

# Cosmic Explorer Beamtube EXperiment (CEBEX)

*Bi-monthly program update*

*WITH BONUS: CE/ET BEAMTUBE WORKSHOP III NEWS!!!*

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*LIGO Laboratory and Cosmic Explorer Consortium*

*Joint Bimonthly CE/ET Vacuum Studies Working Group*  
*13 August, 2025*

[LIGO-G2500225-v3](#)

# ET/CE Beamtube Workshop III

## 9/30-10/2/25 @ LIGO Hanford



REGISTER AT <https://sites.google.com/ligo.org/beamtubeworkshopspring2025/home>

- So far about 30 registered f2f attendees and counting (+ about 14 remote)
- **PLEASE REGISTER AND PAY ASAP** (no fee for remote)
  - Final registration deadline **8/29**
- **PLEASE RESERVE YOUR HOTEL ROOM ASAP**
  - Last call is **8/21** for Hampton inn, **8/29** for Courtyard
- We've seeded 3 working groups (slightly different from '19 and '23):
  - Materials, Surface Treatments and Outgassing (Paolo & Dan)
  - Design, Fabrication and Assembly (Jon and Cedric)
  - Scattered Light, Isolation and Baffles (Mario and Matt)
- Please check the program and contact Paolo, me or Fred with contributions, topics and ideas
- Agenda may shuffle (e.g., to accommodate remote presenters), BUT...
  - **LHO Site Tour will be 10:15 Tuesday Morning**
  - **Dinner will be 18:30 Tuesday Evening at [Tagaris Winery](#)**

# CEBEX Program Update



- New staff!
  - Please welcome **JC Sanchez**, **Bob Cottingham** and **Anna Iudintseva**!
- Funding status
  - FY25 funds finally released (our “FY” starts 8/1, so now actually in “FY26”)
  - **Approved to contract Architect/Engineer for laboratory building design** (on existing funds)
    - 2nd bid competition completed in June, awarded to Meier A&E on 7/16
    - Will now separately bid construction, based on completed AE design
  - FY26 allocation depends on US Congress action to set NSF budget
    - (Congress went into recess...)
- Beamtube design, material selection, bakeout, instrumentation
  - See talks by Dennis, Alberto et al.
  - **RFI near ready for distribution to industrial fabricators (Jon)**
    - Targeting corrugation-stiffened 304L, ~ 2mm wall; inspired by CERN design
    - Seeking reactions & recommendations from fabricators, pipe suppliers and forming machinery providers
  - Caps, joints, pump spools & anchoring design and analysis moving forward (Anna)
  - Resistive bakeout analysis & parameter review ongoing (JC)
  - Pumping and measurement unit Requirements & Design reviews coming ~ October (Janos)
- **Lab facility design is moving fast**
  - Geotech assay and land surveys in progress
  - Construction permit applications in progress
    - (Recall NEPA/NFPA permits were approved by Tribes, DOE and NSF in April)
    - CMU construction method has been authorized (-> best speed & economy, less tariff sensitivity)
  - Floorplans and utility deployments approved
  - On track for issuing construction bid documents **next month**
    - **GOAL: Beneficial occupancy by NEXT SUMMER**



Y MIDSTATION  
(existing)

LIGO HANFORD Y  
BEAMTUBE  
(existing)

CHILLER PLANT  
(existing)

CEBEX LAB  
(proposed)

Earth



VB
B
NA
NO
NO
YES
40'
25'
2
1
9,000 SF
6,750 SF
15,750 SF
11,500 SF
0-HOUR
0-HOUR
NOT REQUIRED
77
3%
>1 FOOTCANDLE
YES
200'
75'
ALL PUBLIC ENTRANCES ARE ACCESSIBLE
3
1
2
1
150 GROSS
300 NET
NA
4
1

BUILDING:	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS
PLUMBING:	2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS
MECHANICAL:	2021 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON STATE AMENDMENTS
ELECTRICAL:	2021 EDITION OF NATIONAL ELECTRICAL CODE
FIRE:	2021 INTERNATIONAL FIRE CODE
ENERGY:	
ACCESSIBILITY:	2017 ICC/ANSI A117.1

NOT FOR CONSTRUCTION

