



Funding Alert from the Michigan SBIR/STTR Assistance Program [Program link](#)

National Aeronautics and Space Administration (NASA) SBIR/STTR Solicitation

Opened November 12, 2015 with a February 1, 2016 deadline

Topics At-a-Glance

Aeronautics Research

Topic: A1 Air Vehicle Technology

- A1.01 Structural Efficiency - Aeroelasticity and Aeroservoelastic Control
- A1.02 Quiet Performance - Propulsion Noise Reduction Technology
- A1.03 Low Emissions/Clean Power - Combustion Technology/Emissions Measurement Techniques
- A1.04 Aerodynamic Efficiency - Active Flow Control Actuation Concepts
- A1.05 Physics-Based Computational Tools - Stability and Control/High Lift Design Tools
- A1.06 Vertical Lift - VL Measurement Techniques and Condition-Based Maintenance
- A1.07 Propulsion Efficiency - Turbomachinery Technology for Reduced Fuel Burn
- A1.08 Aeronautics Ground Test and Measurements Technologies
- A1.09 Vehicle Safety - Inflight Icing Hazard Mitigation Technology

Topic: A2 Integrated Flight Systems

- A2.01 Flight Test and Measurements Technologies
- A2.02 Unmanned Aircraft Systems Technology

Topic: A3 Airspace Operations and Safety

- A3.01 Advanced Air Traffic Management Systems Concepts
- A3.02 Autonomy of the National Airspace Systems (NAS)
- A3.03 Future Aviation Systems Safety

Human Exploration and Operations

Topic: H1 In-situ Resource Utilization (ISRU)

- H1.01 In-situ Resource Utilization - Production of Feedstock for Manufacturing and Construction

H2 Space Transportation

- H2.01 LOX/Methane In-Space Propulsion
- H2.02 Nuclear Thermal Propulsion (NTP)
- H2.03 High Power Electric Propulsion
- H2.04 Cryogenic Fluid Management for In-Space Transportation

Topic: H3 Life Support and Habitation Systems

- H3.01 Environmental Monitoring
- H3.02 Environmental Control and Life Support for Spacecraft and Habitats

Topic: H4 Extra-Vehicular Activity (EVA)

- 4.01 Dust Tolerant, High Pressure Oxygen Quick Disconnect for Advanced Spacesuit and Airlock Applications
- H4.02 Trace Contaminant Control for Advanced Spacesuit Applications
- H4.03 EVA Space Suit Power, Avionics, and Software Systems

Topic: H5 Lightweight Structures and Materials

- H5.01 Large Deployable Structures for Smallsats
- H5.02 Extreme Temperature Structures
- H5.03 Multifunctional Materials and Structures: Integrated Structural Health Monitoring for Long Duration Habitats
- H5.04 In-Space Structural Assembly

Topic: H6 Autonomous and Robotic Systems

- H6.01 Robotic Systems - Mobility, Manipulation, and Human-System Interaction
- H6.02 Requirements Management for Spacecraft Autonomy and Space Mission Automation
- H6.03 Spacecraft Autonomy and Space Mission Automation for Consumables
- H6.04 Integrating ISHM with Flight Avionics Architectures for Cyber-Physical Space Systems

Topic: H7 Entry, Descent, and Landing

- H7.01 Ablative Thermal Protection Systems Technologies
- H7.02 Diagnostic Tools for High Velocity Testing and Analysis

Topic: H8 High Efficiency Space Power

- H8.01 Thermal Energy Conversion
- H8.02 Solid Oxide Fuel Cells and Electrolyzers
- H8.03 Advanced Photovoltaic Systems
- H8.04 Advanced Next Generation Batteries

Topic: H9 Space Communications and Navigation

- H9.01 Long Range Optical Telecommunications
- H9.02 Advanced Space Communication Systems
- H9.03 Flight Dynamics and Navigation Systems

Topic: H10 Ground Processing

- H10.01 Improved Test and Launch Operations via Interface Design
- H10.02 Advanced Propulsion Systems Ground Test Technology

Topic: H11 Radiation Protection

- H11.01 Radiation Shielding Technologies - Transport Codes

Topic: H12 Human Research and Health Maintenance

- H12.01 Task Analysis Visualization and Data Management Tool
- H12.02 Passive Vital Sign Monitoring
- H12.03 Novel Imaging Technologies for Space Medicine

Topic: H13 Non-Destructive Evaluation (NDE)

- H13.01 NDE Simulation and Analysis
- H13.02 NDE Sensors

Topic: H14 International Space Station (ISS) Demonstration & Development of Improved Exploration Technologies and Increased ISS Utilization

- H14.01 International Space Station (ISS) Utilization

Science

Topic: S1 Sensors, Detectors and Instruments

- S1.01 Lidar Remote Sensing Technologies
- S1.02 Microwave Technologies for Remote Sensing
- S1.03 Sensor and Detector Technology for Visible, IR, Far IR and Submillimeter
- S1.04 Detector Technologies for UV, X-Ray, Gamma-Ray and Cosmic-Ray Instruments
- S1.05 Particles and Field Sensors and Instrument Enabling Technologies
- S1.06 In-Situ Sensors and Sensor Systems for Lunar and Planetary Science
- S1.07 Airborne Measurement Systems
- S1.08 Surface & Sub-surface Measurement Systems
- S1.09 Cryogenic Systems for Sensors and Detectors

Topic: S2 Advanced Telescope Systems

- S2.01 Proximity Glare Suppression for Astronomical Coronagraphy
- S2.02 Precision Deployable Optical Structures and Metrology
- S2.03 Advanced Optical Systems and Fabrication/Testing/Control Technologies for EUV/Optical and IR Telescope
- S2.04 X-Ray Mirror Systems Technology, Coating Technology for X-Ray-UV-OIR, and Free-Form Optics

Topic: S3 Spacecraft and Platform Subsystems

- S3.01 Power Generation and Conversion
- S3.02 Propulsion Systems for Robotic Science Missions
- S3.03 Power Electronics and Management, and Energy Storage
- S3.04 Unmanned Aircraft and Sounding Rocket Technologies
- S3.05 Guidance, Navigation and Control
- S3.06 Terrestrial and Planetary Balloons
- S3.07 Thermal Control Systems
- S3.08 Slow and Fast Light
- S3.09 Command, Data Handling, and Electronics

Topic: S4 Robotic Exploration Technologies

- S4.01 Planetary Entry, Descent and Landing and Small Body Proximity Operation Technology
- S4.02 Robotic Mobility, Manipulation and Sampling
- S4.03 Spacecraft Technology for Sample Return Missions
- S4.04 Extreme Environments Technology
- S4.05 Contamination Control and Planetary Protection

Topic: S5 Information Technologies

- S5.01 Technologies for Large-Scale Numerical Simulation
- S5.02 Earth Science Applied Research and Decision Support
- S5.03 Enabling NASA Science through Large-Scale Data Processing and Analysis
- S5.04 Integrated Science Mission Modeling
- S5.05 Fault Management Technologies

Space Technology

Topic: Z1 Power & Energy Storage

- Z1.01 High Power/Voltage Electronics

Topic: Z2 Thermal Management

- Z2.01 Active Thermal Control Systems for Space Exploration

Topic: Z3 Advanced Manufacturing

- Z3.01 Advanced Metallic Materials and Processes Innovation

Topic: Z4 Lightweight Structures and Materials

Z4.01 Joining for Large-Scale Polymer Matrix Composite (PMC) Structures

Topic: Z5 Robotics and Autonomous Systems

Z5.01 Augmented Reality

Topic: Z6 Wireless Technology

Z6.01 Wireless Technology

Lightweight Structures and Materials

Z4.01 Joining for Large-Scale Polymer Matrix Composite (PMC) Structures

Robotics and Autonomous Systems

Z5.01 Augmented Reality

Wireless Technology

Z6.01 Wireless Technology

STTR Program Solicitation

Topic: T1 Launch Propulsion Systems

T1.01 Affordable Nano/Micro Launch Propulsion Stages

T1.02 Detailed Multiphysics Propulsion Modeling & Simulation Through Coordinated Massively Parallel Frameworks

Topic: T2 In-Space Propulsion Technologies

Topic: T3 Space Power and Energy Storage

T3.01 Energy Transformation and Multifunctional Power Dissemination

T3.02 Self-Powered, Ultra-Miniature Devices

Topic: T4 Robotics, Tele-Robotics and Autonomous Systems

T4.01 Dynamic Servoelastic (DSE) Network Control, Modeling and Optimization

T4.02 Regolith Resources Robotics - R³

T4.03 Coordination and Control of Swarms of Space Vehicles

Topic: T5 Communication and Navigation

T5.01 Autonomous Ka-band Spacecraft Terminals

Topic: T6 Human Health, Life Support and Habitation Systems

T6.01 Space Suit Environmental Protection Garment Materials and Technologies

T6.02 Space Radiation Storms: Monitoring, Forecasting and Impact Analysis

T6.03 Sustainability in Space

T6.04 Closed-Loop Living System for Deep-Space ECLSS with Immediate Applications for a Sustainable Planet

Topic: T7 Human Exploration Destination Systems

T7.01 Synthetic/Engineering Biology for NASA Applications

Topic: T8 Science Instruments, Observatories and Sensor Systems

T8.01 Technologies for Planetary Compositional Analysis and Mapping

T8.02 Photonic Integrated Circuits

T8.03 Detection technologies for extant or extinct life for use on robotic missions

Topic: T9 Entry, Descent and Landing Systems

T9.01 Navigation and Hazard Avoidance Sensor Technologies

Topic: T10 Nanotechnology

Topic: T11 Modeling, Simulation, Information Technology and Processing

T11.01 Information Technologies for Intelligent and Adaptive Space Robotics

T11.02 Distributed Spacecraft Missions (DSM) Technology Framework

Topic: T12 Materials, Structures, Mechanical Systems and Manufacturing

T12.01 Advanced Structural Health Monitoring

T12.02 Technologies to Enable Novel Composite Repair Methods

T12.03 Increasing Predictability of Softgoods Material Behavior for Inflatable Space Structures

T12.04 Experimental and Analytical Technologies for Additive Manufacturing

Topic: T13 Ground and Launch Systems Processing.

T13.01 Embedded Intelligent Sensor Systems

Topic: T14 Thermal Management Systems Topic: T15 Aeronautics

T15.01 Power Systems for Hybrid Electric Propulsion

T15.02 Aeronautical Communications, Navigation, Surveillance and Information (CNSI) Systems for UAS

[View solicitation and full topics descriptions](#)