Strategic roadmap with UC Davis strengthened by LVOC presence

Last winter, the first significant LVOC-based industry partnership — a 5-year Cooperative Research & Development Agreement (CRA) with local solar startup Cool Earth Solar — was announced. Now, as the shining example for LVOC academic partnerships and perhaps a model for how others might work, Sandia/Caliifornia is in the midst of a 5-year "strategic partnerships roadmap" with the University of California, Davis (UC Davis), a collaboration that Mike Hardwick (8240) and Chris Moore (8256) say will only be stronger because of the new and growing presence of the LVOC.

"When UC Davis executives arrived here for a kick-off meeting, their reaction was pretty amazing," Mike says. "Before, there were always barriers and they had to go through multiple layers of security to get here. This time, they immediately recognized the open campus as a lowering of the barriers, and they were clearly energized."

Chris co-leads the science and engineering education thrust area of the UC Davis roadmap. The other thrust areas, each co-led by a Sandian who shares leadership duties in his or her area with UC Davis counterparts, include sustainable energy systems (Dawn Martinez, 8530), cybersecurity (Kathrin Mahrs, 8958), and systems engineering and manufacturing (Mike). Mike also serves as the partnership's steering committee chair along with Enriqueta Lavernia, a longtime champion of Sandia who now serves as the dean at UC Davis's College of Engineering.

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— Sandia researcher Mike Hardwick

LVOC academic alliances soar with UC Davis, others

By Mike Janes

It's only natural that Sandia would seek strong academic alliances. The cultivation of ongoing partnerships with key universities and colleges, the Labs has demonstrated time and time again, can lead to founding opportunities, innovation, and entrepreneurship. They can also provide a pipeline to recruitment of future generations of engineers and researchers.

There is no exception to this rule at Sandia/California, but the site's Livermore Valley Open Campus (LVOC) initiative has energized the potential for enhanced academic engagement even more than before. In fact, says Andy McElroy (8310), academic alliances are vital to the future success of the open campus.

"The LVOC exists to enhance Sandia's national security mission impact by strengthening Sandia's science and technology base through world-class collaborations," says Andy, who serves as the site's senior manager for LVOC development. "Combined with key universities and colleges, the Labs has its only natural that Sandia would seek strong academic alliances in order to advance its science and technology base through world-class collaborations, and to create a natural in terms of doing something big together instead of mere project-by-project collaborations," says Mike. "Rick and Linda's leadership was a driving force, and Enrique's move from UC Irvine to UC Davis really made a big difference since we'd had a good relationship with him for years. The launch of the LVOC was the final piece of the puzzle and sealed things for us."

The strategic roadmap's science and engineering education thrust area has been active from the very beginning, says Chris. Sandia has started sponsoring an annual Engineer Design Showcase in May, a team of students was recognized by Sandia for its project, "Real-Time Gauging: Competition designed for K-12 students, will take place at Sandia's Columbus campus in 2014. The sustainable energy systems thrust area, Mike says, has largely been focused on proposal writing and generating opportunities to work with state leaders in Sacramento. The cyber thrust area plans to host a workshop at UC Davis on computer security policy and research.

Finally, the systems engineering and manufacturing team is preparing to play a key regional role in the National Network for Manufacturing Innovation (NNMI), a federally sponsored initiative that serves to foster US industry and academia to solve industry-related problems. At the LVOC earlier this month, Sandia and UC Davis piloted the Design to Manufacturing Academy (DMA) for high school students, where participants were exposed to authentic manufacturing issues and took on a project of their own.

"They were able to work with Sandians to identify requirements for an actual design problem, design a solution, conduct a structural analysis, fabricate prototypes and test them in a laboratory," says Mike. "The program gave them the opportunity and valuable opportunity to spend time with real engineering professionals and immerse themselves in an actual development environment."

Others poised to join LVOC academic alliance

While the collaboration and strategic roadmap with UC Davis has perhaps been the most visible success story in regards to LVOC academic alliances, others are also emerging.

The University of Illinois Urbana-Champaign and UC Davis have signed an MOU that specifically embraces the LVOC. Senior leaders from Sandia, Lawrence Livermore National Laboratory (co-partners with Sandia on the LVOC), and the University have visited each other's campuses and are examining how the partnership can most effectively mature.

A kickoff celebration to announce the new MOU is planned at the LVOC next year, with key leaders and alumni from the university expected to attend. Other schools, particularly those in the Bay Area, are likely to partner with Sandia on the LVOC in the future, according to Kelly Nkyokum (8522), who is leading the overall LVOC academic alliances effort. Others poised to join LVOC academic alliances include sustainable energy systems (Dawn Martinez, 8530), cybersecurity (Kathrin Mahrs, 8958), and systems engineering and manufacturing (Mike). Mike also serves as the partnership's steering committee chair along with Enriqueta Lavernia, a longtime champion of Sandia who now serves as the dean at UC Davis's College of Engineering.