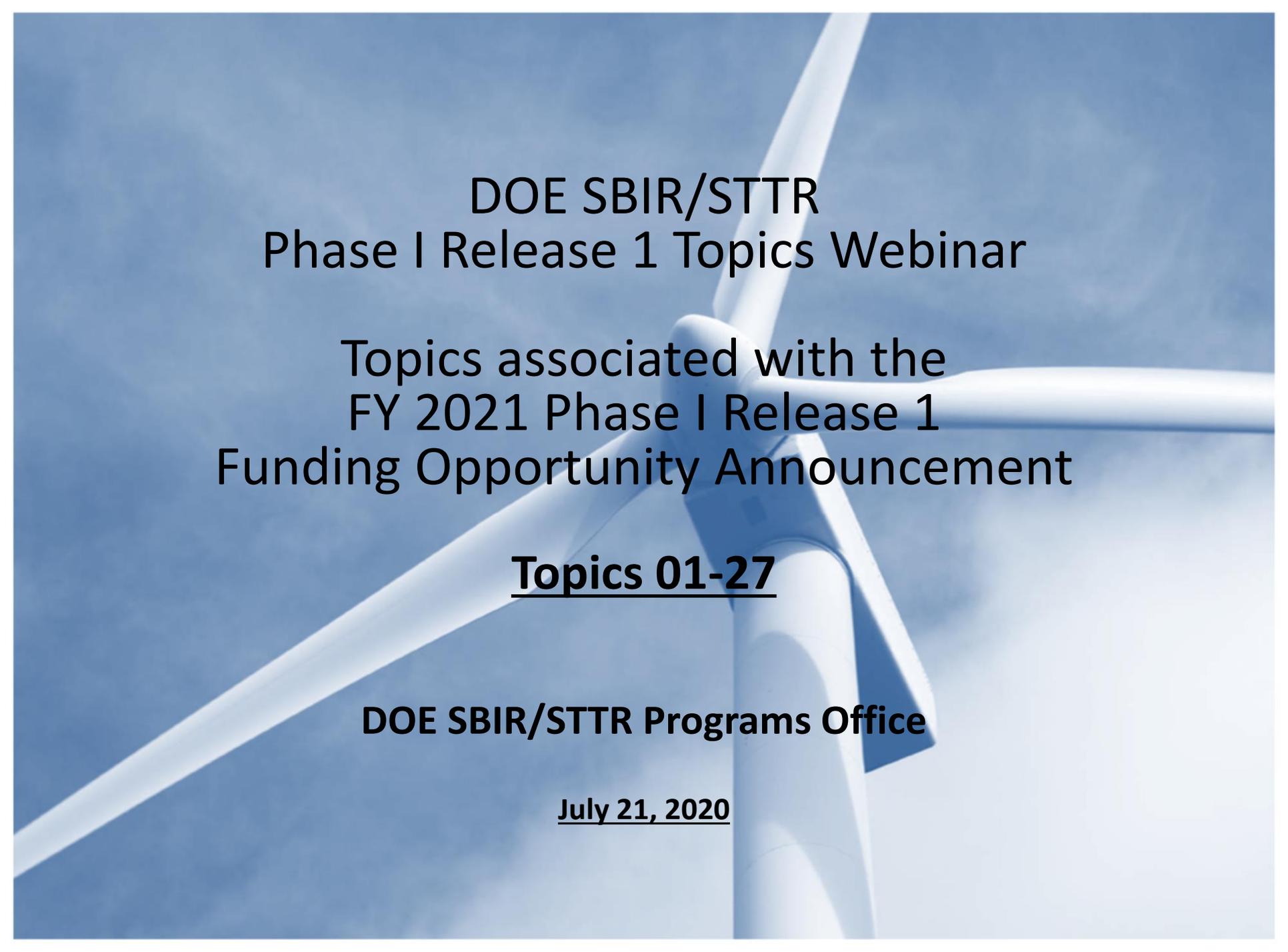


## *The DOE Webinar will begin shortly . . .*

- **Why is there no sound?**
  - Once you logged into the webinar, you were provided two options to listen to this broadcast. The first option is through your computer speakers, the second option is via dialing the phone number provided to you upon login to the webinar. If you chose to listen through your computer speakers, you may need to turn your speaker volume on or up.
- **Will DOE provide access to the recorded webinar after the meeting?**
  - Yes, all those who registered will receive a link to the slides and to the recorded webinar soon after the meeting. It will also be available on the DOE SBIR/STTR web site.
- **Where can I find the Topics being discussed today?**
  - This link will take you to the Funding Opportunity Announcement (FOA) page that lists the FY 2021 Phase I Release 1 Topics: <https://science.osti.gov/sbir/Funding-Opportunities>
- **What if my question was not answered at today's webinar?**
  - Please contact the point of contact that follows each subtopic in the document listed above for further clarification.
  - If you have a question about the grant application process, please send us an email at: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov).





**DOE SBIR/STTR  
Phase I Release 1 Topics Webinar**

**Topics associated with the  
FY 2021 Phase I Release 1  
Funding Opportunity Announcement**

**Topics 01-27**

**DOE SBIR/STTR Programs Office**

**July 21, 2020**

# TODAY'S AGENDA

Topics Introduction	DOE SBIR/STTR Programs Office
Topic 01	Office of Science
Topics 02 – 08	Office of Advanced Scientific Computing Research
Topics 09 – 27	Office of Basic Energy Sciences



# FY 2021 Phase I Schedule

	Release 1	Release 2
<b>Topics Issued</b>	Monday, July 13, 2020	Monday, November 9, 2020
Webinar(s)	Week of July 20, 2020	Week of November 16, 2020
<b>FOA Issued</b>	Monday, August 10, 2020	Monday, December 14, 2020
Webinar(s)	Monday, August 17, 2020	Friday, December 18, 2020
<b>Letters of Intent (LOI) Due</b>	Monday, August 31, 2020	Monday, 4 January, 2021
Non-responsive LOI Feedback Provided	Monday, September 21, 2020	Monday, January 25, 2021
<b>Applications Due</b>	Tuesday, October 13, 2020	Monday, February 22, 2021
<b>Award Notification</b>	Monday, January 4, 2021	Monday, May 17, 2021

# Phase I Funding Opportunity Announcements

## Participating DOE Programs (FY 2021)

### Phase I Release 1

- Office of Advanced Scientific Computing Research
- Office of Basic Energy Sciences
- Office of Biological and Environmental Research
- Office of Nuclear Physics
- Office of Science

### Phase I Release 2

- Office of Cybersecurity, Energy Security, and Emergency Response
- Office of Defense Nuclear Nonproliferation
- Office of Electricity
- Office of Energy Efficiency and Renewable Energy
- Office of Environmental Management
- Office of Fossil Energy
- Office of Fusion Energy Sciences
- Office of High Energy Physics
- Office of Nuclear Energy



# Funding Opportunity Announcement (FOA) Webinar

- FY21 Phase I Release 1 FOA will be issued on **August 10<sup>th</sup>**
- Join our Mailing List – this field is on every DOE SBIR/STTR web page
  - Following the issuance of the FOA, look for an email with a link to the FOA
- Webinar with Q&A for this FOA on **August 17<sup>th</sup>**
  - Overview of the FY 2021 DOE SBIR/STTR Programs
    - Following the issuance of the FOA, look for an email announcing this webinar



**Contact the DOE SBIR/STTR Programs Office**

<b>Address</b> U.S. Department of Energy SC-29/Germantown Building 1000 Independence Ave., SW Washington, DC 20585	<b>Phone</b> Tel(301) 903-5707 Fax(301) 903-5488	<b>Email</b> Send us a message <a href="mailto:sbir-str@science.doe.gov">sbir-str@science.doe.gov</a>	<b>Join Mailing List</b> Subscribe to email updates from the SBIR & STTR Programs <a href="#">Subscribe</a>
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**Provide Feedback**  
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# Topic Basics

- Topics are created by DOE program managers and define important technology breakthroughs needed in R&D areas that support the DOE mission
- Topics are organized by DOE Program Office, e.g., EERE, BES, etc.
- DOE program managers are listed with each subtopic
  - Questions to DOE program managers are limited to clarification of the topic and subtopic (including references)
  - Clarification is provided to help **you** determine whether your technology fits within the topic and subtopic
  - You may communicate with these topic managers from the release of topics until the grant application due date
  - The decision to apply is **yours**



# Example Topic

- Topic & Subtopic
  - You must specify the same topic and subtopic in your Letter of Intent and grant application
- Topic Header
  - Lists the maximum award amounts for Phase I & Phase II and the types of application accepted (SBIR and/or STTR)
- Program Manager
  - Each subtopic lists the responsible DOE program manager
- “Other” Subtopic
- References

## 12. INSTRUMENTATION FOR ADVANCED CHEMICAL IMAGING

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

The Department of Energy seeks to advance chemical imaging technologies that facilitate fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels. The Department is particularly interested in forefront advances in imaging techniques that combine molecular-scale spatial resolution and ultrafast temporal resolution to explore energy flow, molecular dynamics, breakage, or formation of chemical bonds, or conformational changes in nanoscale systems.

Grant applications are sought in the following subtopics:

- a. **High Spatial Resolution Ultrafast Spectroscopy**  
Chemical information associated with molecular-scale processes is often available from optical spectroscopies involving interactions with electromagnetic radiation ranging from the infrared spectrum to x-rays. Ultrafast laser technologies can provide temporally resolved chemical information via optical spectroscopy or laser-assisted mass sampling techniques. These approaches provide time resolution ranging from the breakage or formation of chemical bonds to conformational changes in nanoscale systems but generally lack the simultaneous spatial resolution required to analyze individual molecules. Grant applications are sought that make significant advancements in spatial resolution towards the molecular scale for ultrafast spectroscopic imaging instrumentation available to the research scientist. The nature of the advancement may span a range of approaches including sub-diffraction limit illumination or detection, selective sampling, and coherent or holographic signal analysis.

Questions – Contact: James Rustad, [James.Rustad@Science.doe.gov](mailto:James.Rustad@Science.doe.gov)

- b. **Time-Resolved Chemical Information from Hybrid Probe Microscopies**  
Probe microscopy instruments (including AFM and STM) have been developed that offer spatial resolution of molecules and even chemical bonds. While probe-based measurements alone do not typically offer the desired chemical information on molecular timescales, methods that take advantage of electromagnetic interactions or sampling with probe tips have been demonstrated. Grant applications are sought that would make available to scientists new hybrid probe instrumentation with significant advancements in chemical and temporal resolution towards that required for molecular scale chemical interactions. The nature of the advancement may span a range of approaches and probe techniques, from tip-enhanced or plasmonic enhancement of electromagnetic spectroscopies to probe-induced sample interactions that localize spectroscopic methods to the molecular scale.

Questions – Contact: James Rustad, [James.Rustad@Science.doe.gov](mailto:James.Rustad@Science.doe.gov)

- c. **Other**  
In addition to the specific subtopics listed above, the Department invites grant applications in other areas that fall within the scope of the topic description above.

Questions – Contact: James Rustad, [James.Rustad@Science.doe.gov](mailto:James.Rustad@Science.doe.gov)

### References:

1. U.S. Department of Energy, 2006, Office of Science Notice DE-FG01-05ER05-30, Basic Research for Chemical Imaging, BES Chemical Imaging Research Solicitation. (<http://science.energy.gov/~media/grants/pdf/foas/2005/DE-FG01-05ER05-30.pdf>).
2. National Research Council, 2006, Visualizing Chemistry, The Progress and Promise of Advanced Chemical Imaging, National Academies Press. ([http://www.nap.edu/catalog.php?record\\_id=11663](http://www.nap.edu/catalog.php?record_id=11663)).



# Topic 01: TECHNOLOGIES FOR MANAGING AND ANALYZING COMPLEX DATA IN SCIENCE AND ENGINEERING

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,600,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

Application Area 1: Advanced Data Analytic Technologies for Systems Biology and Bioenergy

Application Area 2: Technologies and Tools to Integrate and Analyze Data from Multiple User Facilities, Community Resources, Instruments and Data Systems

Application Area 3: Capabilities for Structuring, Mining and Extracting Knowledge from Chemical and Geochemical Data

Application Area 4: Capabilities for Management, Mining and Knowledge Extraction from Materials Databases

Questions: Application Area 1 – Ramana Madupu, [Ramana.Madupu@Science.doe.gov](mailto:Ramana.Madupu@Science.doe.gov)

Questions: Application Area 2 – Paul Bayer, [Paul.Bayer@science.doe.gov](mailto:Paul.Bayer@science.doe.gov)

Questions: Application Area 3 – Raul Miranda, [Raul.Miranda@science.doe.gov](mailto:Raul.Miranda@science.doe.gov)

Questions: Subtopic 4 – Matthias Graf, [Matthias.Graf@science.doe.gov](mailto:Matthias.Graf@science.doe.gov)

## Topic 02: HPC CODE AND SOFTWARE TOOLS

Maximum Phase I Award Amount: \$250,000	Maximum Phase II Award Amount: \$1,600,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Hardening of R&D Code or Software Tools
- b. Other

Questions: Ceren Susut, [Ceren.Susut-Bennett@science.doe.gov](mailto:Ceren.Susut-Bennett@science.doe.gov)

## Topic 03: HPC CYBERSECURITY

Maximum Phase I Award Amount: \$250,000

Maximum Phase II Award Amount: \$1,600,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Cybersecurity Technologies
- b. Other

Questions: Robinson Pino, [robinson.pino@science.doe.gov](mailto:robinson.pino@science.doe.gov)

## Topic 04: INCREASING ADOPTION OF HPC

Maximum Phase I Award Amount: \$250,000	Maximum Phase II Award Amount: \$1,600,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Turnkey HPC Solutions
- b. Enhancements to Support HPC-driven Data Analytic Workflows
- c. Other

Questions: Christine Chalk, [christine.chalk@science.doe.gov](mailto:christine.chalk@science.doe.gov)

## Topic 05: TECHNOLOGIES FOR SHARING NETWORK PERFORMANCE DATA

Maximum Phase I Award Amount: \$250,000

Maximum Phase II Award Amount: \$1,600,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Anonymization Tools and Services
- b. Correlate Log Data and or Host Sensor Data with Network Trace Data
- c. Other

Questions: Richard Carlson, [Richard.Carlson@science.doe.gov](mailto:Richard.Carlson@science.doe.gov)

## Topic 06: EMERGING NETWORK TECHNOLOGIES

Maximum Phase I Award Amount: \$250,000	Maximum Phase II Award Amount: \$1,600,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Transparent Optical Quantum Network Devices
- b. Embedded Software-Defined (SDN) Controller for Quantum Networks and Intelligent Internet of Things (IoT)
- c. Other

Questions: Thomas Ndousse-Fetter, [Thomas.ndousse-fetter@science.doe.gov](mailto:Thomas.ndousse-fetter@science.doe.gov)

## Topic 07: TECHNOLOGIES FOR EXTREME-SCALE COMPUTING

Maximum Phase I Award Amount: \$250,000

Maximum Phase II Award Amount: \$1,600,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Algorithms for Scientific Applications
- b. Software Technologies
- c. Other

Questions: Sonia R. Sachs, [Sonia.Sachs@Science.doe.gov](mailto:Sonia.Sachs@Science.doe.gov)

## Topic 08: TECHNOLOGY TO FACILITATE THE USE OF NEAR-TERM QUANTUM COMPUTING HARDWARE

Maximum Phase I Award Amount: \$250,000

Maximum Phase II Award Amount: \$1,600,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Ultra-low Vibration, Ultra-high Vacuum Cryostat for Trapped Ions
- b. Software for Calibration, Characterization, and Control of Quantum Processors

Questions: Claire Cramer, [Claire.Cramer@science.doe.gov](mailto:Claire.Cramer@science.doe.gov)

# Topic 09: ADVANCED MICROFLUIDICS FOR X-RAY AND ELECTRON BEAMS

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Thin Membranes and Multiport Microfluidic Connectors for High-pressure or High-density Applications
- b. Other

Questions: Peter Lee, [peter.lee@science.doe.gov](mailto:peter.lee@science.doe.gov)

# Topic 10: **SAMPLE ENVIRONMENT MEETING STRICT MOTION STABILITY REQUIREMENTS AT CRYOGENIC TEMPERATURES FOR SYNCHROTRON AND FREE-ELECTRON LASER X-RAY APPLICATIONS**

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Low Vibration Cryostat for Low and Medium Energy X-ray Scattering for Synchrotron-based Multiple Circle Diffractometers
- b. Other

Questions: Peter Lee, [peter.lee@science.doe.gov](mailto:peter.lee@science.doe.gov)

# Topic 11: IMPROVEMENTS IN OPTICAL METROLOGY FOR HIGH-PERFORMANCE X-RAY MIRRORS

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. High-precision Interferometric Stitching and Data Reconstruction
- b. Other

Questions: Peter Lee, [peter.lee@science.doe.gov](mailto:peter.lee@science.doe.gov)

# Topic 12: DEVELOPMENT OF ULTRAVIOLET LASER SYSTEMS FOR GENERATING ULTRA-BRIGHT ELECTRON BEAMS

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. UV Gratings for Spectrometers and High-resolution (< 2 pm) Ultraviolet (UV) Spectrometers
- b. Other

Questions: Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

## Topic 13: HIGH PERFORMANCE DETECTION ELECTRONICS, X-RAY SCINTILLATORS, AND TIMING DIODES

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Fast Detection Electronics, High-resolution High-thermal-conductivity X-ray Scintillators, and X-ray and Optical Photodiodes for Picosecond Timing
- b. Other

Questions: Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

## Topic 14: MULTI-MEGAWATT RF VACUUM WINDOW FOR HIGH DUTY-FACTOR RF ACCELERATING CAVITIES

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Development of High-Average-Power RF Waveguide Vacuum Window for Pulsed RF Accelerating Cavities
- b. Other

Questions: Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

# Topic 15: SINGLE-PHOTON DETECTOR FOR SOFT X-RAY REGIME

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Microchannel Plate Single-photon Detector
- b. Other

Questions: Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

# Topic 16: CRYOGENIC SPECTROSCOPY FOR QUANTUM INFORMATION SYSTEMS

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. High-Throughput Cryogenic Optical Spectroscopy of Quantum Systems
- b. In Operando Ultra-Low-Temperature Scanning Microwave Nearfield Microscopy
- c. Actively Stabilized Compact Femtosecond Lasers - Nanostructured Platforms for Detection, Lasing, Quantum Optics, and Separations
- d. Other

Questions: George Maracas, [george.maracas@science.doe.gov](mailto:george.maracas@science.doe.gov)

# Topic 17: ADVANCED ELECTRON MICROSCOPY - ANALYSIS TOOLS

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Software Environment for Reproducible Data Analysis for Electron Microscopy
- b. Open-Source Control Software for TEM
- c. Other

Questions: George Maracas, [george.maracas@science.doe.gov](mailto:george.maracas@science.doe.gov)

# Topic 18: LOW-POWER, HIGH-THROUGHPUT VOLUMETRIC LITHOGRAPHY

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Direct Laser Writing of Many Voxels Simultaneously
- b. Other

Questions: George Maracas, [george.maracas@science.doe.gov](mailto:george.maracas@science.doe.gov)

## Topic 19: NOVEL HIGH-FLUX, HIGH-SELECTIVITY MEMBRANES FOR ENVIRONMENTAL MEDIATION

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Novel Membranes that Combine High Flux with High Selectivity for Low-Cost Carbon Capture
- b. Novel Hybrid Porous Materials for the Selective Capture of Contaminants and/or Valuable Metal Ions from Water
- c. Other

Questions: George Maracas, [george.maracas@science.doe.gov](mailto:george.maracas@science.doe.gov)

## Topic 20: INSTRUMENTATION AND TOOLS FOR MATERIALS RESEARCH USING NEUTRON SCATTERING

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Advanced Sample Environments
- b. Advanced Detectors
- c. Advanced Choppers
- d. Novel Beam Conditioning Optics
- e. Advanced Software Tools for Working with Multiple Related Data Sets and Automated Scattering Feature Recognition
- f. Other

Questions: P. Thiyagarajan (Thiyaga), [P.Thiyagarajan@science.doe.gov](mailto:P.Thiyagarajan@science.doe.gov)

# Topic 21: MEMBRANES FOR ELECTROCHEMICAL APPLICATIONS

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Ion-Selective Membranes for use with Non-Traditional Chemistries, Electrolytes, and Architectures in Advanced Electrical Energy Storage
- b. Polymeric Membranes for Solar Fuels Generators
- c. Other

Questions: Subtopic a – Craig Henderson, [Craig.Henderson@science.doe.gov](mailto:Craig.Henderson@science.doe.gov)

Questions: Subtopic b – Chris Fecko, [Christopher.Fecko@science.doe.gov](mailto:Christopher.Fecko@science.doe.gov)

Questions: Subtopic c – Craig Henderson, [Craig.Henderson@science.doe.gov](mailto:Craig.Henderson@science.doe.gov)  
or Chris Fecko, [Christopher.Fecko@science.doe.gov](mailto:Christopher.Fecko@science.doe.gov)

## Topic 22: DEVELOPMENT OF LIGHT SOURCE X-RAY DETECTOR AND ELECTRON SPECTROMETER SYSTEMS FOR ADVANCED MATERIALS RESEARCH TECHNIQUES

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. MM-PAD Detector and Spectrometer Systems for X-ray Scattering
- b. Time-of-Flight Electron Energy Analyzer for Multi-modal Spectroscopy
- c. Other

Questions: Lane Wilson, [Lane.Wilson@science.doe.gov](mailto:Lane.Wilson@science.doe.gov)

## Topic 23: HIGH PERFORMANCE MATERIALS FOR NUCLEAR APPLICATION

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Bimetallic Structures for Liquid-Cooled, High Temperature Reactor Systems
- b. Material Development and Compatibility for Molten Salt Thermodynamic Reference Electrodes
- c. Other

Questions: Subtopic a & c – Sue Lesica, [sue.lesica@nuclear.energy.gov](mailto:sue.lesica@nuclear.energy.gov)

Questions: Subtopic b – Christina Leggett, [Christina.Leggett@nuclear.energy.gov](mailto:Christina.Leggett@nuclear.energy.gov)

# Topic 24: ADVANCED SUBSURFACE ENERGY TECHNOLOGIES

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Advanced Computing: Geothermal
- b. Tight Reservoir Recovery: Oil and Gas
- c. Plume Detection: Carbon Storage
- d. Other

Questions: Subtopic a – William Vandermeer, [william.vandermeer@ee.doe.gov](mailto:william.vandermeer@ee.doe.gov)

Questions: Subtopic b – William Fincham, [William.fincham@netl.doe.gov](mailto:William.fincham@netl.doe.gov)

Questions: Subtopic c – Kyle Smith, [kyle.smith@netl.doe.gov](mailto:kyle.smith@netl.doe.gov)

Questions: Subtopic d – James Rustad, [James.Rustad@science.doe.gov](mailto:James.Rustad@science.doe.gov)

# Topic 25: ADVANCED FOSSIL ENERGY TECHNOLOGY RESEARCH

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

a. Technology Development of High Purity Oxygen Separation from Air

Questions: Subtopic a – Jai-woh Kim, [jai-woh.kim@hq.doe.gov](mailto:jai-woh.kim@hq.doe.gov)

## Topic 26: ADVANCED FOSSIL ENERGY CROSSCUTTING RESEARCH

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Low-Cost Energy Storage Materials and Technologies for Fossil-Integrated Systems
- b. Supply Chain Enhancements for Fossil Energy Alloy Production
- c. Dewatering Coal and Other Porous Materials using Novel Techniques
- d. Other

Questions: Subtopic a – Jason Hissam, [jason.hissam@netl.doe.gov](mailto:jason.hissam@netl.doe.gov)

Questions: Subtopic b – Richard Dunst, [richard.dunst@netl.doe.gov](mailto:richard.dunst@netl.doe.gov)

Questions: Subtopic c – Bhima Sastri, [bhima.sastri@hq.doe.gov](mailto:bhima.sastri@hq.doe.gov)

## Topic 27: RARE EARTH ELEMENTS

Maximum Phase I Award Amount: \$200,000	Maximum Phase II Award Amount: \$1,100,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

- a. Advanced Technology Development for Production of Rare Earth Metals
- b. Transformational Technology Development for the Separation and Recovery of Rare Earth Elements (REE) and Critical Minerals (CM) from Coal-Based Resources

Questions: Mark Render, [mark.render@netl.doe.gov](mailto:mark.render@netl.doe.gov)

## Topic 28: TECHNOLOGY TRANSFER OPPORTUNITIES: BASIC ENERGY SCIENCES

Maximum Phase I Award Amount: \$200,000

Maximum Phase II Award Amount: \$1,100,000

Accepting SBIR Phase I Applications: YES

Accepting STTR Phase I Applications: YES

- a. Technology Transfer Opportunity: Torsionally Flexible Bellows
- b. Technology Transfer Opportunity: Bio-based base-oils from fatty acids and biomass

Questions: Subtopic a – Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)

Questions: Subtopic b – Andrew Schwartz, [andrew.schwartz@science.doe.gov](mailto:andrew.schwartz@science.doe.gov)

# DOE SBIR/STTR Programs Office Contact Information

- SBIR/STTR Web: <https://science.osti.gov/sbir>
- Email: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)
- Phone Assistance Hotline: 301-903-5707
- DOE Phase 0 Assistance Program: <http://www.dawnbreaker.com/doephase0/>
- DOE Application Assistance: <https://science.osti.gov/SBIRLearning>

