



Idaho State
University

The Idaho State University Advanced Research and Test (ART) Reactor Facility:

A Collaboration with NuCube Energy Inc.

TRTR 2026

Dr. Daniel LaBrier
Idaho State University

ROAR

Idaho State University

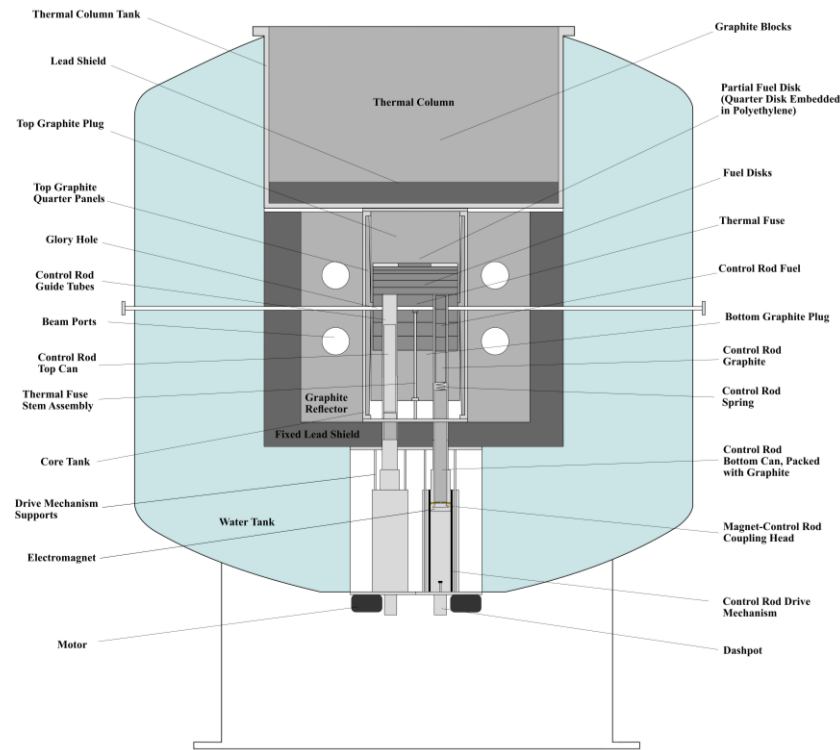
- Main campus in Pocatello, ID, satellite campuses in Idaho Falls, Twin Falls, and Meridian
- State-designated school for health sciences and nuclear energy
- Only Idaho university to offer full range of degrees in nuclear engineering (B.S., M.S., Ph.D) & nuclear operations (A.S.)
- Operates NRC-licensed AGN-201 for training and research



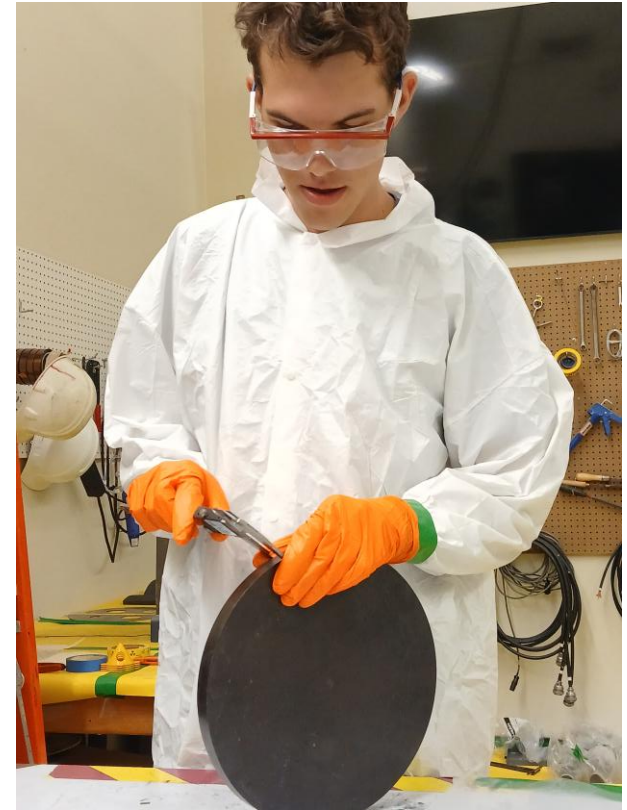


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ISU AGN-201 Reactor



*Drawing not to scale



- Serves Nuclear Engineering Department and Nuclear Operations Program
- Offers hands-on training, and pathway to become an NRC-licensed Reactor Operator

ROAR

NuCube Energy Inc.

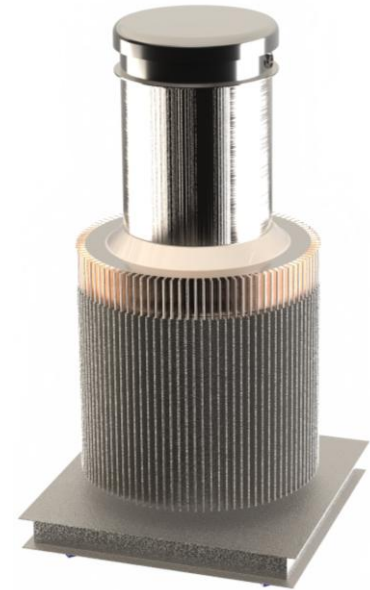
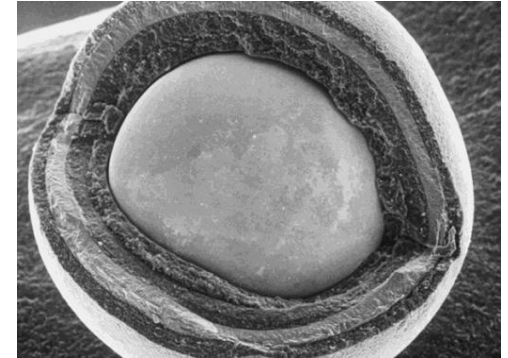
- Founded in 2023, NuCube Energy Inc. is an advanced nuclear technology company headquartered in Idaho Falls, Idaho.
- The company is developing the NuSun platform, a factory-built microreactor technology, designed to provide reliable, carbon-free energy for future commercial applications.



NuCube Energy

The NuSun Reactor

- The NuSun Reactor:
 - TRISO Fueled
 - Heat-Pipe Cooled
 - Capable of 1100 °C output
 - Graphite Moderated
 - Can accommodate HALEU or LEU+
 - ISU unit will produce $\sim 4 \text{ MW}_{\text{th}}$
- Is not scheduled to produce electricity for ISU

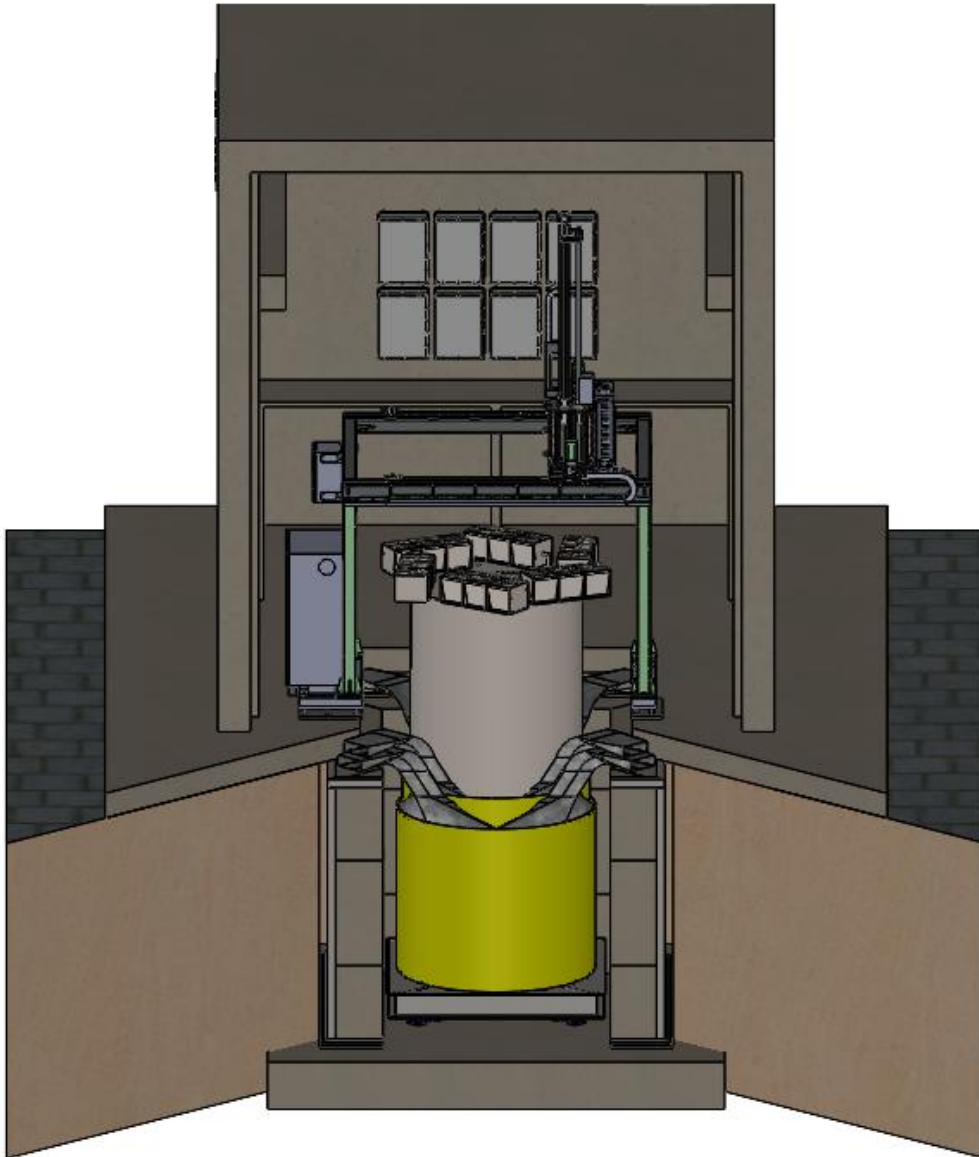


The NuSun Reactor

- The NuSun Reactor is a good choice for use as a research reactor
 - Solid fuel, solid moderator, solid heat removal
 - Designed to minimize the number of moving parts
 - No core cooling pumps
 - No pressurizers
 - No ASME code pressure vessel
 - Designed for full passive safety
- Primary goal: produce industrial heat

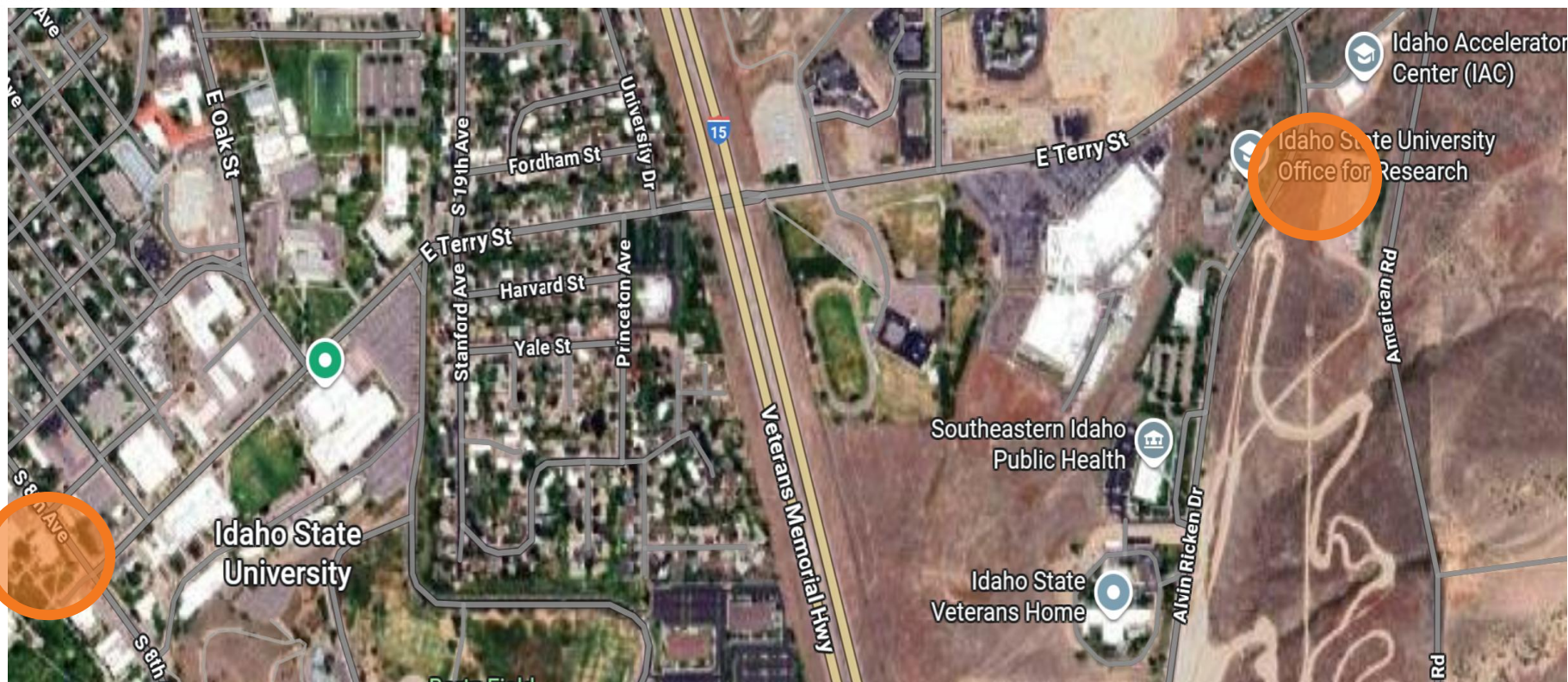


Reactor Building



- 10,000 ft² (approx.) facility
- Houses reactor and supporting systems
- Local controls in place, but primary control room will be located off-site
- Designed to study remote and autonomous operations

Proposed Placement of ISU ART Facility



- Facility placement away from main campus on ISU-owned property (east of I-15)



ISU-NuCube Collaboration

- The ISU-NuCube Energy partnership is building the Advanced Research & Training (ART) Reactor Facility
- The motivation behind this partnership involves three critical aspects:
 - Provides academic opportunities
 - Enables workforce development
 - Demonstration of novel technologies coupled to an advanced reactor
- PPPs like this serve as a pathway to position the state of Idaho as a leader in the nuclear industry.



ISU-NuCube Collaboration

- As part of the DOE Launch Pad USA Program, our team is designing, constructing, and commissioning an advanced reactor on the university site.
- Through its partnership with ISU, NuCube is helping create a university-based platform for training, research, and technology development in Idaho.
- After commissioning is complete, NuCube will pursue commercial licensure through the NRC
- ISU will pursue NRC licensure through 10 CFR 50 as a research reactor

Thank You!

Contacts at Idaho State University

- Dr. Daniel LaBrier, Associate Professor, Nuclear Engineering
- Dr. Marty Blair, VP for Research and Economic Development

Contacts at NuCube Energy, Inc.

- Dr. Cristian Rabiti, CEO and Cofounder
- Mr. Lorin Young, VP of Operations
- To learn more, please visit:
<https://www.isu.edu/artreactor/>