

SLAC PROJECT OPPORTUNITY DAY

Small Business | Supplier Diversity Program

29 November 2023

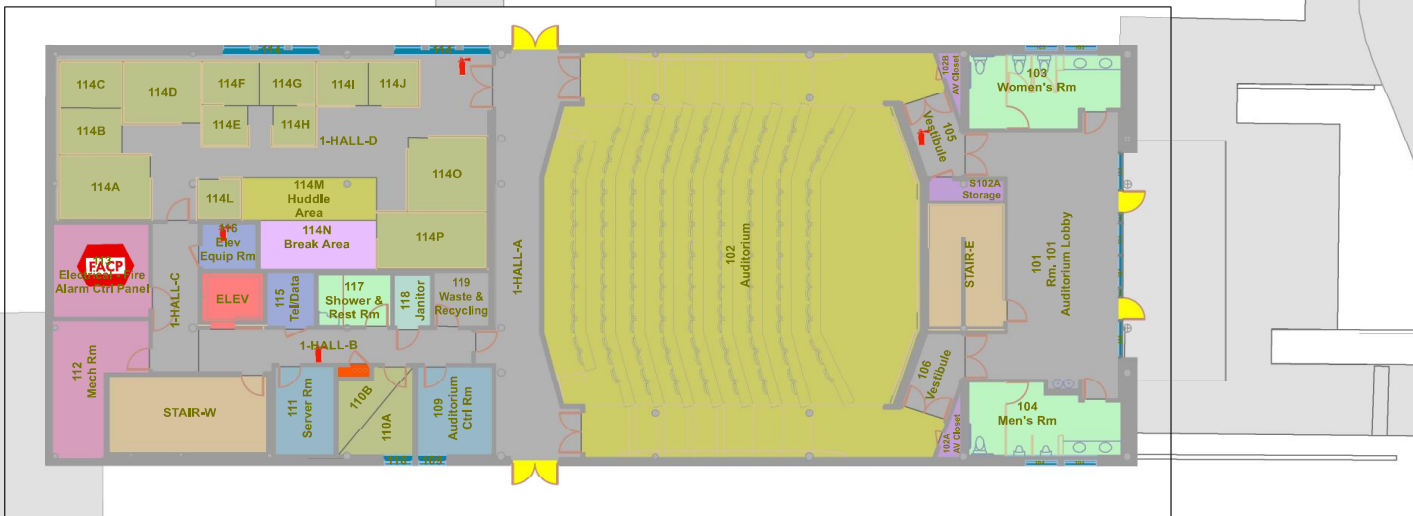
Safety Moment


Cheryl Chou Stafford, Operations Specialist, Supply Chain Management

EMERGENCY EVACUATION PLAN

051 - Kavli Building

Ground Floor



 The Evacuation Assembly Area is Located S of Bldg 051 in the grass "Quad" area

FIRE

1. **REPORT THE FIRE**
 - Call 911 on a SLAC phone
 - Use a Fire Alarm Pull Station if available
2. **CONFINE THE FIRE**
 - Close doors to confine the fire
3. **EVACUATE IF SAFE (YOUR JUDGMENT)**
 - Feel upper part of door—if it is hot do not open it
 - Open door slowly if it is not warm
 - Use stairway—never use elevators
4. **GO TO THE EVACUATION ASSEMBLY AREA**
 - Report missing persons to the leader

EARTHQUAKE

1. **DUCK**
2. **FIND SAFE COVER AND HOLD**
 - Keep away from windows
 - Keep away from shelving
 - Keep away from heavy objects
 - Do not use the Fire Alarm Pull Station
3. **EVACUATE IF SAFE (YOUR JUDGMENT)**
 - Use stairway—never use elevators
4. **GO TO THE EVACUATION ASSEMBLY AREA**
 - Report missing persons to the leader



YOU ARE HERE



EXIT



FIRE EXTINGUISHER



AED AUTOMATED EXTERNAL DEFIBRILLATOR



FIRE ALARM CONTROL PANEL

11/20/18
L.Lougee / R.Kerwin / B.Fuss



EVACUATION ASSEMBLY AREA

1. GO TO YOUR EVACUATION ASSEMBLY AREA

- The evacuation assembly area for Bldg 051 is located S of building 051 (Kavli Bldg) in the grass "Quad" area
- Report missing and injured persons to the assembly leader

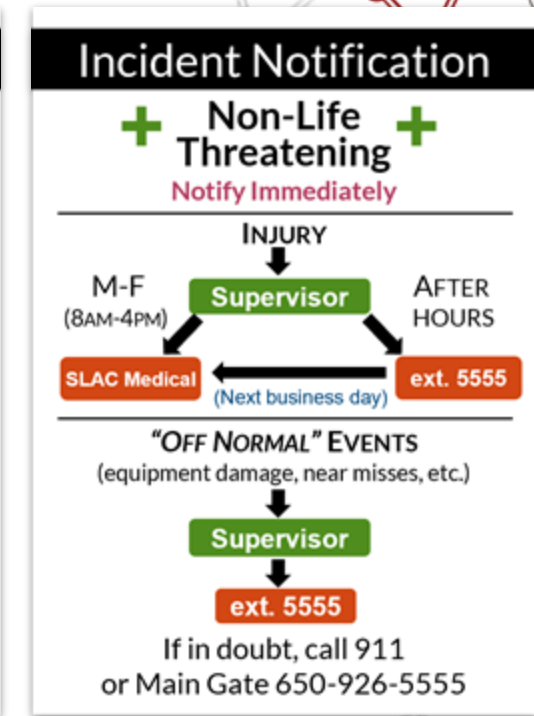
Emergency information

Fire

- Evacuate - Be aware of building exits
- Follow building residents to the assembly area
- Do not leave until you are accounted for, and have been instructed to do so

Earthquake

- Remain in building - duck, cover, and hold position
- When shaking stops, evacuate building via a safe route to the assembly area
- Do not leave until you are accounted for, and have been instructed to do so



Incident Notification

Dial **911** or **9-911** from any SLAC landline:

- Connects you to the dispatch center
- Activates an alarm at SLAC Main Gate

Welcome

Nicole Colley, Operations Strategy Manager, Supply Chain Management
ncolley@slac.stanford.edu

Welcome

John P. Connolly, Deputy Director for Operations

SLAC National Accelerator Laboratory

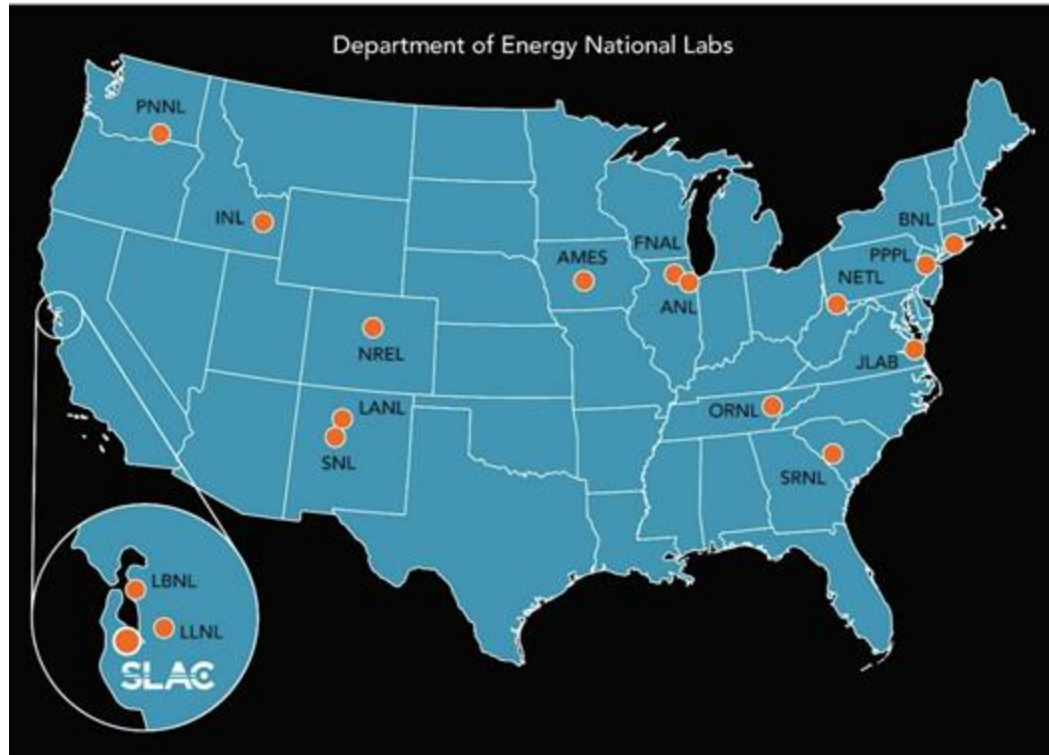
Small Business | Supplier Diversity Program

John P Connolly, Deputy Director for Operations and Chief Operating Officer

November 29, 2023

The Department of Energy's scale and impact

The U.S. Department of Energy national laboratory system is unique in the world in scale & impact



DOE Mission Areas

National Security | Science & Technology | Energy | Environmental Management



Our campus

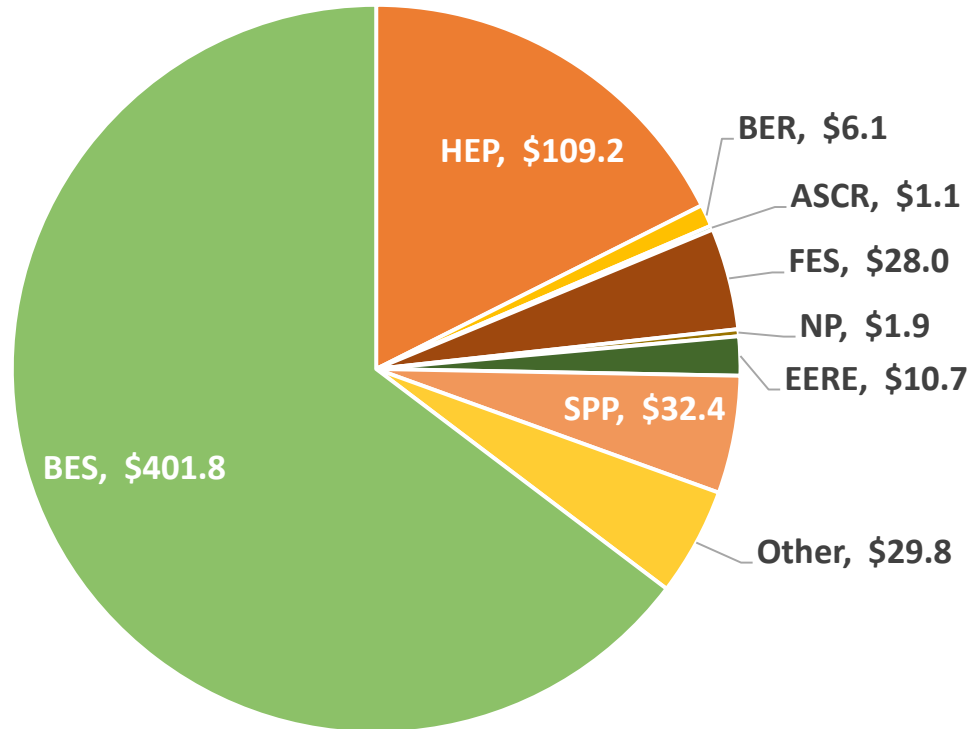
The laboratory sits on 426 acres of Stanford land in the heart of Silicon Valley



Today, SLAC is a vibrant, multi-program laboratory

FY24 Funding Forecast: \$710M

FY23 Funding Sources : \$621M



SLAC's Mission

We explore how the universe works at the biggest, smallest and fastest scales and invent powerful tools used by scientists around the globe. Our research helps solve real-world problems and advances the interests of the nation.

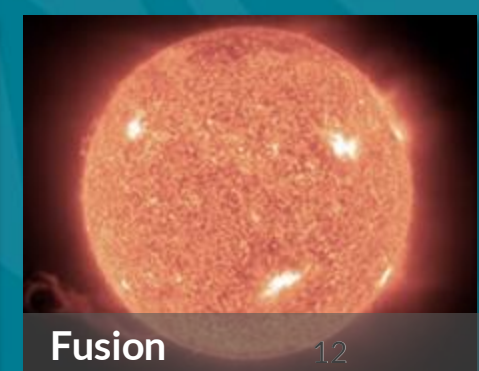
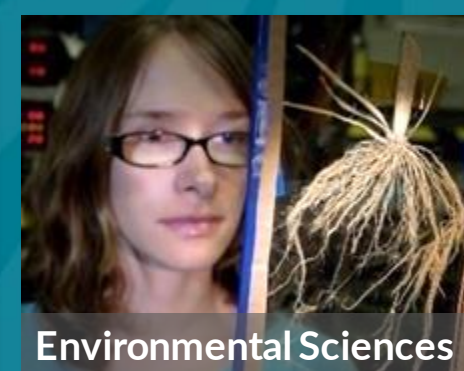
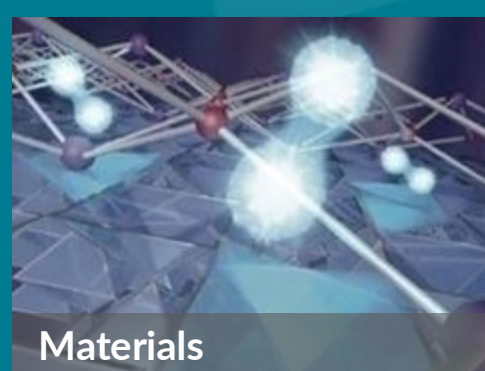


Our People

- 1,747 Full-time Employees
- 2,470 Facility Users
- 20 Joint Faculty
- 186 Postdocs
- 188 Grad Students
- 55 Undergrads



As a DOE Office of Science lab, SLAC is focused on scientific discovery using our large-scale scientific user facilities



Innovate massive-scale data analytics

Robust computational capabilities are critical to all laboratory initiatives

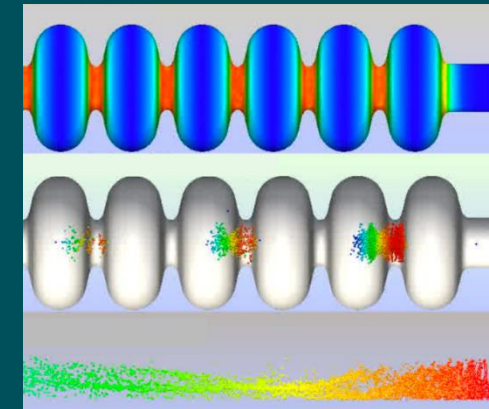
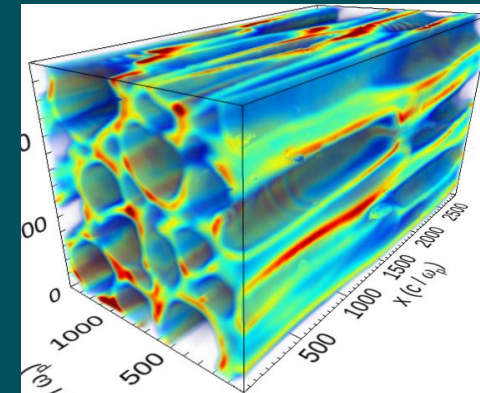
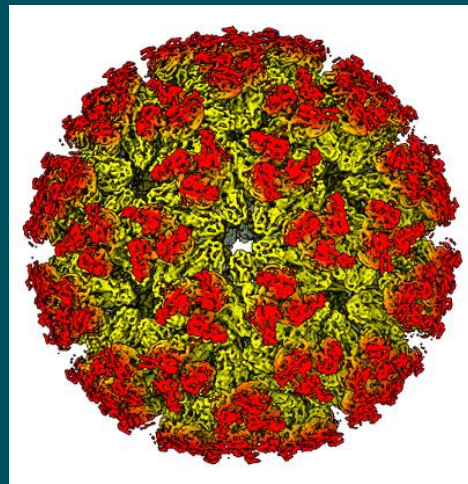
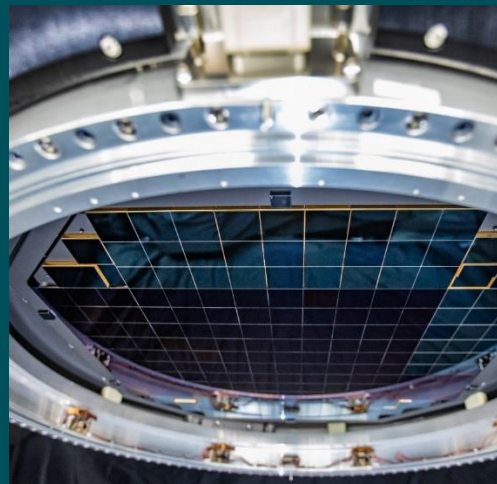
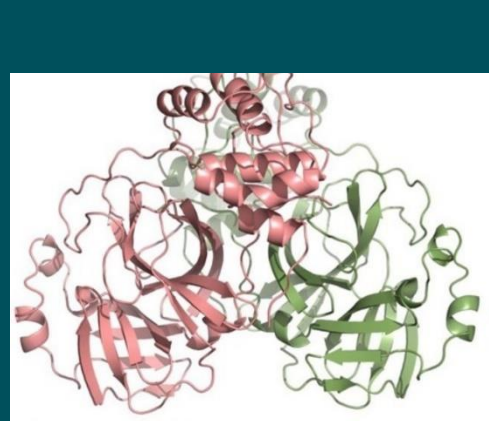
Macromolecular
crystallography

Vera Rubin
Observatory

Cryo-EM

HED
simulation

Accelerator
modeling



X-ray & Ultrafast

Up to 1,000 GB/s
1,000 PFLOPS
25% GPU | 75% CPU

Physics of the Univ.

100 GB/s
1 PFLOPS
100% CPU

Biosciences

3.5 GB/s
500 PFLOPS
100% GPU

HED Science

5 GB/s
5 PFLOPS
10% GPU | 90% CPU

Accelerator Science

1 GB/s
5 PFLOPS
25% GPU | 75% CPU

An aerial photograph showing a multi-lane highway interchange with several overpasses. The highway runs from the bottom left towards the top right. To the left of the highway is a large green field with a baseball field in the distance. To the right is a residential area with houses and a school building. The background features rolling hills covered in trees under a blue sky with some clouds.

Thank you!

Welcome

Natalie Holder, Chief Diversity Officer

SLAC DEI+ Office Outcomes and Impact

DEI+ Office

2023

Roadmap: The DEI+ strategy for the lab

Statement of Recruitment, Retention & Promotion Strategy to Increase DEI+, Particularly in S&T



The DEI+ Office: a Fusion of Scientists, Engineers and Human Capital Practitioners

Scientists and engineers from the directorates dedicate 20% of their time working with the DEI+ Office



Shirin Ketabforoush
DEI+ Organizational
Engagement & Client
Resource Specialist



Natalie Holder
Chief Diversity Officer



Chris Tassone
Materials Science
Division Director



Kayla Ninh
Instrumentation Manager
& Laser Safety Systems
Engineer



Dorian Bohler
Engineering Physicist



Sander Breur
Scientific Lead for
Instrumentation, TID
Instrumentation Division



Lindsay Boyd
DEI+ Executive Assistant &
Research Analyst



Chereace Marcellin
DEI+ Outreach Specialist

Understanding SLAC's DEI+ Challenges: Our lab's commitment to DEI starts with our leadership



Leadership training and education

- DEI Inclusive Leadership Journey for the SMT (e.g., psychological safety, micro-aggressions, systemic racism)
- Consulting with Principal Investigators about opportunities to meaningfully embed inclusive practices in proposals



Employee engagement for retention

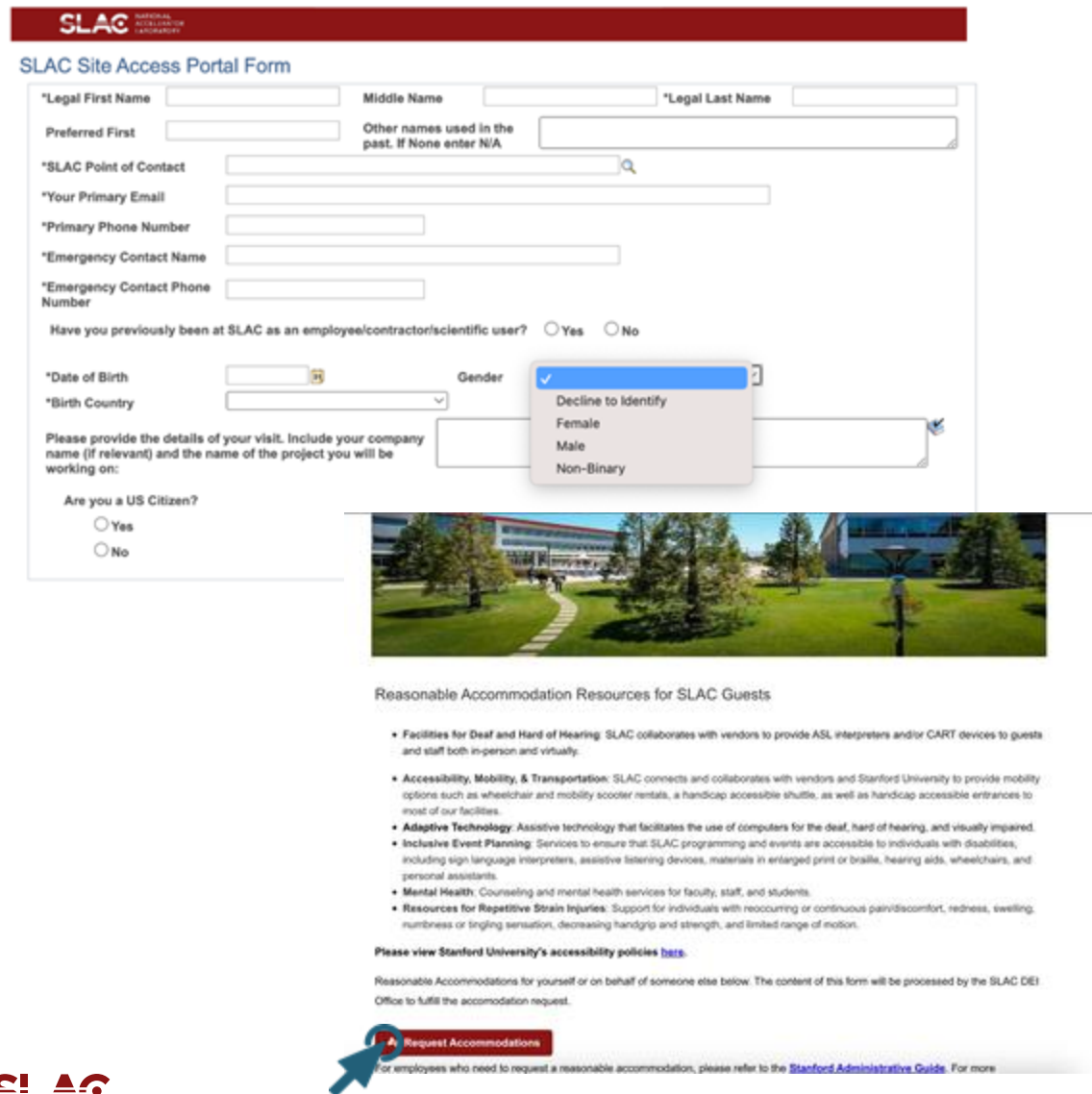
- Investing in our ERGs yields greater organizational partnerships across directorates and the lab complex and helps mitigate attrition risks



Leadership commitment to DEI

- Internal and external-facing communications reinforce DEI as a priority
- SMT sponsorship and participation in ERG learning and development programming
- ALD partnership for secondments

Institutionalizing DEI+: Accountability and Addressing the concerns of SLAC's hidden figures



The image shows a screenshot of the SLAC Site Access Portal Form. The form includes fields for name, email, phone, and emergency contact. A dropdown menu for gender is open, showing options: Decline to identify, Female, Male, and Non-Binary. Below the form is a photograph of a modern building on a green lawn. Underneath the photo is a section titled "Reasonable Accommodation Resources for SLAC Guests" with several bullet points detailing services like ASL interpreters, wheelchair rentals, and adaptive technology. At the bottom, there is a "Request Accommodations" button and a link to Stanford University's accessibility policies.

SLAC NATIONAL ACCELERATOR FACILITY

SLAC Site Access Portal Form

*Legal First Name Middle Name *Legal Last Name

Preferred First Other names used in the past. If None enter N/A

*SLAC Point of Contact

*Your Primary Email

*Primary Phone Number

*Emergency Contact Name

*Emergency Contact Phone Number

Have you previously been at SLAC as an employee/contractor/scientific user? Yes No

*Date of Birth Gender

*Birth Country

Please provide the details of your visit. Include your company name (if relevant) and the name of the project you will be working on:

Are you a US Citizen? Yes No

Gender options: Decline to identify, Female, Male, Non-Binary

Reasonable Accommodation Resources for SLAC Guests

- **Facilities for Deaf and Hard of Hearing:** SLAC collaborates with vendors to provide ASL interpreters and/or CART devices to guests and staff both in-person and virtually.
- **Accessibility, Mobility, & Transportation:** SLAC connects and collaborates with vendors and Stanford University to provide mobility options such as wheelchair and mobility scooter rentals, a handicap accessible shuttle, as well as handicap accessible entrances to most of our facilities.
- **Adaptive Technology:** Assistive technology that facilitates the use of computers for the deaf, hard of hearing, and visually impaired.
- **Inclusive Event Planning:** Services to ensure that SLAC programming and events are accessible to individuals with disabilities, including sign language interpreters, assistive listening devices, materials in enlarged print or braille, hearing aids, wheelchairs, and personal assistants.
- **Mental Health:** Counseling and mental health services for faculty, staff, and students.
- **Resources for Repetitive Strain Injuries:** Support for individuals with recurring or continuous pain/discomfort, redness, swelling, numbness or tingling sensation, decreasing handgrip and strength, and limited range of motion.

Please view [Stanford University's accessibility policies](#) [here](#).

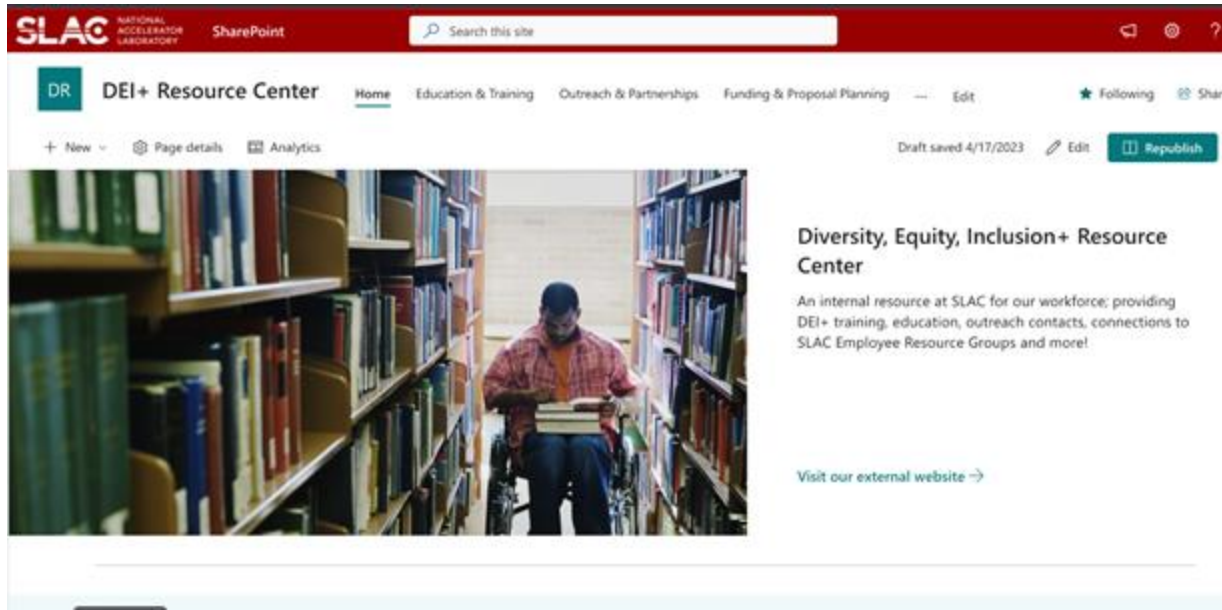
Reasonable Accommodations for yourself or on behalf of someone else below. The content of this form will be processed by the SLAC DEI Office to fulfill the accommodation request.

[Request Accommodations](#)

For employees who need to request a reasonable accommodation, please refer to the [Stanford Administrative Guide](#). For more

- Collaborating with Security, HR and legal to update our internal forms with new gender options
- Collaborating with facilities and operations to explore an all-gender restroom in our main building
- Collaborating with HR, legal, Procurement and Communications to set the standard of conduct for vendors who may interact with our workforce
- Collaborating with legal, HR, Stanford's Office of Disability Access to create a portal for visitors to request reasonable accommodations
- DEI is now a performance competency for individual contributors and leaders

PIER Plans: New resources to support our lab's funding and meet stakeholder interests



- **83%** of the PIs plan to use information from the DEI+ Office's first training in their PIER plans
- **92%** of trainees plan to attend future DEI+ workshops

Subcontractor RFP and Award Expectations

Procurement

Jennifer Aral, Procurement Operations Manager

Supply Chain Management – Procurement

- SLAC is a Federally Funded Research & Development Center (FFRDC) managed and operated by Stanford University, in accordance with its prime contract with the Department of Energy (DOE)
- Congressional appropriated (taxpayer) funds
- SLAC General Terms and Conditions are in line with the prime contract with the DOE
 - Includes *specific* Federal Acquisition Regulations (FAR)
- Procurement policy and processes are developed to ensure compliance to the prime contract
 - Multiple routine internal and external audits
 - Focus is on the process of *how* we procure and *comply* with a multitude of regulations including, but not limited to:
 - Buy American Act
 - Prevailing Wage (Davis-Bacon Act / Service Contract Act)
- Only Procurement is *authorized* to contractually obligate SLAC to spend or delegate DOE Funds

Do not start work until a Purchase Order/Subcontract is issued by SLAC Procurement!

How to become a SLAC Supplier

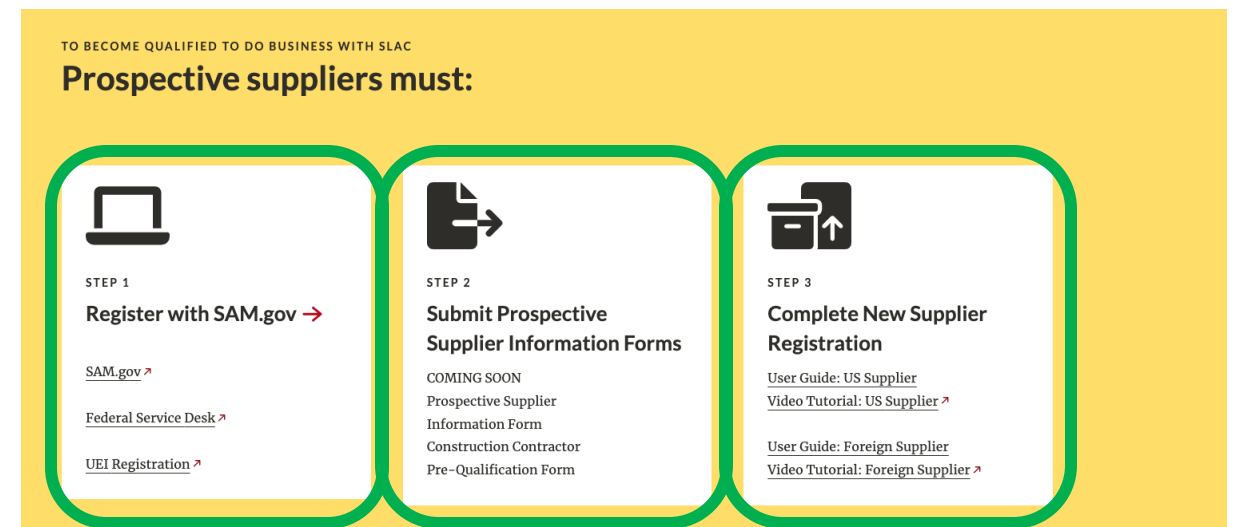
Register at SLAC's Website: <https://suppliers.slac.stanford.edu/become-slac-supplier>

- **Supplier Registration Requirements:**

1. Completed/signed current IRS W9 Form
2. *Address Information:* Main, Order/Invoice, and Remittance
3. Current billing/Accounts Receivable and Main Point of Contact (name, title, phone, and email)
4. Bank information on company or bank letterhead
5. Must have an active SAM.gov Account
 - SAM.gov Registration: <https://sam.gov/>
 - No-charge (**free**) registration
 - Unique Entity Identification (UEI) Number



- **Prospective Supplier Information**



Solicitation Expectations

SLAC competes more than 85% of our acquisition needs

- Acquisition needs are posted on SAM.gov:
 - **Pre-Solicitation**: requests industry feedback for upcoming Request for Proposal (RFP) package
 - **Sources Sought**: includes draft RFP package; **requires** bidder response for consideration when the formal RFP is released
 - **Contract Opportunities**: formal RFP posting; may be posted full and open or directed to known and qualified sources
- RFP packages provide detailed guidance for the development, issuance and evaluation of offers
 - Technical and Business Documentation Requirements
 - Evaluation Criteria and Evaluation Method
 - SLAC Terms and Conditions
- Competitive Evaluation Methods:
 1. Lowest Price Technically Acceptable (LPTA)
 2. Best Value / Trade-Off (BVTO)
 - Two-Step Method: (1) Qualifications Review & Down-Select; (2) Technical & Price Proposal Evaluation



Solicitation Expectations

Solicitation Amendments

- Issued only by the noted SLAC Procurement Specialist
- Requires **acknowledgement** by the potential Bidder
- Amendments issued **before** proposal due date will be issued to all suppliers receiving the solicitation (including updating the public posting on SAM.gov, if applicable)
- Amendments issued **after** proposal due date will be issued to only the suppliers that are eligible for award
- SLAC can cancel original solicitation and issue a new one for significant changes
- Proposals may be modified if the request is made before the proposal due date

Solicitation Questions/Clarifications

- Complex acquisitions may include a Questions/Clarification deadline (typically 2 weeks after RFP release)
 - Bidder may submit questions/clarification in the form provided for SLAC response
 - Full Questions/Clarifications document will be posted to all potential bidders

Direct communications during an open solicitation is only permitted with the noted Procurement Specialist

Solicitation Expectations

Solicitation Timeline Considerations

- Varies by acquisition value, complexity, and category (goods/services/construction)
- Estimated Procurement Award Lead Times (business days)*
 - <\$25K = 1 to 15 days
 - \$25K - \$250K = 15 to 45 days
 - \$250K - \$500K = 30 to 60 days
 - \$500K - \$25M = 90 to 180+ days
 - >\$25M = 180 to 365+ days

**Lead time review in progress due to changes in the Federal Acquisition Regulations (FAR)*

- Each threshold has different policy and procedural requirements
- Any procurement can have its own set of challenges leading to variation in time to award

Actual Subcontract awards in each threshold may be more or less than noted lead times

Environment, Safety and Health

Angus Lam, Deputy ES&H Director
angusl@slac.stanford.edu

Environment Health & Safety

SLAC is committed to protecting the health and safety of our staff, the community, and the environment. We believe that safety, science, productivity, and quality are mutually supportive, and that safety is integral to each job. As stewards of our land, we seek to minimize pollution to our environment and to protect our resources

We implement our mission by:

- Requiring a daily commitment to working safely
- Striving to prevent accidents and injuries every day
- Assessing all work (tasks, activities) for ESH impacts
- Complying with regulations (Cal/OSHA & SLAC ESH Manual)
- Planning and executing work per that plan
- Accountability by all personnel including subcontractors for safety
- Requiring all to STOP WORK if a hazard exists

SLAC ESH: https://www-group.slac.stanford.edu/esh/eshmanual/eshmanual_toc.htm (Chapter 42: Subcontractor Safety)

Environment, Safety & Health

Important Elements of our WPC Program managed by our Contractor Assurance and Contract Management (CACM):

Work Planning and Control (WPC): All work must be planned, authorized, and released before it may be performed.

- **Planned:** Job Safety Analysis (JSA), daily work plans, and high hazard plans and permits (such as Elevated Surface Work/Hoisting & Rigging Plans)
- **Authorized:** Authorization given by work supervisors who must ensure workers are properly trained/qualified/understand hazards & controls
- **Released:** Released each day at a coordination (tailgate) meeting with review and signature of the daily work plan. Only SLAC Field Construction Manager can release work

Environment, Safety & Health – Subcontractor Safety



ENVIRONMENT, SAFETY & HEALTH DIVISION

Chapter 42: Subcontractor Safety

Subcontractor Submittal and Personnel Requirements

Product ID: 728 | Revision ID: 2461 | Date Published: 21 May 2021 | Date Effective: 21 May 2021

URL: <https://www-group.slac.stanford.edu/esh/manual/references/subcontractorReqSubmittal.pdf>

Requirement	Description	Type of Work				Type of Subcontractor		
		Green	Non-green	High-risk	Construction	Prime	Direct Sub-tier	Sub-tier
Submittal								
IIPP acknowledgement	Agreement to follow SLAC's IIPP or submit own for SLAC approval	X	X	X	X	X	X	X
Safety qualification	Information necessary for SLAC to review safety qualifications: IIPP/safety manual, code of safe practices, injury rates, experience. Good for one year for type of work			X	X	X		
Injury and illness prevention plan (IIPP)	Plan describing various aspects of a company's safety management program (8 CCR 1509 and 8 CCR 3203)*			X	X	X		
Safety manual	Manual including a section for each area of proposed work. Must include the required elements of an IIPP*			X	X	X		
Code of safe practices	Instructions in the recognition and avoidance of unsafe conditions for construction (8 CCR 1509(b))*				X	X		
Site-specific safety plan (SSSP)	Compilation of required plans, permits, training records, and JSAs specific to a project or site, addressing known and anticipated hazards			X	X	X	X	
Job safety analysis (JSA)	Document identifying tasks associated with a job and related hazards and controls		X	X	X	X	X	X
Tailgate meeting	Review by workers and supervisor of an activity immediately before release to ensure worker understanding of the hazards and controls, hold points, unique area hazards, and agreement on how to execute the work		X	X	X	X	X	X
Personnel								
Superintendent/foreman/site manager	Qualified individual who is the subcontractor's on-site manager of day-to-day activities. Has overall responsibility for work planning and control			X	X	X	X	X
Safety representative	Qualified professional assigned by the subcontractor to assist the on-site superintendent/foreman in managing and implementing safety and environmental compliance for a project**		X	X	X	X	X	X
Competent person	Person "capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them" (8 CCR 1504)**		X	X	X	X	X	X

X Requirement applies * Required even if subcontractor has agreed to follow SLAC IIPP ** Need determined project-by-project

21 May 2021

SLAC-I-730-0A21S-063-R000

1 of 1

Submittal and Personnel Requirements

Covers:

- Identifying and managing all ES&H aspects of subcontracted work
- Responsibilities for subcontractor safety
- ES&H expectations and hazard mitigation requirements

Applies

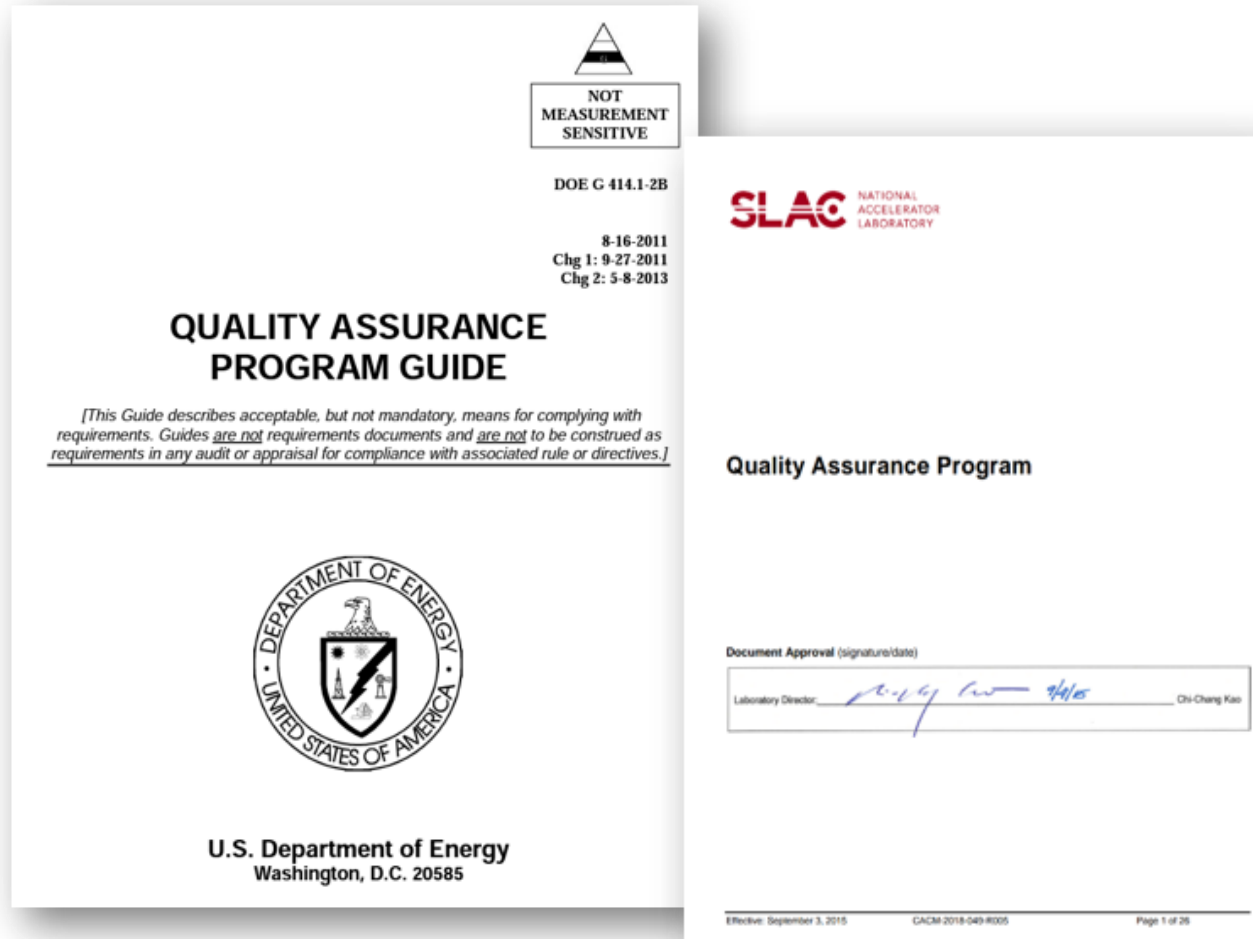
- All subcontracted work
- All personnel involved in subcontracted work

Quality Assurance

Harri Emari, CACM Construction Projects
emari@slac.stanford.edu

Quality Assurance

Flow down of DOE Order 414.1D Contract Requirements



10 CFR 830, Subpart A
Quality Assurance Requirements

DOE Order 414-1D
Quality Assurance Order

SLAC
Quality Assurance Program

Project
Local QAP

Subcontractor
QA/QC

Quality Assurance



1) QAP, PIM, and CM Manual Implementation

- Management: Program, Structure, Processes
- Performance: Design



2) Process Improvement and Workflows

- Management: Document and Records
- Performance: Work Processes



3) Qualifications and Training

- Management: Personnel Training and Qualifications
- Performance: Inspection and Acceptance Testing



4) Quality Supervision, Walkthroughs, and Assessment

- Performance: Procurement, Integration, Evaluation & Acceptance
- Assessment: Internal and Independent

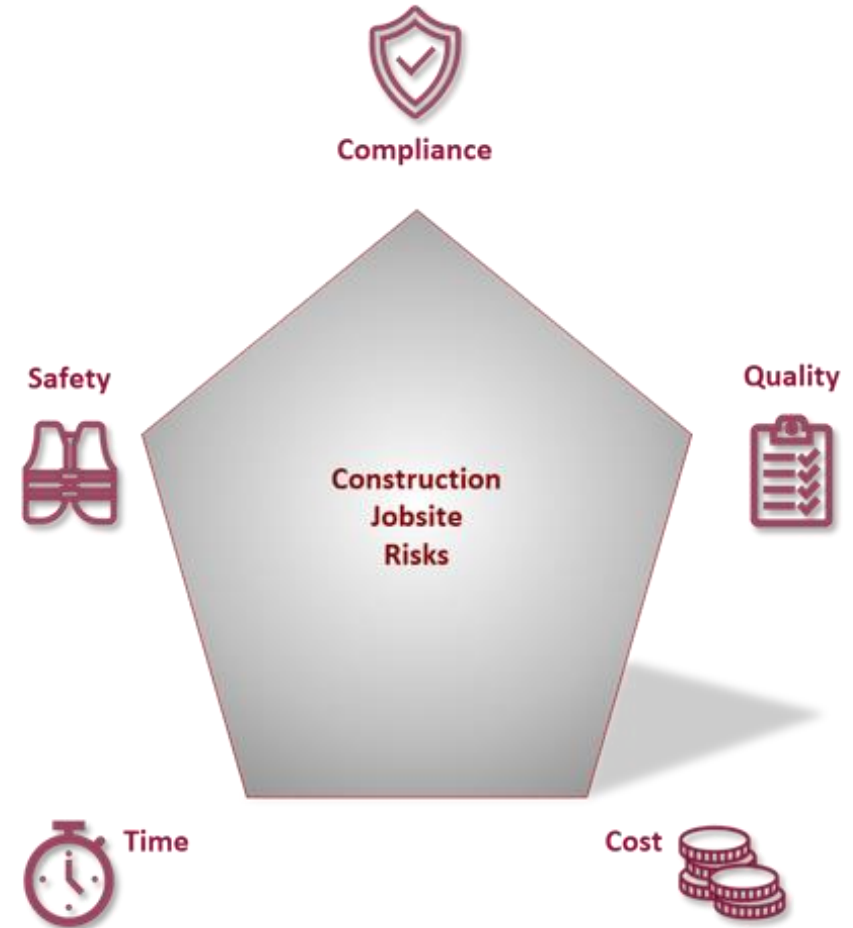
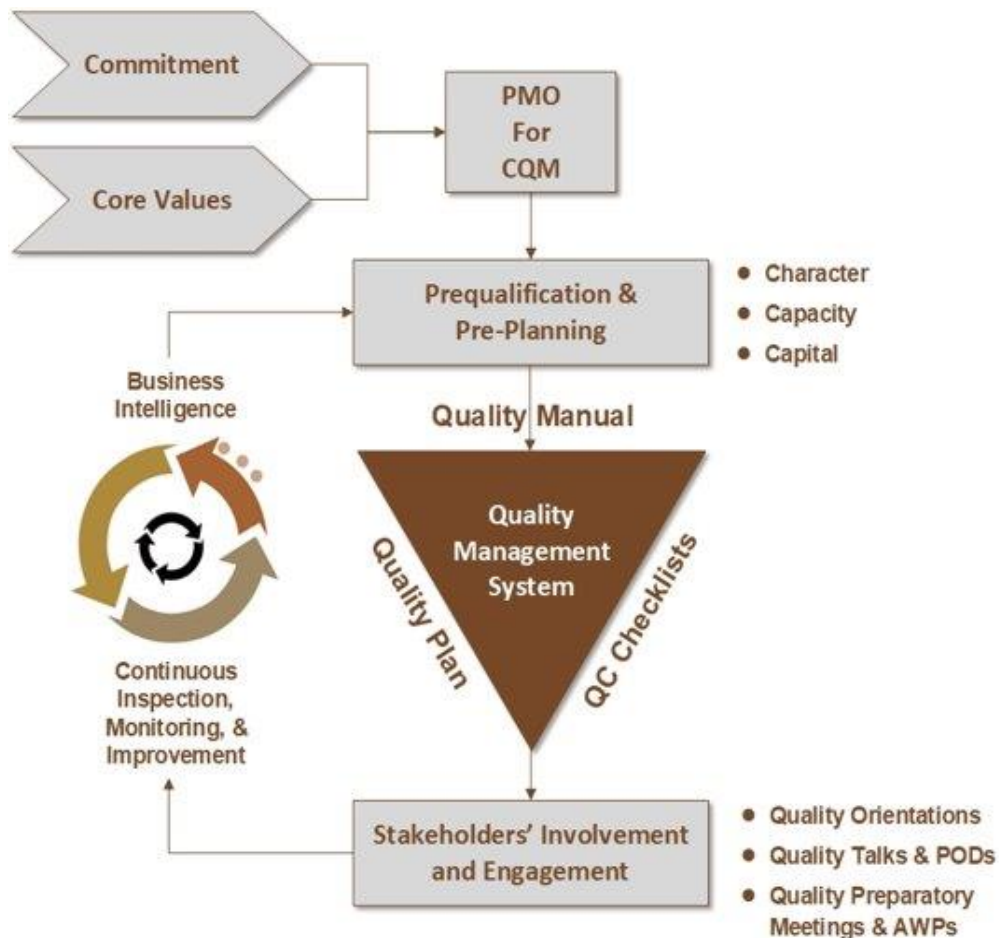


5) Quality Culture & Mindset

- Management: Quality Improvement
- Performance: Applying Lessons Learned

Quality Management System (QMS)

Reinforcing the QA/QC in the Field & During Execution



Quality Assurance Criteria

● Mandatory ? Required ? Expected

Performance Area	Metric	Key Indicator
Quality Management System	Documented Procedure for QC and QA	Manual, Plan, Checklists
Personnel Organizational Chart	Same person can't be both QC and QA	Qualification & Certifications
Authority & Stop Work	QA Manager Point of Contact	Direct to Senior Management
Corrective Action Program	Validation & Verification & Correction Process	Workflow & Documentation
Assessment Program	Internal and Independent External	Frequency & Effectiveness
Experience	Per Statement of Work & Contract Documents	Subject Matter Expertise
Standards	Per Contract Documents & Specifications	Certifications
Capabilities	Relevant Resumes and History	Preferred 5 years
Associations	ASQ, USACE, CII, PMI, CMAA, AGC, and LCI	Preferred & Recognized
Methodologies	DOE Guidelines, EFCOG, PMBoK, CQM-C	Best Practices
Innovation	Tools & Technologies, Transfer of Knowledge	Blogs & White Papers
Lessons Learned	Continuous Improvement Program	Description & Commitment

Break

15 minutes



Project Opportunities

Office of Project Management



Welcome to SLAC

Project Opportunity Day

November 29, 2023

Agenda

Welcome & Project Overview

Vitaly Yakimenko, SLAC Deputy Director of Projects and Infrastructure

Linac Coherent Light Source: LCLS-II HE

Canon Cheung, LCLS-II-HE Infrastructure System Manager

Cryomodule Repair and Maintenance Facility (CRMF)

Martina Martinello, CRMF Project Director

Matter in Extreme Conditions Upgrade (MEC-U)

Charles Rossignol, MEC-U Conventional Facilities System Manager

Critical Utilities Infrastructure Revitalization (CUIR)

Janet Kan, CUIR Project Director

Large Scale Collaboration Center (LSCC)

Stacy Fitzgibbon, LSCC Project Manager

Facilities & Operations

Brendan Curran, Facilities & Operations Director

Minor Projects (<\$30M)

Lauren Thompson, Project Management Office Director

Research at SLAC has led to and enabled fundamental discoveries since the laboratory's founding in 1962

A History of Discovery and The Age of Colliders



Burton Richter,
1976 Nobel Prize
in Physics (joint)
for discovery
of the J/psi
subatomic particle



**Positron-
Electron
Project
(PEP), 1980-
1990**



Richard Taylor,
1990 Nobel Prize
in Physics (joint)
for demonstrating
the existence
of quarks



**Stanford
Linear
Collider
(SLC), 1987-
1997**

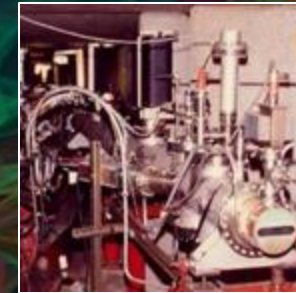


Martin Perl,
1995 Nobel Prize
in Physics for
discovery of
the tau lepton
elementary particle

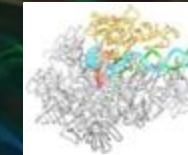


**PEP-II,
1998-2008**

Synchrotron and X-ray Research



**Stanford Synchrotron Radiation
Project (now the Stanford
Synchrotron Radiation
Lightsource, SSRL), 1974**



*3D atomic images of
RNA polymerase II*



Roger Kornberg, 2006 Nobel Prize in
Chemistry for determining how DNA's
genetic blueprint is read & used to direct
the process of protein manufacturing

Brian Kobilka
(Stanford), 2012
Nobel Prize in
Chemistry for
work on G-
protein-coupled receptors

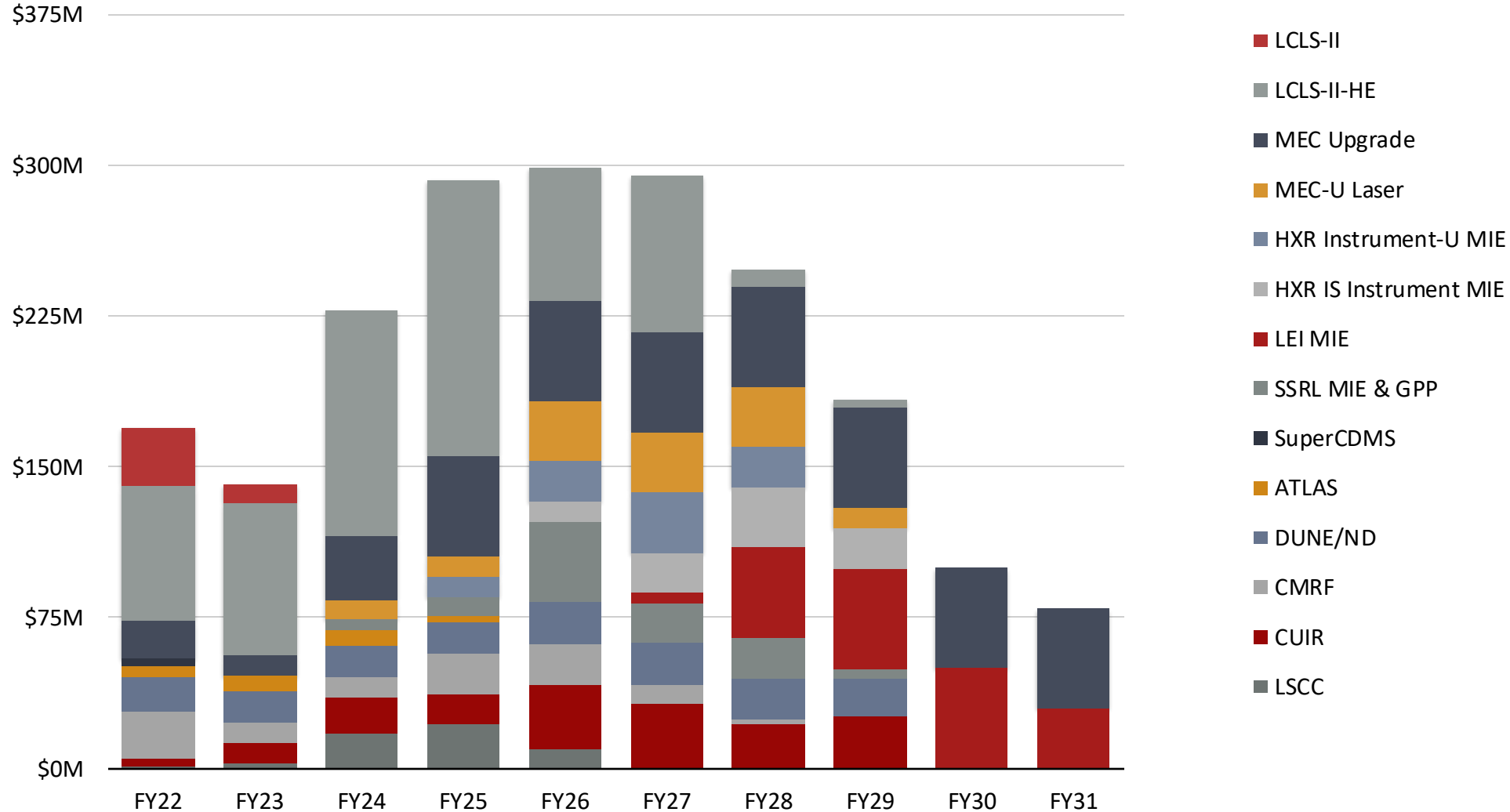


Frances Arnold
(Caltech), 2018
Nobel Prize in
Chemistry for
inventing
directed enzyme evolution

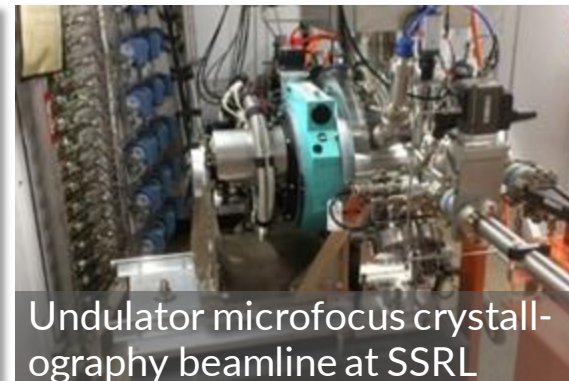


SLAC Major Projects Portfolio (June 2023)

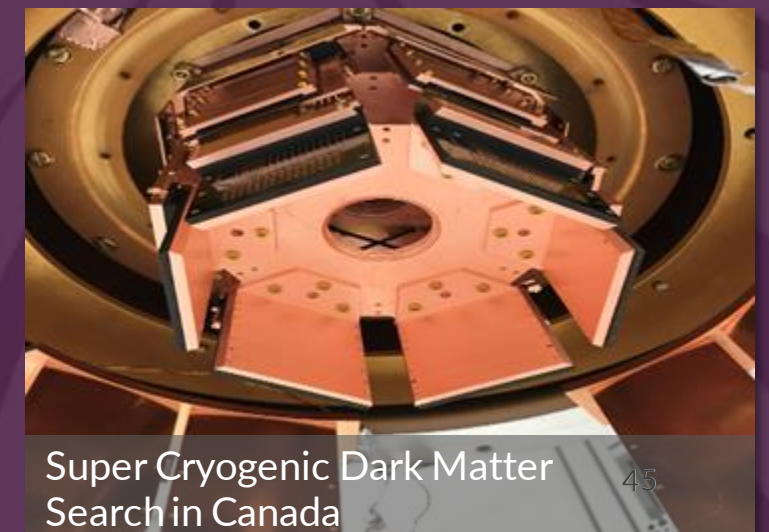
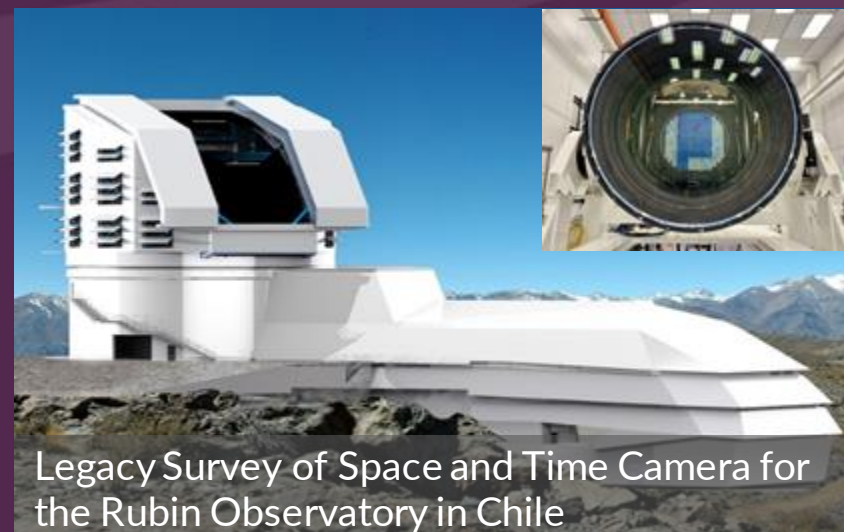
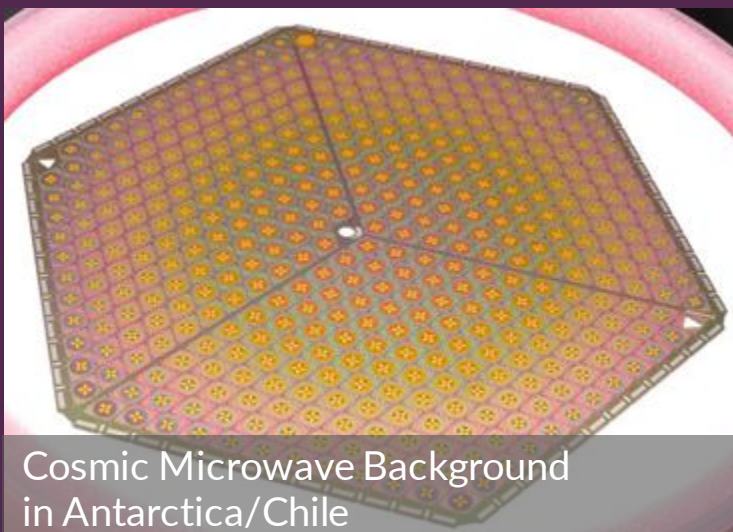
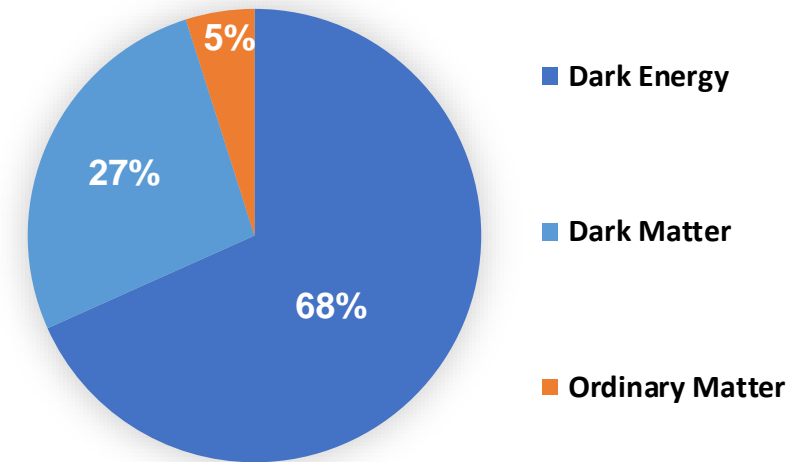
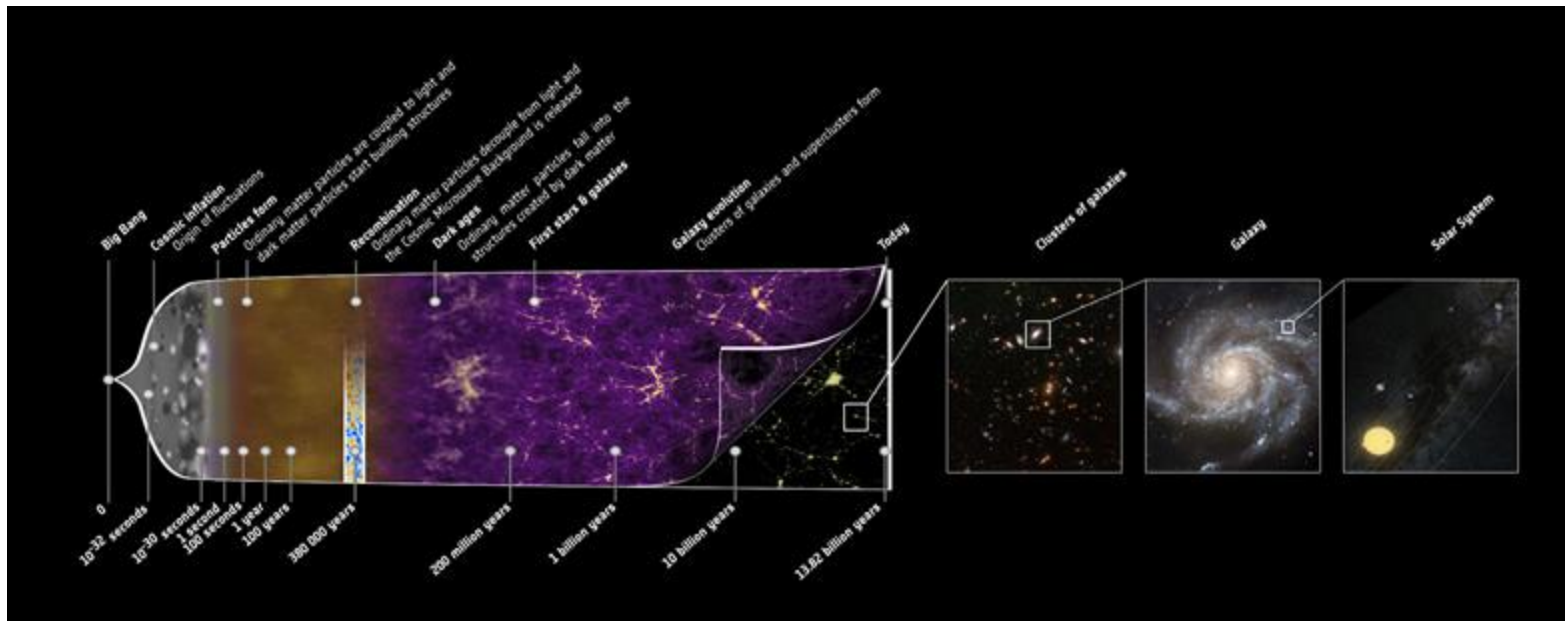
Projects that are presently in planning with MN expected in FY24-FY26 included



Significant investment from Stanford continues to transform the lab, providing new infrastructure and capabilities



SLAC also designs, constructs, and operates large-scale instruments to explore beyond the known universe

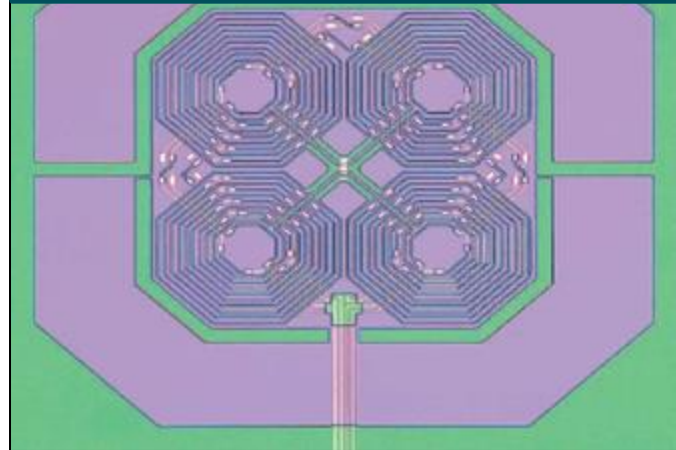


Pursuing six strategic initiatives to deliver science and impact

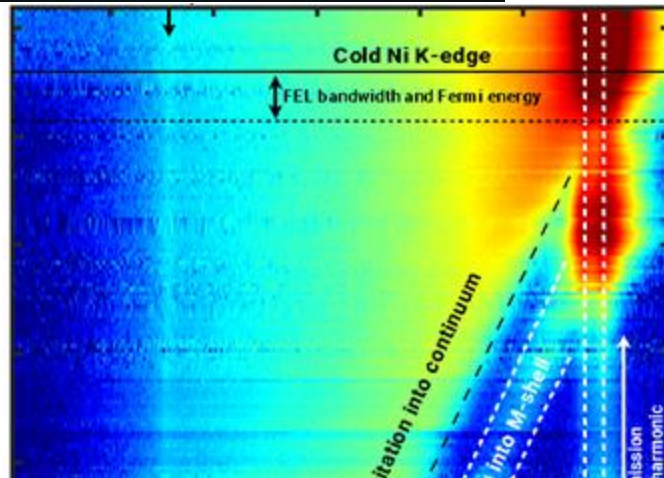
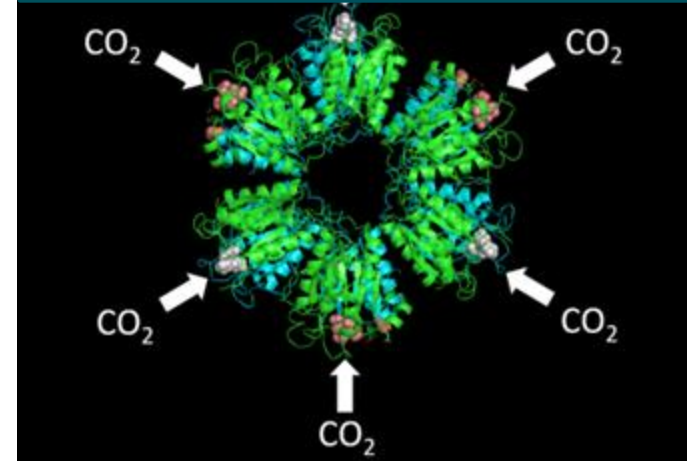
Lead the world in X-ray and ultrafast science



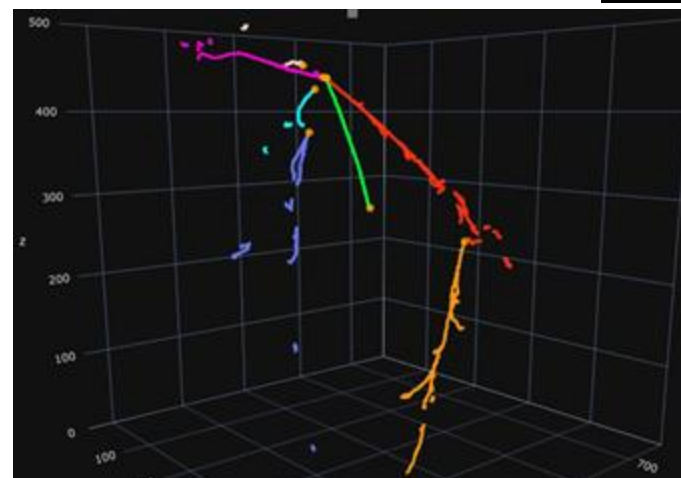
Advance quantum information science across DOE-SC



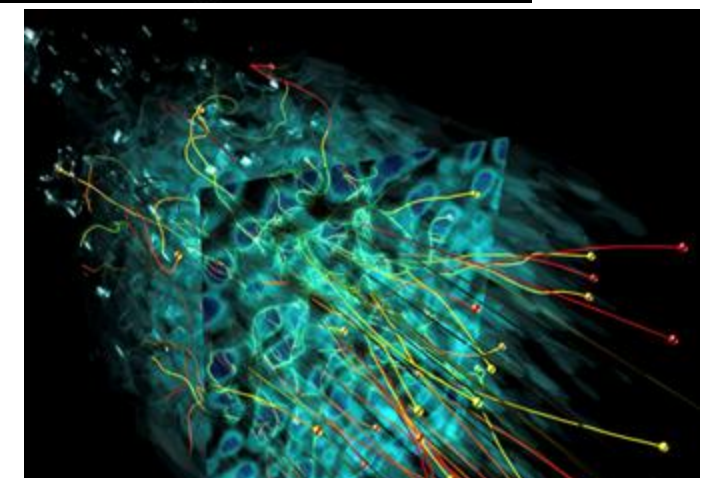
Drive biological and bio-inspired science for sustainability



Transform high energy density science

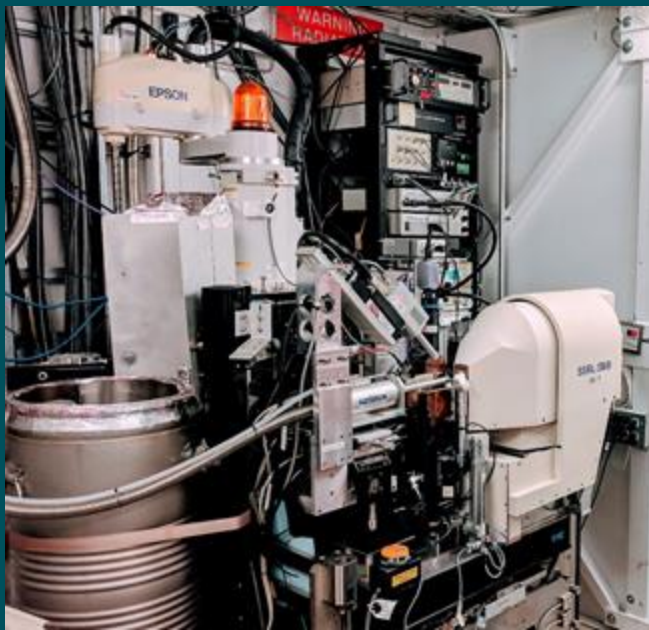


Foster a frontier program in the physics of the universe



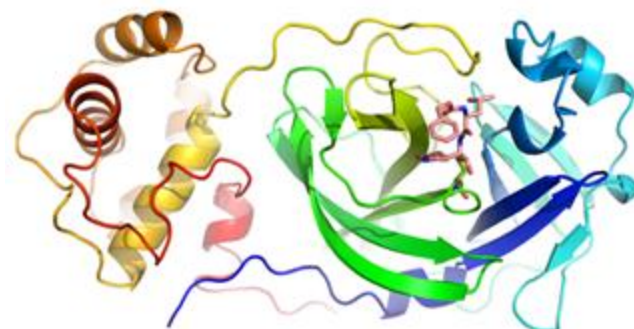
Innovate massive-scale data analytics

Using 3D structures of SARS-CoV-2 to guide antiviral therapeutics developments

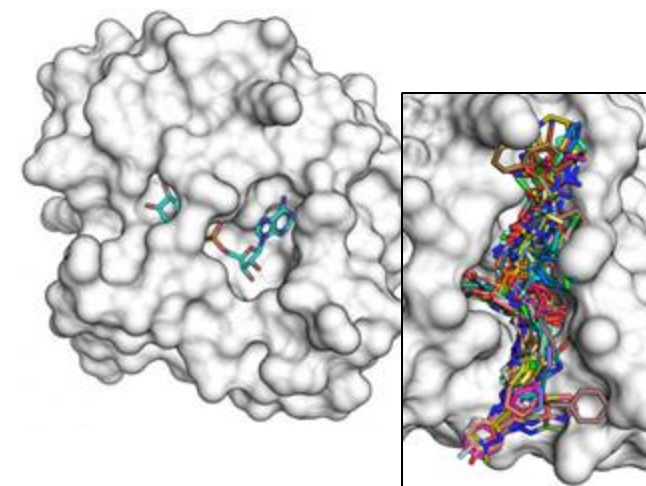
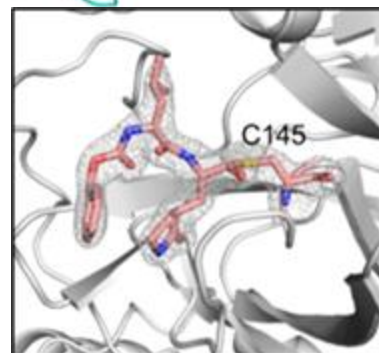


Fully remote operation, developed with Kornberg laboratory (Stanford) to tackle challenging RNA Polymerase II structures

- Began supporting COVID-19 related research in March 2020
- >75 structures, >1,400 screening of targets, >20 publications, 4 drugs in clinical trials

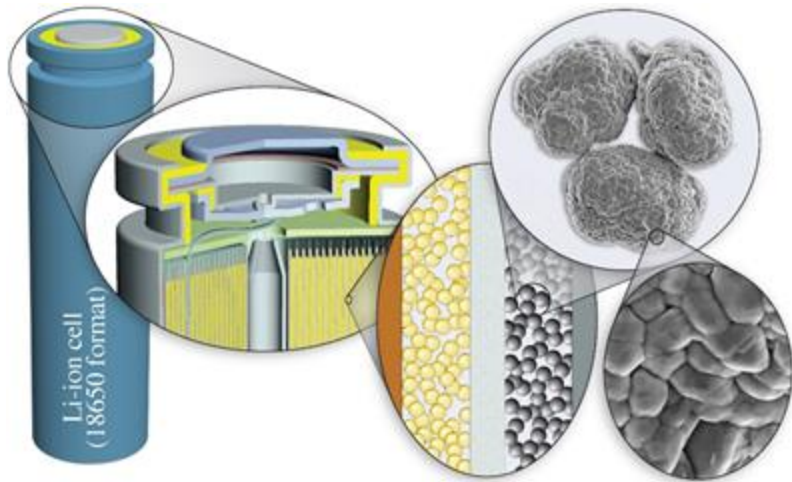


SARS-CoV-2 main protease with inhibitor – drug developed (Anivive)

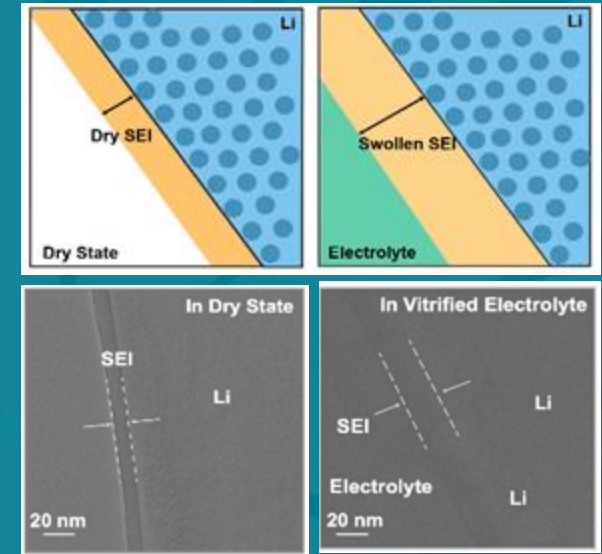
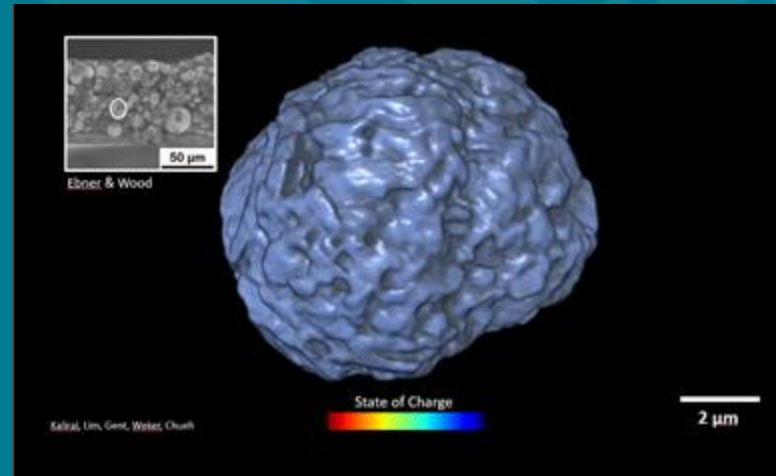


Rapid fragment screening against SARS-CoV-2 Nsp3 macrodomain

Accelerating the development of sustainable batteries



Battery electrodes



Battery informatics



Training leaders for the energy transition



Major Project Overview



Linac Coherent Light Source II High Energy (LCLS-II HE)

Canon Cheung, LCLS-II-HE Infrastructure System Manager

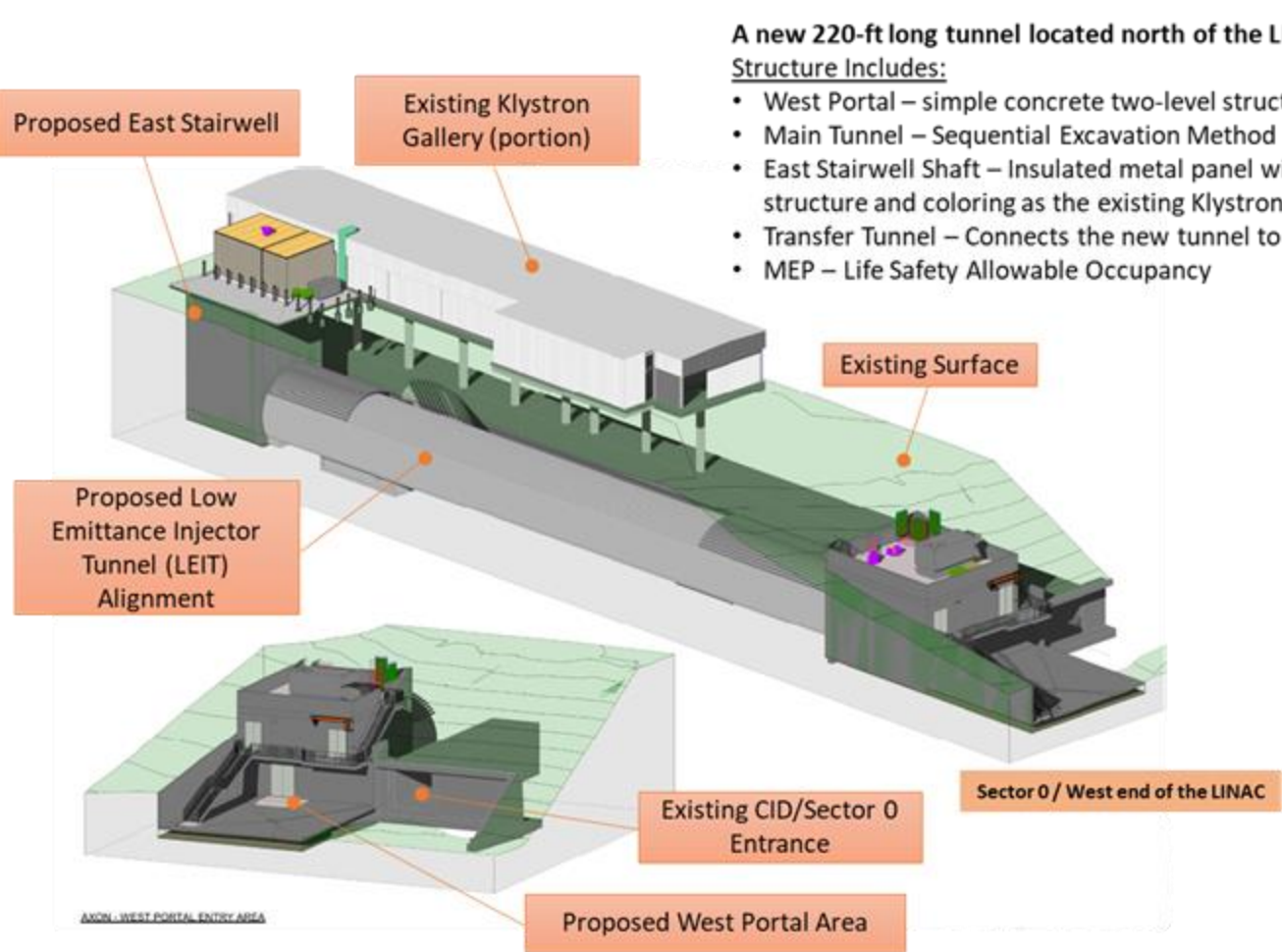
James Yturralde, Senior Subcontract Administrator (jamesy@slac.stanford.edu)

AJ Vandermeijden, Construction Team Lead (amiravan@slac.stanford.edu)

LEIT Industry Day – December 5, 2023

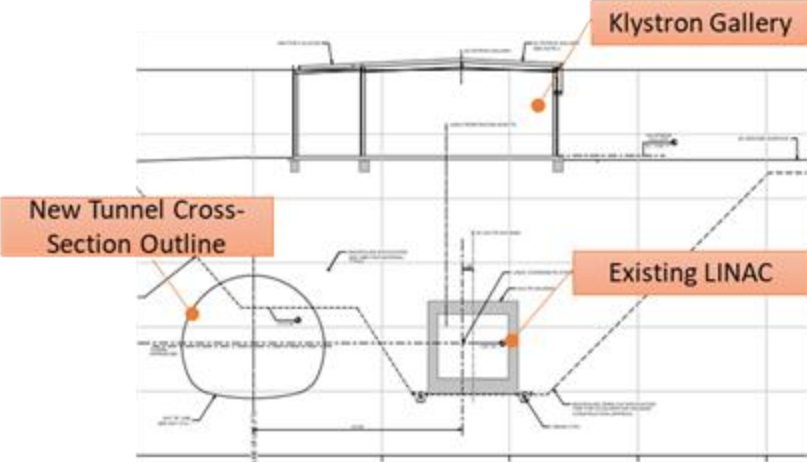
LCLS-II-HE

Low Emittance Injector Tunnel (LEIT) Construction – Project Overview



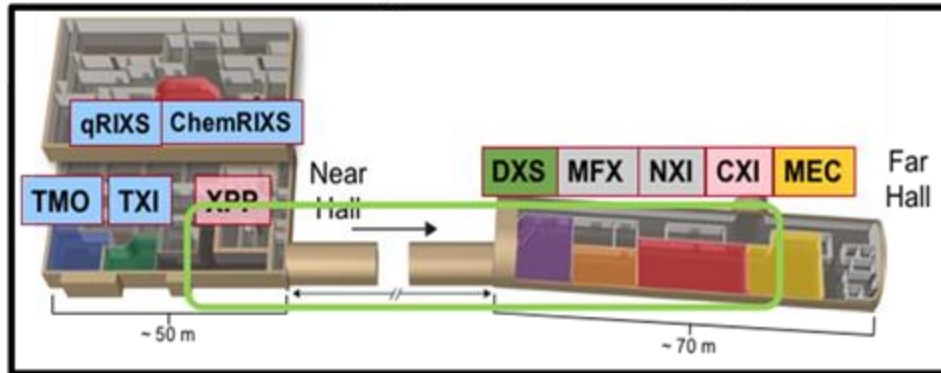
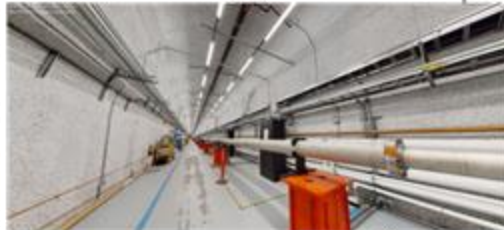
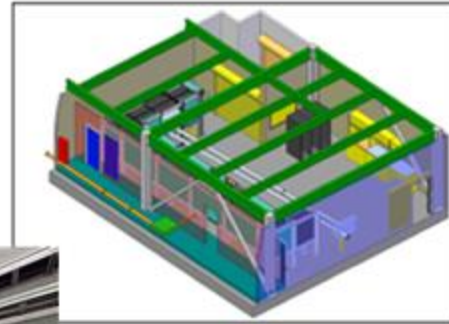
- A new 220-ft long tunnel located north of the LINAC at Sector 0.**
Structure Includes:
- West Portal – simple concrete two-level structure
 - Main Tunnel – Sequential Excavation Method
 - East Stairwell Shaft – Insulated metal panel with similar ribbing structure and coloring as the existing Klystron Gallery
 - Transfer Tunnel – Connects the new tunnel to the existing LINAC
 - MEP – Life Safety Allowable Occupancy

Near Term Timeline	
Release RFP	January 2024
Subcontract Award	October 2024
Notice to Proceed	November 2025
Commence Heavy Civil Construction (Long Downtime)	July 2025
Substantial Completion	July 2026
Beneficial Occupancy	October 2026



LCLS-II-HE

Experimental Infrastructure (EI) Design and Construction – Project Overview



MEP Infrastructure upgrade to comply with latest requirements needed for multiple Experimental areas and large beam transport tunnel

- Electrical modifications for new science equipment
- Mechanical Cooling Distribution
- Compressed Air and Nitrogen Distribution
- HVAC and Exhaust Systems to support strict environmental conditioning
- Raised floor and support systems to ensure safe and efficient occupancy

Near Term Timeline Estimate

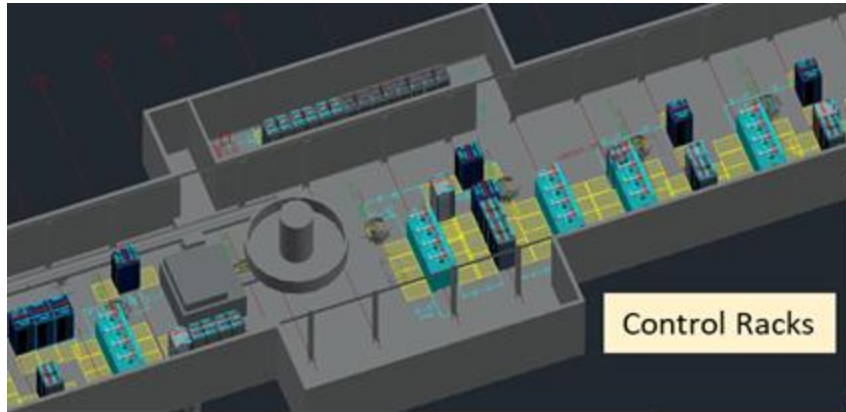
AE RFP Release – February 2024
Subcontract Award – May 2024
Construction RFP Release – September 2024
Subcontract Award – December 2024
Substantial Completion – January 2027

Potential Opportunities for Partnership

A&Es
General Contractor
Drilling Agency
Commissioning Agents
Special Inspections

LCLS-II-HE

Miscellaneous Scope



Cable Plant Sector 7 - 10 Installation

- Install approximately 135 Control Racks
- Install approximately 416K LFT of control cables
-

Near Term Timeline Estimate

- AE RFP Release – May 2024
- Subcontract Award – Nov 2024
- Substantial Competition – June 2026



Rigging of Waveguide

- Rig 27'0", ~1700 lb waveguide : July 2024 and July 2025

Anchoring of Various Equipment

- Drill, install anchors, set stands

Cryomodule Repair and Maintenance Facility

Martina Martinello, CRMF Project Director

John Azevedo, Senior Subcontract Administrator (tigger@slac.stanford.edu)

Industry Day – June 2024

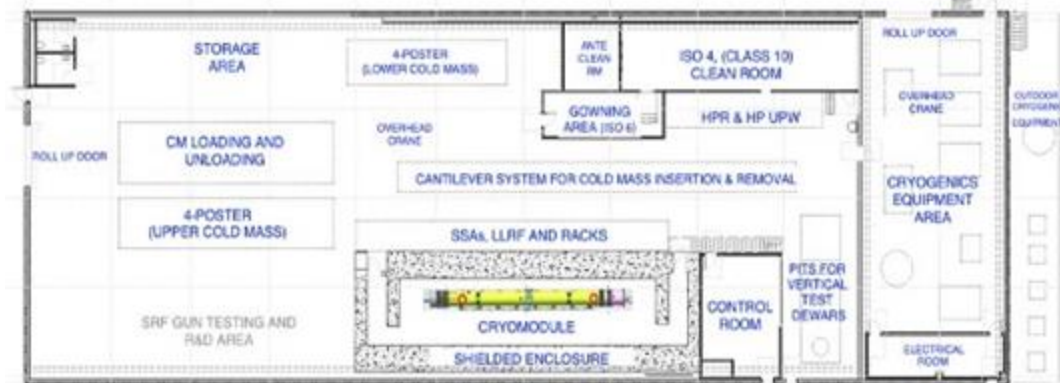
Cryomodule Repair and Maintenance Facility (CRMF)

CRMF will allow the repair and maintenance of superconducting radio-frequency (SRF) - based cryomodules.

Scope:

- Construction of **new > 20,000 GSF building** to accommodate full cryomodules disassembly, re-assembly and testing
- **ISO-4 cleanroom** for cavities clean string assembly
- Installation of **cryomodule assembly tooling**
- **Cryogenic equipment** to supply LHe to allow for cryomodule and superconducting cavity testing ($T = 2K = -456^{\circ}F$)
- Concrete **shielded enclosure**, **RF equipment** and **control room** for cryomodule testing
- **Pits** for future development of dewars for SRF cavities testing

SLAC



Cryomodule Repair and Maintenance Facility (CRMF)

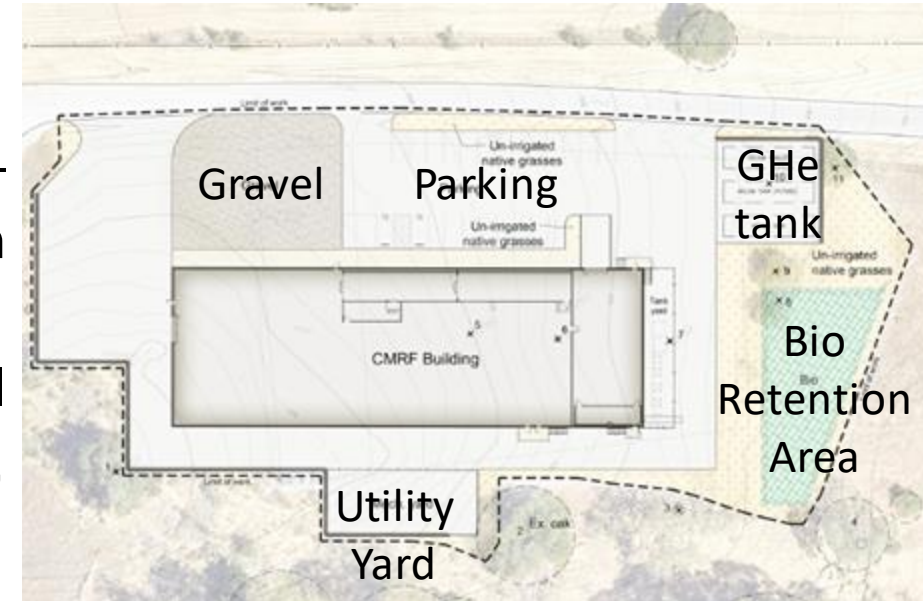
Project Opportunities

Conventional facility:

- New Building construction in green field (D-B-B) – planned release of RFP: 2Q FY25, planned completion 3Q FY27
- Site improvement and utilities installation (new central utility plant - cooling tower, electrical substation, chiller, etc -)

Technical systems:

- ISO-4 Cleanroom design and construction
- Cryogenic equipment and piping design, procurement and installation
- Installation of cryomodule assembly tooling
- Installation of cabling and equipment for control systems



Matter in Extreme Condition Upgrade (MEC-U)

Charles Rossignol, MEC-U Conventional Facilities System Manager

Matt Mezzetta, Senior Subcontract Administrator (mezzetta@slac.stanford.edu)

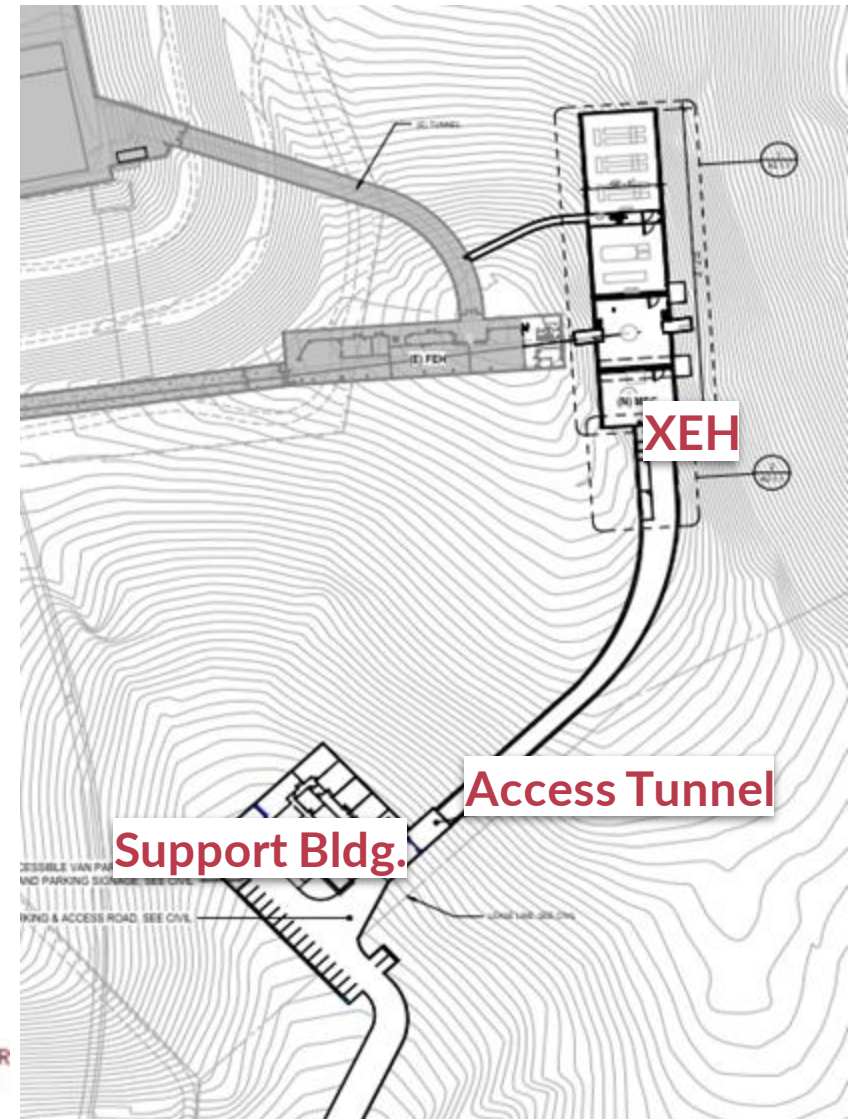
MEC-Upgrade - Project Overview

A new science facility to explore Matter in Extreme Conditions

- a major upgrade to the LCLS X-ray Laser user facility
- partnership between SLAC, LLNL, and U of Rochester LLE
- project site selected to be downstream of LCLS Far Experimental Hall (FEH)

Major Project Deliverables

- underground experimental hall (XEH) ~15,000 gsf
- underground access tunnel ~9,000 gsf
- above-ground support building ~8,000 gsf
- high peak power lasers (one million-billion watts)
- experimental instruments for laser and X-ray science



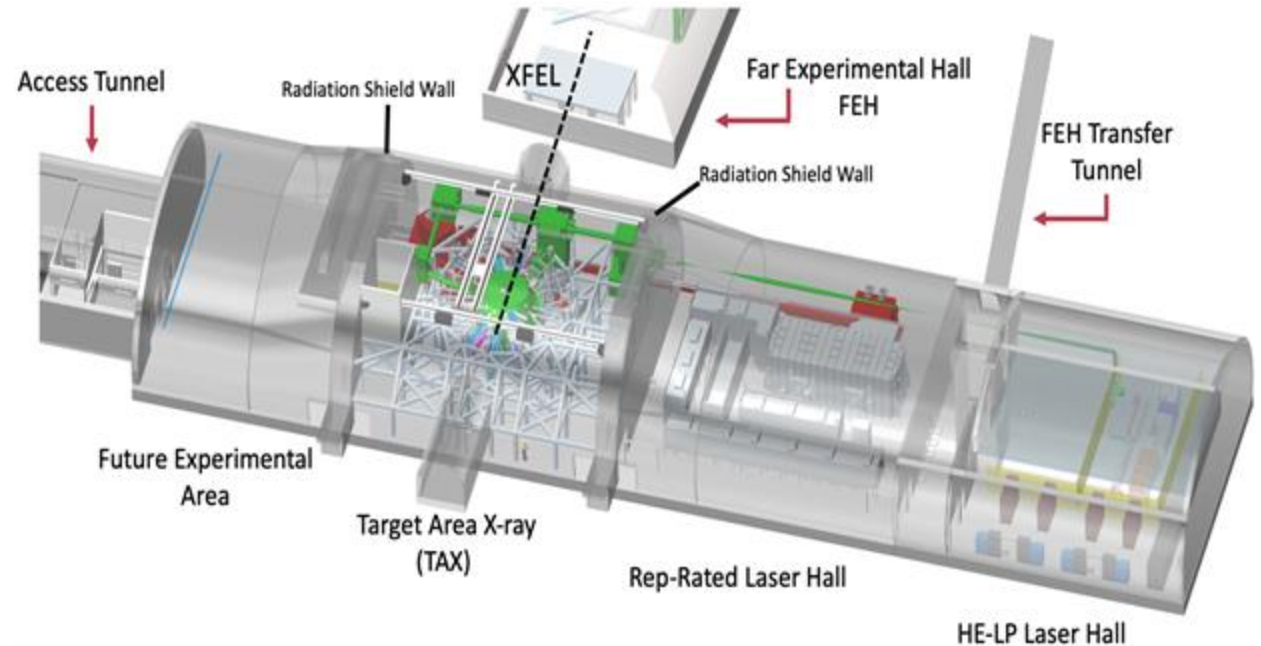
MEC-Upgrade - Project Opportunities



Design Phase (2024 to 2026)

Pre-construction consulting

- Constructability review
- Independent Design Review
- Estimating & Market research



Construction Phase (2026 to 2029)

- a new subterranean experimental hall (XEH) and access tunnel (~25,000 sq ft)
- Support building
- Reconfigure FEH to extend XFEL to XEH

MEC-U will attend LCLS-II-HE LEIT Industry Day - December 5, 2023

Critical Utilities Infrastructure Revitalization

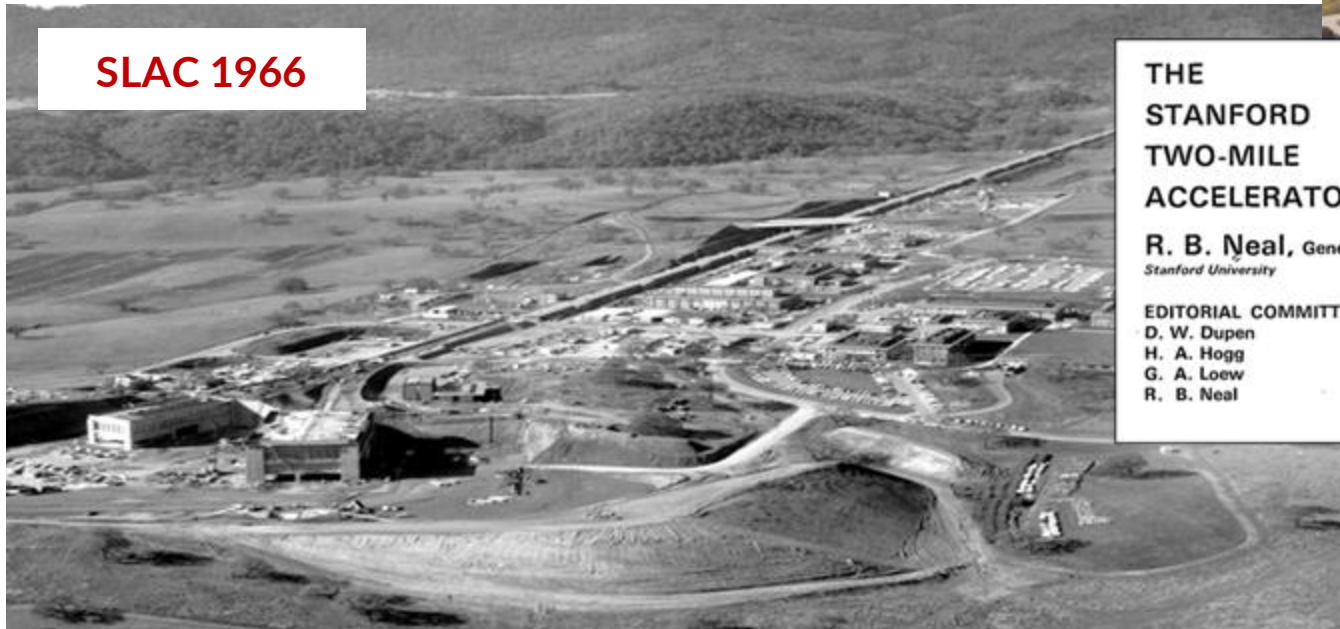
Janet Kan, Project Director

John Avezedo, Subproject 1 Senior Subcontract Administrator (tigger@slac.stanford.edu)

Industry Day – Week of January 29, 2024

Critical Utilities Infrastructure Revitalization (CUIR)

From a Single Purpose Laboratory to
a Multiple Program Facility
with Operation Commitments



SLAC 1966

THE
STANFORD
TWO-MILE
ACCELERATOR

R. B. Neal, General Editor
Stanford University

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SLAC 2023

TODAY

LCLS-II
FACET-II
Cryo-EM
LSST
MEC



FUTURE

Adding
LCLS-II-HE
CRMF
MEC-U
And more...

Critical Utilities Infrastructure Revitalization (CUIR)

CUIR is tailored into three (3) subprojects, with minimal dependencies between each subproject.



Subproject 1 (SP1)
Critical Electrical System Improvements
Planned 2023 to 2029



Subproject 2 (SP2)
Critical Civil Utilities Replacement and
Upgrades
Planned 2024 to 2032



Subproject 3 (SP3)
Critical Mechanical Utilities
Upgrades
Planned 2025 to 2034

Utility improvements are grouped within a subproject to align with science needs, downtime coordination, and construction efficiency

Critical Utilities Infrastructure Revitalization (CUIR)

Upcoming Project Opportunities

Type of Subcontract	Opportunity Name	Planned RFP Release
Government Furnished Property	High Voltage Substation Transformers (65MVA, 230/12.47kV)	Spring 2024
A/E Design	Subproject 2 – Civil Utilities Preliminary Engineering Design	Spring 2024
Construction	Subproject 1 – Design Build Subcontract	Spring 2024
Construction	Subproject 1 – Roof mounted Cable System Design and Constructability Verification	Summer/Fall 2024
Construction	Subproject 1 – Substation 726 SCADA System Construction	Summer/Fall 2024
Construction	Subproject 1 – Substation K5B Construction	Summer/Fall 2025
Engineering Surveys	Subproject 2 – Topographic and utility surveys, geotechnical exploration, hazardous materials surveys	Fall/Winter 2025

Critical Utilities Infrastructure Revitalization (CUIR)

SOURCES SOUGHT NOTICE

Critical Utilities Infrastructure Revitalization Project -Design-Build Subcontract for Subproject 1

Response Due December 15, 2023



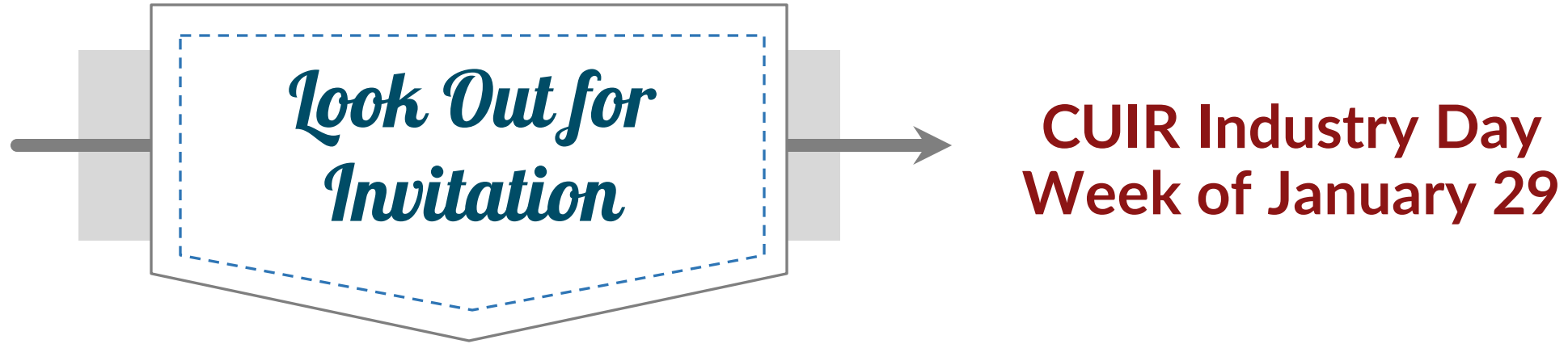
PRE-SOLICITATION NOTICE

Long Lead Equipment – High Voltage Transformer Procurement

Response Due December 19, 2023



Critical Utilities Infrastructure Revitalization (CUIR)



Meet our team at the CUIR Networking Table

Large Scale Collaboration Center

Stacy Fitzgibbon, LSCC Project Manager

Doreen Agbayani, Senior Subcontract Administrator (doreena@slac.stanford.edu)

Anticipated Industry Day – Late January 2024

LSCC (Large Scale Collaboration Center)

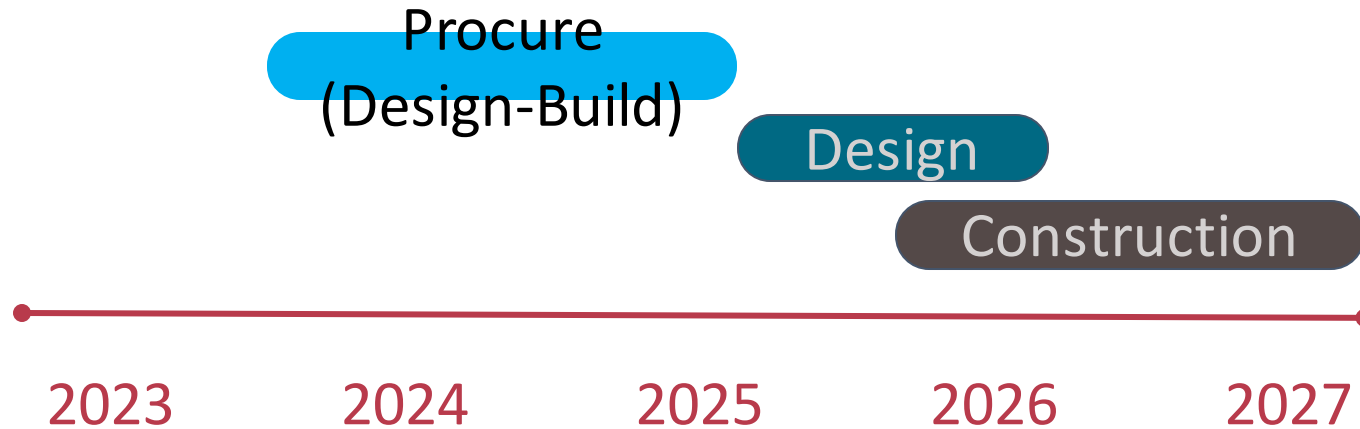
- LSCC will be a Design-Build, ground-up building, centralized on site
- Anticipated square-footage (18,000-28,000 sf)
- LEED Gold and All Electric Design
- Design to Cost
- Team rooms, collaboration spaces, open and private offices, visualization lab



Large Scale Collaboration Center (LSCC)

LSCC supports interdisciplinary scientific collaboration and advanced visualization of complex data.

*LSCC Industry Day
January 2024*



Type of Subcontract	Opportunity Name	Planned RFP Release
Design-Build	D-B LSCC Building	April 2024



Large Scale Collaboration Center

Facilities and Operations (F&O)

Brendan Curran, Facilities and Operations Director

AJ Vandermeijden, Procurement Team Lead (amiravan@slac.stanford.edu)

Facilities & Operations (F&O)

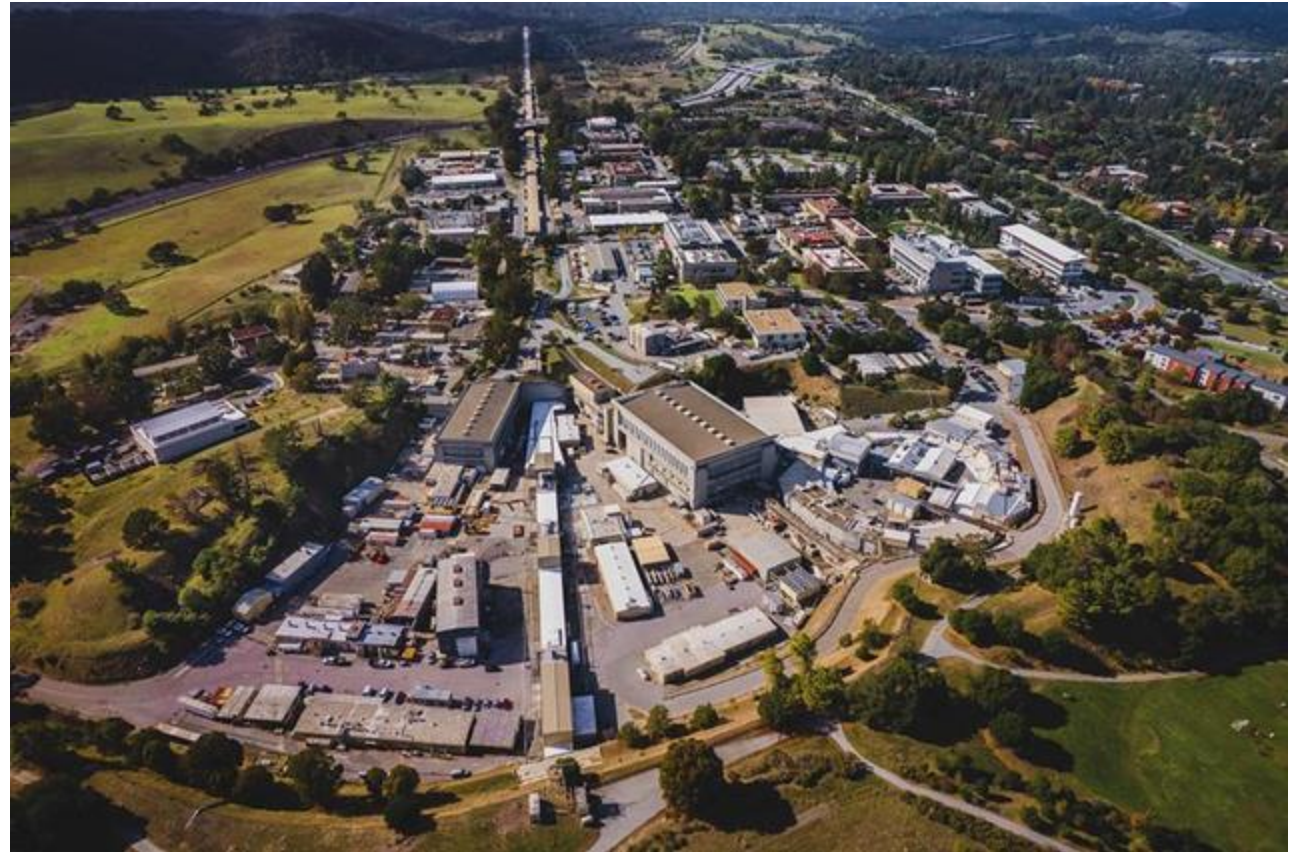
Manages facilities and infrastructure of SLAC Campus

- 2.4M total gross square feet
- 426 Acres

Facility Management: Grounds, Housekeeping, moves, finishes, building shells

Operations: Repairs & Maintenance

Engineering: Design services for major and minor projects, owner's representative



Facilities & Operations (F&O)

Upcoming Contract Needs

- IDIQ (Indefinite Delivery, Indefinite Quantity) job order contracting to support task-based minor construction, repair, and renovation services
- Integrated Service Provider contracting for facility support services (housekeeping, grounds, pest control, etc.)
- A&E services for design and review to support major and minor projects

Minor Projects

Lauren Thompson, Project Management Office Director

AJ Vandermeijden, Procurement Team Lead (amiravan@slac.stanford.edu)

Minor Projects: Currently in Construction

Project Type	TPC	Project Name	Point of Contact
MEP	<\$1M	B057 CryoEM 4th TEM Power Change	Andi Schoppa
MEP	<\$1M	B006 Tundra Room 103	Andi Schoppa
MEP	<\$1M	B006 Roll Up Door Replacement	Jase Perez
HVAC	<\$1M	S10 FACET-II Injector Laser Room Dehumidification	Kevin McCarthy
MEP	\$1M - \$10M	B750 - Cryomodule Storage	Kevin McCarthy
Electrical	\$1M - \$10M	Substation 25S Replacement and MV Switch 4	Andi Schoppa
D&D	\$1M - \$10M	SSRL Trailer Demolition	Kevin McCarthy
Civil, Mechanical, Electrical	\$1M - \$10M	SSRL Lift Station 101 Replacement	Chethana Gowda
Structural	\$1M - \$10M	B026 Roof Replacement	Kevin McCarthy
Civil	\$1M - \$10M	Sectors 9 and 12 North Gallery Road	Kevin McCarthy

Minor Projects:

Out for Bid Now Through the End of FY24

Project Type	TPC	Project Name	Point of Contact
Architectural, Electrical	<\$1M	B033 DR Lab Renovation	Jase Perez
Civil, Mechanical, Electrical	<\$1M	Lift Station 115 Replacement	Chethana Gowda
Civil	<\$1M	North Access Road Sector 14 Culvert Repair	Tiffany Tate
Communications, Electrical	<\$1M	B050 Cellular Antenna Removal	Kevin McCarthy
Communications	<\$1M	Cell Tower AT&T - Antenna Sector D Upgrade	Kevin McCarthy
D&D	<\$1M	Sector 11 Site Prep	Kevin McCarthy
Miscellaneous	<\$1M	Sector 11 Soil Sampling	Kevin McCarthy
MEP	\$1M - \$10M	HX4 Piping Connection to LCW 1801	Kevin McCarthy
MEP	\$1M - \$10M	IR12 - Cryomodule Storage	Kevin McCarthy
MEP	\$1M - \$10M	IR6 - Cryomodule Storage	Kevin McCarthy
MEP	\$1M - \$10M	MMF (B81) Chiller	Kevin McCarthy
MEP, Cleanroom	\$1M - \$10M	B750 Equipment Assembly Area	Kevin McCarthy
Electrical	\$1M - \$10M	Klystron Gallery Electrical Distribution	Kevin McCarthy
Electrical	\$1M - \$10M	Replace High Intensity Discharge Lighting	Tiffany Tate
Electrical, HVAC	\$1M - \$10M	Refuge Area Code Upgrades Sect 8-10	Jase Perez
Civil, HVAC, Roofing	\$1M - \$10M	B50 Roof Replacement	Kevin McCarthy
MEP, Architectural	\$10M-\$30M	Nano-X Chase Expansion	Kevin McCarthy

Minor Projects: FY25

Project Type	TPC	Project Name	Point of Contact
Civil	\$1M - \$10M	Sector 11 Site Civil	Kevin McCarthy
Utilities	\$1M - \$10M	Sector 11 Site Utilities	Kevin McCarthy
MEP	\$1M - \$10M	1801 LCW Pump Project	Stacy Fitzgibbon
Road & Utilities	\$1M - \$10M	East-Campus Site & Utilities Improvements (ESUI)	Kevin McCarthy
All	\$10M-\$30M	B950 Elevator Installation	Lauren Thompson
All	\$10M-\$30M	Site Security & Access Improvements – Main Gate	Chethana Gowda

Minor Projects: FY26 and Beyond

Project Type	TPC	Project Name	Point of Contact
HVAC	<\$1M	Sector 20 Laser Building Heating upgrade	Kevin McCarthy
Mechanical, Plumbing	<\$1M	B025 Chilled and Hot Water Distribution Piping	Chethana Gowda
Elect, Struct, Mech, I&C	<\$1M	Renovate B750 Elevators	Chethana Gowda
Civil	<\$1M	Paving Roads & Parking Lots Maintenance Plan	Chethana Gowda
Electrical	<\$1M	Replacement of 050S 12kV Switch Gear	Chethana Gowda
Electrical	<\$1M	Substation 756S Modification	Kevin Mccarthy
Electrical	<\$1M	Replace LV sections and MCCs	Chethana Gowda
Civil	<\$1M	Sector 11 Road Work	Kevin McCarthy
Utilities	\$1M - \$10M	Recycled Water Infrastructure Study	Tiffany Tate
Electrical	\$1M - \$10M	Replace 12kV Cables at IR2, 522S, IR4 and IR12	Chethana Gowda
Electrical	\$1M - \$10M	Replace VVS, MV Sections, Transformer, LV Main and Distribution Section	Chethana Gowda
MEP	\$10M-\$30M	Cooling Tower 1701 Upgrades Phase II	Stacy Fitzgibbon
All	\$10M-\$30M	Science Quad Renovation Projects (40, 40A, 44, 84)	Chethana Gowda
All	\$10M-\$30M	Retrofit and Modernize Computation Center	
		Telecommunications Infrastructure	Chethana Gowda

Questions?

SLAC Project Opportunities

November 29, 2023

BOLD
PEOPLE
VISIONARY
SCIENCE
REAL
IMPACT

Closing Morning

Nicole Colley

Thank you!

