are reviewed by the institute's Executive Council and, subject to formal approval, tenants must agree to Atkinson Hall building occupancy rules by signing a [Facility Use Agreement](#) (PDF).

Factors affecting the selection process include: letters of support from other UC San Diego, regional or national organizations (e.g., CONNECT, BIOCUM, EvoNexus, von Liebig Center); relevance to the strategic plans of UC San Diego and the Qualcomm Institute; depth and breadth of collaborations with the institute and/or other campus units; and commitment to community education through the use of interns, entrepreneur education via community outreach, and mentor programs.

The Qualcomm Institute Innovation Space will also help foster collaborative creation of intellectual property (IP) involving University of California and non-UC personnel – thereby extending the prevailing base of engagement built on IP entirely generated by UC personnel and licensed to other parties.

MEDIA CONTACT

Doug Ramsey, , dramsey@ucsd.edu

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