



INNOVATION &
PARTNERSHIPS OFFICE
COMMERCIALIZING LLNL TECHNOLOGY
Industrial Partnerships • HPC • Regional & Strategic Partnerships

National Lab Accelerator

LLNL PITCH EVENT

Wednesday,
September 27

HPC INNOVATION
CENTER, *near east
gate entrance of
LLNL on Greenville
Road, Livermore CA*

QUESTIONS? Contact
Firsty McLastname
at 925.42#.#### or
mclastname1@llnl.gov

AGENDA	
9:30 am	WELCOME <i>Roger Werne, LLNL</i>
10:00 am	CRYOH2 <i>Guillaume Petitpas</i>
10:30 am	MECS <i>Congwang Ye</i>
11:00 am	HYDROSCANNER <i>Mihail Bora</i>
11:30 am	MICROMINERS <i>Yongqin Jiao</i>
12:00 pm	NETWORKING LUNCH
1:00 pm	C-BEST <i>Yining Qin</i>
1:30 pm	SIMREV <i>William Elmer</i>
2:00 pm	FLOW-THROUGH CAPACITIVE DESALINATION <i>Michael Stadermann</i>
2:30 pm	LIGHT-FIELD DIRECTING ARRAY <i>Robert Panas</i>
3:00 pm	LOW COST WIND TURBINE <i>Kim Christensen</i>



CRYOH2: ENABLING PRACTICAL ZERO-EMISSION TRANSPORTATION

by Guillaume Petitpas

Join us to hear about the LLNL cryo-compressed hydrogen storage innovation and Energy I-Corps developed business model. Many hydrogen projects are recently making their way to the market. LLNL researchers have shown that cryo-compressed storage can potentially double the range without increasing the tank fill time in the medium and heavy duty vehicle market. www.urlgoeshere.com

FROM POWER PLANTS TO BREWERIES: LAB-CORPS STORY OF TEAM MECS

by Congwang Ye and Lionel Keene

Microencapsulated CO₂ sorbents (MECS) are carbon capture media composed of core-shell microcapsules, which consist of a highly permeable polymer shell and a fluid (made up of sodium carbonate solution) that reacts with and absorbs carbon dioxide (CO₂). A team of researchers recently completed the Department of Energy Lab-Corps Pilot Program, an intensive eight-week entrepreneurial boot camp, where they were able to perform customer discovery and market research for the application of this technology for breweries.

HYDROSCANNER

by Mihail Bora

You will hear about LLNL technology to nondestructively test water in solar panels. Quantifying and pinpointing the location of water decreases the uncertainty and increases reliability in solar panel manufacturing.

MICRO MINERS FOR RARE EARTH EXTRACTION: MICROBES, MINERALS, AND MONEY

by Yongqin Jiao

You will hear about LLNL's Micro Miners team and their technology that uses bacteria to extract rare earth elements from geothermal fluids. They will present a business model developed through customer discovery as part of the Department of Energy's Lab-Corps program, an intensive training program focusing on moving high-impact, real-world technologies out of the laboratory and into the private sector.

C-BEST – COMMERCIAL BUILDING ENERGY SAVINGS TECHNOLOGY

by Yinning Qin

You will hear about the innovative methods being used to optimize commercial building management systems and save up to 30% with minimal upfront capital. C-BEST, the commercial building energy savings technology, uses deep machine learning, self-modeling, and predictive strategies to optimize HVAC control systems and reduce the building energy usage significantly, without the burden of expensive audits or retrofits.

SIMREV: SIMULATION REVISION ENABLING DESIGN COLLABORATION WITH RAPID TURNAROUND

by William Elmer

Non-recoverable engineering costs are too high for everything we use; every consumer product, airplane, car, or building where we work. The average company with engineering development will save \$1.9M and 160 days during each product development cycle. You will be introduced to simrev, a platform to enable simulation driven design. Simrev transforms hardware design into software development, unlocking every tool in the arsenal of agile startups and established SAS companies; enterprise management, security, and collaboration. Simrev is a cryptographically secure means of tracking changes and managing simulation efforts on a supercomputing system, institutional or in the cloud. Development teams may grow to any size and can avoid working in "silos" broken down by academic discipline, while managers and decision makers control the level of knowledge about sub-system and product performance in their organization.

FLOW-THROUGH ELECTRODE CAPACITIVE DESALINATION

by Michael Stadermann

You will hear about a prototype desalination technique for treating brackish water that outperforms all existing technologies. We will present a business model based around household water softening to introduce this technology to the market.

LIGHT-FIELD DIRECTING ARRAY (LDA)

by Robert Panas

You will hear about new optical directing technology being prototyped at LLNL. It promises 10-100x higher speed and range as well as higher precision than what is currently on the market. The new design will enable next generation beam control in optical technologies such as high-speed focusable LIDAR, and laser manufacturing among others.

LOW COST WIND TURBINE

by Kim Christensen

The V8 turbine has been designed to set a new standard in the levelized cost of energy (LCOE) for distributed wind energy systems. Our business plan targets the 100 kw turbine market, in combination with a strategic partner such as Tesla, mass production techniques, a vastly simplified installation process and bullet-proof reliability. We plan to capture the majority of this market. Go Wind Power!