ADVANCED LIFE SUPPORT
Research and technology development for sustainable human exploration life support and habitation.
- Closed-cycle operability
- Water recovery systems for maintaining potable water in space
- Synthetic biology
- Microbial characterization of solid waste
- Plant growth chambers for food production
- Atmospheric trace contaminant removal

Contact: Raymond M. Wheeler, PhD - (321) 861-2950 raymond.m.wheeler@nasa.gov

APPLIED PHYSICS
Development of instrumentation and tools to answer vehicle processing and ground support equipment questions.
- Nondestructive evaluation of flight hardware and ground support equipment
- Leak detection and visualization
- Sensor development
- Electromagnetic radiation
- Ultrasونics

Contact: Robert C. Youngquist, PhD - (321) 867-1829 robert.c.youngquist@nasa.gov

ADVANCED MATERIALS & SYSTEMS
Polymer science, materials chemistry, & novel composite systems for space applications.
- Aerogel composites & smart thermal materials
- Chemochromic gas sensing materials & systems
- Damage detection, self-healing, & repair
- Carbon nanotube & conductive polymers
- Nanocomposites & polymer processing
- Materials for flight technology demonstrations

Contacts: Martha K. Williams, PhD - (321) 867-4554 martha.k.williams@nasa.gov
Luke B. Roberson, PhD - (321) 867-1543 luke.b.roberson@nasa.gov

APPLIED CHEMISTRY
Research and development for a range of chemistry applications to solve NASA's unique needs.
- Green propellant compatibility & leak detection
- Solvent-free precision cleaning
- Oxygen recovery from spacecraft CO₂
- Analytical chemistry for process development
- Catalyst and other chemical synthesis
- Environmental remediation technology development
- In situ resource utilization technology development

Contact: Jacqueline W. Quinn, PhD - (321) 867-8410 jacqueline.w.quinn@nasa.gov
CRYOGENICS
Unique expertise providing energy-efficient solutions for storage, transfer, and use of cryogens and cryogenic propellants on Earth and in space.
- Thermal insulation systems
- Integrated refrigeration systems
- Design of propellant servicing systems
- Novel materials and components
- Low-temperature applications
- Energy-efficient technologies for the energy-intensive endeavors of exploration
Contact: James E. Fesmire - (321) 867-7557 james.e.fesmire@nasa.gov

GRANULAR MECHANICS & REGOLITH OPERATIONS
Development of technologies for working with regolith (surface materials) on other bodies in space, and the study of its basic physics and geology.
- Excavation technologies
- Pneumatic transport of regolith
- Magnetic handling of regolith
- Dust-tolerant mechanisms
Contact: Robert P. Mueller - (321) 867-2557 rob.mueller@nasa.gov

CONTACTS
Jack Fox
Chief
(321) 867-4413
jack.j.fox@nasa.gov

John Kiriazes
Deputy
(321) 861-3700
john.j.kiriazes@nasa.gov

“"The Earth is the cradle of humanity, but mankind cannot stay in the cradle forever.” - Konstantin Tsiolkovsky

ELECTROSTATICS & SURFACE PHYSICS
Investigation of electrostatics and surface physics problems with applications for spaceflight and planetary exploration.
- Electrostatic analyses
- Detection, mitigation, and prevention of electrostatic charge generation on spaceflight hardware and ground support equipment
- Dust mitigation for solar panels, in situ fluid and power connections, and spacesuit materials
Contact: Carlos I. Calle, PhD - (321) 867-3274 carlos.i.calle@nasa.gov

CORROSION TECHNOLOGY
Technical innovations and engineering services in all areas of corrosion for NASA and external customers.
- Investigation of materials performance and degradation in different environments
- Mechanical, physical, and environmental testing
- Applied research
- Development of new corrosion detection and control technologies
- Consulting and testing services
Contact: Luz M. Calle, PhD - (321) 867-3278 luz.m.calle@nasa.gov

Swamp Works
Mail Code UB-R
Exploration Research and Technology Programs
Kennedy Space Center, FL 32899
https://www.facebook.com/SwampWorksKSC
http://www.nasa.gov