

# Research Overview |

# QESST is improving efficiency, economic viability, and sustainability of PV systems

QESST is developing the knowledge, technology, and engineered systems to provide continuous improvement in the efficiency, economic viability, and sustainability of photovoltaic (PV) systems. To this end, QESST is committed to research that spans the three leading commercial PV technologies: silicon, thin films, and tandem devices. More importantly, QESST is blurring the traditional lines between technologies by recognizing and exploiting their commonalities. The research done within QESST combines thrusts, testbeds, and cross-cutting topics to cover a variety of projects related to both the basic science and application of solar technologies. Topics cover everything from advancing silicon devices to studying novel materials and synthesis techniques. All the projects share certain themes, called cross-cutting topics, related to sustainability, education, and diversity.

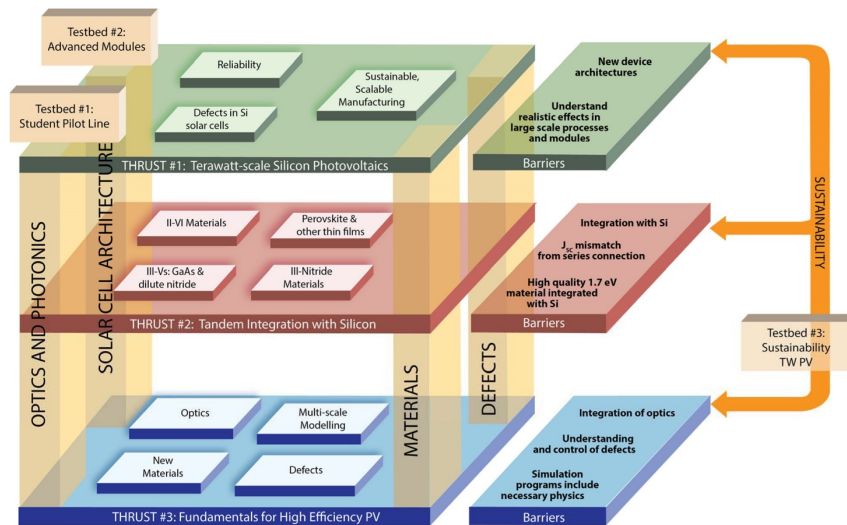
## WHAT'S INSIDE:

[Thrusts](#)

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[Sustainability](#)

[Education](#)



3-Plane Diagram, last updated May 11, 2018 Three plane diagram showing the integration of research Thrusts and Testbeds.

## Research Thrusts

1. Terawatt Scale Silicon PV
2. Tandem Integration with Silicon
3. Fundamentals for High-Efficiency PV

## Testbeds:

1. Student-Led Pilot Line
2. Next Generation Modules
3. Identifying Barriers to Terawatt Scale PV

## Cross-Cutting Topics

1. Sustainability
2. Education
3. Diversity



QESST was established in 2011 as an NSF-DOE funded Engineering Research Center. It represents a collaboration between multiple universities.

[Download an overview of the Center.](#)

Site hosted by [ASU Engineering](#).

Contact us: [qesst.slc@gmail.com](mailto:qesst.slc@gmail.com)



## QESST on Twitter



**QESST ERC**  
@QESSTERC

Thank you to those that came out to our QESST Presentation Expo - and special thanks to our keynote speakers Eli Yablonovitch, Philip Schulz, and the QESST Best Paper Winner Sashwat Roy!

You can request video recordings by emailing [qesst.slc@gmail.com](mailto:qesst.slc@gmail.com).



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