



[Technology \(/topics/technology/index.html\)](/topics/technology/index.html)

[\(/sites/default/files/thumbnails/image/itech_cycle_ii_call_for_ideas.jpg\)](/sites/default/files/thumbnails/image/itech_cycle_ii_call_for_ideas.jpg)

May 10, 2018

MORE STORIES

NASA iTech Selects Top 25 Semifinalists in Energy Competition

NASA iTech today announced the selection of 25 of the most promising ideas submitted by innovators across the United States as semifinalists in the 2018 NASA iTech Cycle II-Energy.

NASA iTech is an initiative by NASA's Space Technology Mission Directorate (STMD) to find innovative ideas that address important problems here on Earth and also hold great potential to overcome critical technology hurdles in future space exploration.

NASA has teamed up with the U.S. Department of Energy's (DOE) Advanced Research Projects Agency Energy (ARPA-E) on this unique iTech competition to identify transformational technologies to improve how energy is generated, distributed and stored to the benefit of both space exploration and life on Earth. These game-changing ideas may come from small or large businesses, academia, and other government organizations that may not have previously had a forum to present their solutions to NASA.

"Making it into the top 25 as a semifinalist for a NASA iTech cycle is no easy feat for the entrepreneurs. The quality and creativity of the proposals we receive to address some of space exploration's toughest technical objectives are always very impressive, and it's tough to make the cut," said Kira Blackwell, NASA iTech program executive for STMD. "This cycle is unique, as it addresses groundbreaking approaches within energy-specific focus areas that could solve important problems here on Earth and in the space community."

In March, the iTech Challenge issued a call for ideas within energy focus areas such as Fuel Cells and Regenerative Fuel Cells; High-energy-density Batteries and Supercapacitors; Solar Power Systems; Small Fission Power Systems; Innovative Power Management and Distribution (including Smart Grids and Wireless Power Transfer); and X-Factor Energy.

A panel of subject-matter experts from NASA and ARPA-E will now review the top 25 Cycle II-Energy semifinalist entries based on their relevance, likelihood of success, and potential positive impact on space exploration and life on Earth.

The top 10 finalists for Cycle II-Energy will be announced on May 25. These finalists will be invited to present their ideas to NASA and DOE leadership, space industry leaders, and potential investors at the NASA iTech Cycle II-Energy Forum to be held at Citi's global headquarters in New York City, June 11-14.

The top 25 2018 NASA iTech Cycle II-Energy semifinalists are (in alphabetical order):

1. **AGPower92** - Poway, California
Improve Space and Terrestrial Power Systems
2. **AsterTech. LLC** - Beavercreek, Ohio
3D Additive Manufacturing of High Efficiency and Light-Weight Solar Cells for In-Space Applications
3. **ATEIOS** - La Jolla, California
Printed Batteries for Ubiquitous & Conformal Electronics
4. **ATOMOS** - Denver
Splitting the Atom to Connect the Planets: A Commercial Nuclear Power System for Space Operations
5. **Birmingham Technologies** - Arlington, Virginia
The Nano-Boxx: A Nanoscale Energy Harvester
6. **Cactus Materials, Inc.** - Tempe, Arizona
Nanoengineered Li7La3Zr2O12 (LLZO) thin film solid state batteries on roll-to-roll manufacturing for EV Vehicle
7. **Castor Air 2 Electricity and Water Solutions Inc.** - Chelsea, Massachusetts
Onsite Air to Electricity & Water Multiplier Microgrid
8. **Environment and Energy Benefit Co.** - West Sacramento, California
BBB: X Factor Liquid Fuel
9. **Gilman Industries, LLC** - East Northport, New York
Alternate Polymer-Based H2 from Tap Water Electrolyzer
10. **HE3DA USA** - Redondo Beach, California
Innovative 3D Nanotechnology for Energy Storage
11. **Howe Industries, LLC** - Tempe, Arizona
Ion Enhanced Thermoelectric Generator (ITEG)
12. **Idaho National Laboratory** - Idaho Falls, Idaho
Remediation of Hydrocarbon-Contaminated Ground and Water Using a Novel Trace Element Humate Surfactant Solution (TEHS)
13. **iFeather** - Boulder, Colorado
In-situ Fabrication of Extraterrestrial Aerogels for Transparency, Heat, and Energy Regulation (iFEATHER) for Habitat, Aeronautic and Space Vessel, and Space Suit Applications
14. **Ion Power Group, LLC** - Navarre, Florida
Nanomaterial Breakthrough Generates Electricity Day & Night on Earth & Mars
15. **Lugar Center for Renewable Energy** - Indianapolis
Complete Hydrogen Storage Systems by ISRU
16. **MCE Nexus** - Dublin, Ohio
A Materials-Chemistry-Energy Nexus for Lunar, Planetary and Asteroid (LPA) Systems: High Energy Density Silane Based Fuels
17. **NT Ionics** - Boulder, Colorado
High Performance Ceramic Electrolyte for High Energy Density and All Solid-State Lithium Batteries
18. **OptiCOMP Networks** - Attleboro, Massachusetts
Rapid Wafering of Wide Bandgap Substrates
19. **The Pennsylvania State University** - Department of Materials Science and Engineering - University Park, Pennsylvania
Lightweight Monolithic Microcell CPV for Space

*Lightweight Monolithic Microcell CPV for Space***20. Power System Engineers** - Chula Vista, California*Orbital Observation, Data Collection and Analysis of Power Consumption***21. Stanford-** Department of Electrical Engineering - Stanford, California*Two C: Transportation electrification through ubiquitous wireless charging***22. Solar Under Transmission with Shared Ownership (SUTSO)** - Gaithersburg, Maryland*Solar Under Transmission with Shared Ownership***23. University of Michigan Vehicle-to-Vehicle Power Transfer Collaboration** - Ann Arbor, Michigan*Photovoltaic Cell-Level Power Balancing Using Intrinsic Energy Storage for High-Efficiency, High-Reliability Solar Power***24. V-Glass** - Pewaukee, Wisconsin*Vacuum Glass for R-10 Windows***25. WBGlobalSemi, Inc.** - La Honda, California*Commercializing High Power Silicon Carbide (SiC) Bipolar Junction Transistors (BJTs) and Power Modules for Power Management and Distributed Power Applications*

For information about the NASA iTech initiative, visit:

<https://www.nasa.gov/directorates/spacetech/itech> (<https://www.nasa.gov/directorates/spacetech/itech>)

For information about NASA's Space Technology Mission Directorate, visit:

<https://www.nasa.gov/spacetech> (<https://www.nasa.gov/spacetech>)

For information about DOE's ARPA-E, visit:

<https://arpa-e.energy.gov/> (<https://arpa-e.energy.gov/>)

Gina Anderson*Headquarters, Washington*

202-358-1160

gina.n.anderson@nasa.gov (<mailto:gina.n.anderson@nasa.gov>)**Harla Sherwood***National Institute of Aerospace, Hampton, Va.*

757-636-6300

Sherwood@nianet.org (<mailto:Sherwood@nianet.org>)**Jessica Szymanski***Department of Energy, Washington*

202-586-4940

Jessica.szymanski@hq.doe.gov (<http://Jessica.szymanski@hq.doe.gov>)**Danielle Romero-Apsilos***Citi Communications & Public Affairs*

212-816-2264

danielle.romeroapsilos@citi.com (<http://danielle.romeroapsilos@citi.com>)

Last Updated: May 10, 2018

Editor: Loura Hall

Tags: [Technology \(/topics/technology/index.html\)](/topics/technology/index.html)

Read Next Related Article



(/)

National Aeronautics and Space Administration

Page Last Updated: May 10, 2018

NASA Official: Brian Dunbar

No Fear Act (<http://odeo.hq.nasa.gov/nofear.html>)

FOIA (<http://www.nasa.gov/FOIA>)

Privacy (http://www.nasa.gov/about/highlights/HP_Privacy.html)

Office of Inspector General (<http://oig.nasa.gov/>)

Office of Special Counsel (<http://osc.gov/>)

Agency Financial Reports (<http://www.nasa.gov/news/budget/index.html>)

Contact NASA (<http://www.nasa.gov/about/contact/index.html>)

MORE STORIES