



News Release: For Immediate Release

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Quantum Design and CSU San Marcos Celebrate Grand Opening of “Teaching and Materials Discovery Lab” and Welcome Dr. Justin Perron to Advisory Board for Quantum Design Education Initiative

SAN DIEGO, Calif. – August 11, 2023 – Quantum Design (QD), together with California State University San Marcos (CSUSM), celebrated the grand opening of the new CSUSM Teaching and Materials Discovery Lab on Friday, August 11, 2023. The Teaching Lab, located in the Physics Department of CSUSM, includes a PPMS® VersaLab®, donated to the University by Quantum Design as part of its Education Initiative. Lake Shore Cryotronics was also present and a co-sponsor of the event.

“Quantum Design is committed and very passionate about using innovation in undergraduate physics laboratory education. This is why together with industry partners and university collaborators we have introduced state of the art instrumentation in undergraduate laboratory education,” replied Stefano Spagna, VP of Strategy and Innovation at Quantum Design. “The goals of Quantum Design’s education initiative are twofold: one, to help teach students to preserve and foster their magical curiosity, and two, to play a role in educating scientists and engineers of the future.”

Begun almost 10 years ago, the main goal of Quantum Design’s Education Initiative is to expand and innovate the teaching of hands-on, experimental physics in the undergraduate arena. Most often, undergraduate physics students are limited to learning theory in classrooms with laboratory experience, if any, limited in scope to only very simple experiments. Quantum Design, as a manufacturer of research-grade materials characterization instruments, knows that the scientists of tomorrow begin as the physics students of today. Therefore, the sooner those students become familiar with industry-standard equipment, the sooner their natural scientific curiosity and excitement can be awakened, and the more comfortable they can become with these tools.

In addition to providing undergraduate labs like this with instruments such as the PPMS VersaLab, Quantum Design and its Education Board of Advisors have worked together to create freely available experimental modules that can be used with the PPMS VersaLab. These modules lead students through various measurements (electrical, thermal, magnetic) so that they can become better familiar with basic materials research principles. They also provide ready-made coursework for educators who wish to incorporate these types of experiments in their lab classes.

Dr. Stephen Tsui, Associate Professor of Physics at CSUSM, stated that, “The modules create easily digestible, step-by-step tutorials for exploring physics that students would not normally see unless they were performing research in an advanced solid-state physics laboratory. These modules allow access so everyone can have the opportunity to explore and learn about physics by teaching students how to work with a state-of-the-art instrument.”

“A lot of the things that the Education Advisory Board has been very successful at in materials science, can directly be applied to the field of Quantum Information Science,” responded the newest Advisory Board member Dr. Justin Perron.



"Right now, it is an important time for undergraduate students to be exposed to Quantum Information Science because of how rapidly the quantum info industry is growing. We're starting to see a lot more positions for undergraduate level scientists and engineers, as the industry is looking for a quantum competent, classically trained work force."

Lake Shore Cryotronics, a leading cryogenic temperature sensor and scientific instrument manufacturer based near Columbus, Ohio was excited to be part of the celebration and co-sponsored the event. They also provided demonstrations of some of their newest instruments (such as the M91 FastHall™ Measurement Controller and the M81 Synchronous Source Measure system), both of which are appropriate for undergraduate physics laboratories. "Although we have for many years collaborated with select academic institutions, we are excited to join Quantum Design and their Education Initiative to see how we can expand our contributions to this important area," said Chuck Cimino, Senior Director of Measure Ready Instrumentation.

Perhaps Dr. Tsui said it best when he highlighted the importance of programs like this to the local community: "We serve our region. A little over half of the students we graduate are the first in their family to go to college, and roughly 80% of them stay in the region and join our local workforce. Programs like this are not only serving the students and our Physics Department, but also contributing locally to the welfare of our region. As one example, many of these students now work at Quantum Design, locally serving as engineers and other technical staff."

"I believe the Education Initiative is entering a new stage of expansion," started Stefano Spagna. "I am truly excited to see where we will go next and all the ways we can expand this essential program to expand and improve the teaching of experimental physics in undergraduate physics programs around the country, and even in other countries around the world."

About Quantum Design

Founded in 1982, Quantum Design Inc. is a privately held corporation that develops and markets advanced technology cryogenic systems and instruments for the scientific community. Quantum Design is widely recognized as the leading commercial source for integrated laboratory analytical systems incorporating superconducting technology. In addition, through its strong R&D focus and direct foreign offices in the world's major technology markets, Quantum Design International has developed a worldwide distribution channel for its own industry leading instruments as well as for research-based instruments developed by other technology leaders.