## STTR 2012 Phase I Form B - Proposal Summary

Please **read the** instructions (opens in new window) carefully before proceeding.

| Proposal Number: | T1.01-9941 |
|---|---|
| Research Subtopic Title: | Synthetic Biology for Space Exploration |
| Proposal Title: | Test |
| **Small Business Concern:** | |
| Name: | Test Firm |
| Address: | Main Street |
| City/State: | City VA |
| Zip: | 00000 - 0000 |
| Phone: | (555) 555 - 5555 |

**Research Institution:**

Name:
Address:
City:
State: AK
ZIP: - Need help for ZIP+4?
Phone: ( ) -

**Principal Investigator/Project Manager:**

Name:
Address:
City:
State: AK
ZIP: - Need help for ZIP+4?
Phone: ( ) - Extension:
Email:

**Corporate/Business Official:**

Name: First Last
Address: Main Street
City: City
State: VA
ZIP: 00000 - 0000 Need help for ZIP+4?
Phone: (555) 555 - 5555 Extension:
Email: jmohanta@reisys.com

**Estimated Technology Readiness Level (TRL) at beginning and end of contract:** View TRL Definitions

Begin: Select
End: Select

**Technology Available (TAV) Subtopics**

All subtopics listed in this solicitation have Technology Available (TAV) with NASA Intellectual Property. The use of the NASA IP is strictly voluntary. Refer to section 1.6 of the Solicitation for additional information.
Do you plan to use the NASA IP under the award?
○ Yes ○ No

If yes, Click Here to access the NASA Research License Application that must be completed and appended to your technical proposal.

**Technical Abstract:** (Limit 2000 characters, approximately 200 words)

2000 characters remaining.

**Potential NASA Commercial Application(s):** (Limit 1500 characters, approximately 150 words)

1500 characters remaining.

**Potential Non-NASA Commercial Application(s):** (Limit 1500 characters, approximately 150 words)

1500 characters remaining.

NASA's technology taxonomy has been developed by the SBIR-STTR program to disseminate awareness of proposed and awarded R/R&D in the agency. It is a listing of over 100 technologies, sorted into broad categories, of interest to NASA.

**Technology Taxonomy Mapping** View Taxonomy

**This proposal has not been mapped to any Technology Taxonomy Levels**

SAVE AND PROCEED TO TAXONOMY MAPPING

Please **read the instructions** (opens in new window) carefully before proceeding.

Your data has been successfully saved, you may update the technology taxonomy mapping below.

| Proposal Number: | 11.01-9941 |
|---|---|
| Research Subtopic Title: | Synthetic Biology for Space Exploration |
| Proposal Title: | Test |
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NASA's technology taxonomy has been developed by the Ewith STTR program to disseminate awareness of proposed and awarded R/R&D in the agency. It is a listing of over 100 technologies, sorted into broad categories, of interest to NASA.

**Choose from the technology taxonomy below. ONLY those technologies supported or relevant to your specific proposal.**

Technology Taxonomy Mapping  View Taxonomy

| Level 1 Technology Taxonomy | Level 2 Technology Taxonomy |
|---|---|
| Aeronautics/Atmospheric Vehicles | ☐ Aerodynamics<br>☐ Air Transportation & Safety<br>☐ Airship/Lighter-than-Air Craft<br>☐ Avionics (see also Control and Monitoring) |
| Analysis | ☐ Analytical Instruments (Solid, Liquid, Gas, Plasma, Energy; see also Sensors)<br>☐ Analytical Methods |
| Astronautics | ☐ Aerobraking/Aerocapture<br>☐ Entry, Descent, & Landing (see also Planetary Navigation, Tracking, & Telemetry)<br>☐ Navigation & Guidance<br>☐ Relative Navigation (Interception, Docking, Formation Flying; see also Control & Monitoring; Planetary Navigation, Tracking, & Telemetry)<br>☐ Space Transportation & Safety<br>☐ Spacecraft Design, Construction, Testing, & Performance (see also Engineering, Testing & Evaluation)<br>☐ Spacecraft Instrumentation & Astronics (see also Communications; Control & Monitoring; Information Systems)<br>☐ Tools/EVA Tools |
| Autonomous Systems | ☐ Autonomous Control (see also Control & Monitoring)<br>☐ Intelligence<br>☐ Perception/Vision<br>☐ Recovery (see also Vehicle Health Management)<br>☐ Robotics (see also Control & Monitoring, Sensors) |
| Biological Health/Life Support | ☐ Biomass Growth<br>☐ Essential Life Resources (Oxygen, Water, Nutrients)<br>☐ Fire Protection<br>☐ Food (Preservation, Packaging, Preparation)<br>☐ Health Monitoring & Sensing (see also Sensors)<br>☐ Isolation/Protection/Radiation Shielding (see also Mechanical Systems)<br>☐ Medical<br>☐ Physiologic al/Psychological Countermeasures<br>☐ Protective Clothing/Space Suits/Breathing Apparatus<br>☐ Remediation/Purification<br>☐ Waste Storage/Treatment |
| Communications, Networking & Signal Transport | ☐ Ad-Hoc Networks (see also Sensors)<br>☐ Amplifiers/Repeaters/Transcivers<br>☐ Antennas<br>☐ Architecture/Frameworks/Protocols<br>☐ Cables/Fibrops<br>☐ Coding & Compression<br>☐ Multiplexers/Demultiplexers<br>☐ Switch Integration<br>☐ Power Combiners/Splitters<br>☐ Routers, Switches<br>☐ Transmitters/Receivers<br>☐ Waveguides/Optical Fiber (see also Optics) |
| Control & Monitoring | ☐ Algorithms/Control Software & Systems (see also Autonomous Systems)<br>☐ Attitude Determination & Control<br>☐ Command & Control<br>☐ Condition Monitoring (see also Sensors)<br>☐ Process Monitoring & Control<br>☐ Sequencing & Scheduling<br>☐ Telemetry/Tracking (Cooperative/Noncooperative; see also Planetary Navigation, Tracking, & Telemetry)<br>☐ Teleoperation |
| Education & Training | ☐ Mission Training<br>☐ Outreach<br>☐ Training Concepts & Architectures |
| Electronics | ☐ Circuits (including ICs; for specific applications, see e.g., Communications, Networking & Signal Transport, Control & Monitoring, Sensors)<br>☐ Manufacturing Methods<br>☐ Materials (Insulator, Semiconductor, Substrate)<br>☐ Superconductance/Magnetics |
| Energy | ☐ Conversion<br>☐ Distribution/Management<br>☐ Generation<br>☐ Sources (Renewable, Nonrenewable)<br>☐ Storage |
| Engineering | ☐ Characterization<br>☐ Models & Simulations (see also Testing & Evaluation)<br>☐ Project Management<br>☐ Prototyping<br>☐ Quality/Reliability<br>☐ Software Tools (Analysis, Design)<br>☐ Support |
| Imaging | ☐ 3D Imaging<br>☐ Display<br>☐ Image Analysis<br>☐ Image Capture (Still/Motion)<br>☐ Image Processing<br>☐ Radiography<br>☐ Thermal Imaging (see also Testing & Evaluation) |
| Information Systems | ☐ Computer System Architectures<br>☐ Data Acquisition (see also Sensors)<br>☐ Data Fusion<br>☐ Data Input/Output Devices (Displays, Storage)<br>☐ Data Modeling (see also Testing & Evaluation)<br>☐ Data Processing<br>☐ Knowledge Management |
| Logistics | ☐ Inventory Management/Warehousing<br>☐ Material Handing & Packaging<br>☐ Transport/Traffic Control |
| Manufacturing | ☐ Crop Production (see also Biological Health/Life Support)<br>☐ In Situ Manufacturing<br>☐ Microfabrication (and smaller; see also Electronics, Mechanical Systems, Photonics)<br>☐ Processing Methods<br>☐ Resource Extraction |
| Materials & Compositions | ☐ Aerogels<br>☐ Ceramics<br>☐ Coatings/Surface Treatments<br>☐ Composites<br>☐ Fluids<br>☐ Joining (Adhesion, Welding)<br>☐ Metallics<br>☐ Minerals<br>☐ Nanomaterials<br>☐ Nonspecified<br>☐ Organics/Biomaterials/Hybrids<br>☐ Polymers<br>☐ Smart/Multifunctional Materials<br>☐ Textiles |
| Mechanical Systems | ☐ Actuators & Motors<br>☐ Deployment<br>☐ Exciters/Igniters<br>☐ Fasteners/Decouplers<br>☐ Isolation/Protection/Shielding (Acoustic, Ballistic, Dust, Radiation, Thermal)<br>☐ Machines/Mechanical Subsystems<br>☐ Microelectromechanical Systems (MEMS) and smaller<br>☐ Pressure & Vacuum Systems<br>☐ Structures<br>☐ Tribology<br>☐ Vehicles (see also Autonomous Systems) |
| Microgravity | ☐ Biophysical Utilization |
| Optics | ☐ Adaptive Optics<br>☐ Fiber (see also Communications, Networking & Signal Transport; Photonics)<br>☐ Filtering<br>☐ Gratings<br>☐ Lenses<br>☐ Mirrors<br>☐ Telescope Arrays |
| Photonics | ☐ Detectors (see also Sensors)<br>☐ Emitters<br>☐ Lasers (Communication)<br>☐ Lasers (Cutting & Welding)<br>☐ Lasers (Guidance & Tracking)<br>☐ Lasers (Ignition)<br>☐ Lasers (Label/Letter)<br>☐ Lasers (Machining/Materials Processing)<br>☐ Lasers (Measuring/Sensing)<br>☐ Lasers (Medical Imaging)<br>☐ Lasers (Surgical)<br>☐ Lasers (Weapons)<br>☐ Materials & Structures (including Optoelectronics) |
| Planetary Navigation, Tracking, & Telemetry | ☐ Entry, Descent, & Landing (see also Astronautics)<br>☐ GPS/Radiometric (see also Sensors)<br>☐ Inertial (see also Sensors)<br>☐ Optical<br>☐ Ranging/Tracking<br>☐ Telemetry (see also Control & Monitoring) |
| Propulsion | ☐ Ablative Propulsion<br>☐ Atmospheric Propulsion<br>☐ Extravehicular Activity (EVA) Propulsion<br>☐ Fuels/Propellants<br>☐ Launch Engine/Booster<br>☐ Maneuvering/Stationkeeping/Attitude Control Devices<br>☐ Photon Static (Solar, Laser)<br>☐ Spacecraft Main Engine<br>☐ Surface Propulsion<br>☐ Tethers |
| Sensors/Transducers | ☐ Acoustic/Vibration<br>☐ Biological (see also Biological Health/Life Support)<br>☐ Biological Signature (i.e., Signs Of Life)<br>☐ Chemical/Environmental (see also Biological Health/Life Support)<br>☐ Contact/Mechanical<br>☐ Electromagnetic<br>☐ Inertial<br>☐ Interferometric (see also Analysis)<br>☐ Ionizing Radiation<br>☐ Optical/Photonic (see also Photonics)<br>☐ Positioning (Attitude Determination, Location X-Y-Z)<br>☐ Pressure/Vacuum<br>☐ Radiometric<br>☐ Sensor Nodes & Webs (see also Communications; Networking & Signal Transport)<br>☐ Thermal |
| Software Development | ☐ Development Environments<br>☐ Operating Systems<br>☐ Programming Languages<br>☐ Verification/Validation Tools |
| Spectral Measurement, Imaging & Analysis (including Telescopes) | ☐ Infrared<br>☐ Long<br>☐ Microwave<br>☐ Multispectral/Hyperspectral<br>☐ Non-Electromagnetic<br>☐ Radio<br>☐ Terahertz (Sub-millimeter)<br>☐ Ultraviolet<br>☐ Visible<br>☐ X-rays/Gamma Rays |
| Testing & Evaluation | ☐ Destructive Testing<br>☐ Hardware-in-the-Loop Testing<br>☐ Lifetime Testing<br>☐ Nondestructive Evaluation (NDE, NDT)<br>☐ Simulation & Modeling |
| Thermal Management & Control | ☐ Active Systems<br>☐ Cryogenic/Fluid Systems<br>☐ Heat Exchange<br>☐ Passive Systems |
| Vehicle Health Management | ☐ Diagnostics/Prognostics<br>☐ Recovery (see also Autonomous Systems) |

UPDATE TECHNOLOGY TAXONOMY MAPPING