Proposals Selected for Negotiation of Contracts

- **Advanced Cooling Technologies, Inc.**
  1046 New Holland Avenue
  Lancaster, PA 17601
  William Anderson (717) 205-0602

- **Case Western Reserve University**
  10900 Euclid Ave.
  Cleveland, OH 44106
  18-1-T9.01-8702 MSFC
  Advanced Hot Reservoir Variable Conductance Heat Pipes for Planetary Landers [1]

- **Aktiwave**
  241 Ashley Drive
  ROCHESTER, NY 14620
  Christophe Dorrer (585) 355-2706

- **Rochester Institute of Technology**
  1 Lomb Memorial Dr
  Rochester, NY
  18-1-T8.02-4423 GSFC

- **Alphacore, Inc.**
  398 South Mill Avenue, Suite 304
  Tempe, AZ 85281
  Kimberlee Olson (480) 494-5618

- **Arizona State University**
650 E Tyler Mall Goldwater Center # 208  
Tempe, AZ 85281  
18-1-T3.02-2213 GRC  

**Intelligent Power Source Reliability Monitoring and Failure Mitigation System** [3]

- **Applied Optimization, Inc.**  
  3040 Presidential Drive, Suite 100  
  Fairborn, OH 45324  
  Mark Zimmerman (937) 431-5100  

**The University of Tennessee-Knoxville**  
527 Andy Holt Tower  
Knoxville, TN  
18-1-T12.02-8852 LaRC  

**Extensible Modeling to Create Knowledgebase for AM Processing of Alloy GrCop-84** [4]

- **Astrobotic Technology, Inc.**  
  2515 Liberty Avenue  
  Pittsburgh, PA 15222  
  Fraser Kitchell (206) 470-9055  

**Astrobotic Technology, Inc.**  
2515 Liberty Avenue  
Pittsburgh, PA 15222  
18-1-T4.03-1473 JPL  

**Mission Coordination and Co-Localization for Planetary Rover Teams** [5]

- **CFD Research Corporation**  
  701 McMillian Way Northwest, Suite D  
  Huntsville, AL 35806  
  Silvia Harvey (256) 726-4858  

**Mississippi State University**  
Lee Boulevard
Mississippi State, MS
18-1-T9.01-6552 LaRC

A Scalable Gas-Particle Flow Simulation Tool for Lander Plume-Surface Interaction and Debris Prediction [6]

• CFD Research Corporation
701 McMillian Way Northwest, Suite D
Huntsville, AL 35806
Silvia Harvey (256) 726-4858

Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, NM
18-1-T9.01-6232 MSFC

Prediction of Plume Induced Rock Fracture for Landers [7]

• Composites Automation, LLC
9 Adelaide Court
Newark, DE 19702
Dirk Heider (302) 831-8898

University of Delaware
104 Hullihen Hall
Newark, DE
18-1-T12.01-7112 LaRC

Ultra-Thin Ply Formable Material from Reusable Short Carbon Fiber Composites [8]

• CU Aerospace, LLC
301 North Neil Street, Suite 502
Champaign, IL 61820
David Carroll (217) 239-1703

University of Illinois at Urbana-Champaign
601 E John Street
Champaign, IL
18-1-T4.01-3162 ARC

[9] Scalable and Distributed Inertial Navigation Systems

- Frontier Aerospace Corporation
  4109A Guardian Street
  Simi Valley, CA 93063
  Kevin Schoonover (805) 577-8771

- Purdue University-Main Campus
  Hovde Hall of Administration
  West Lafayette, IN
  18-1-T9.01-5313 MSFC

[10] Properties Investigation of High-MON Oxidizers for Use in Deep Space Exploration

- Geoplasma, LLC
  6703 Odyssey Drive Northwest, Suite 304
  Huntsville, AL 35806
  Timothy McKechnie (256) 851-7653

- North Carolina State University at Raleigh
  2701 Sullivan Drive
  Raleigh, NC 27695
  18-1-T9.01-9992 LaRC


- Intelligent Automation, Inc.
  15400 Calhoun Drive, Suite 190
  Rockville, MD 20855
  Mark James (301) 294-5221

- University of Maryland-College Park
  7950 Baltimore Avenue
College Park, MD
18-1-T15.01-3543 AFRC

*Aeroservoelastic Multifidelity Design of Biomimetic Aircraft (AMuBA)* [12]

- **Luna Innovations, Inc.**
  301 1st Street Southwest, Suite 200
  Roanoke, VA 24011
  Michael Pruzan (540) 769-8430

**Edison Welding Institute**
1250 Arthur E Adams Drive
Columbus, OH 43221
18-1-T13.01-1313 SSC

*Multi-Function Fluid Measurement System using High-Definition Fiber Optic Sensing* [13]

- **M4 Engineering, Inc.**
  4020 Long Beach Boulevard
  Long Beach, CA 90807
  Myles Baker (562) 305-3391

**University of Washington-Seattle Campus**
1400 NE Campus Parkway
Seattle, WA
18-1-T15.01-6203 AFRC

*Novel Aeroservoelastic Scaled Model Design, Fabrication, and Testing* [14]

- **Mesh Robotics, LLC**
  100 43rd St, Ste 104
  Pittsburgh, PA 15201
  Michael Wagner (412) 606-3842

**Carnegie Mellon University**
5000 Forbes Ave.
Pittsburgh, PA 15213
18-1-T4.01-7433 ARC

Deep Learning Applied to Detecting Salient Features and Building Better 3D Models [15]

- Mosaic Materials, Inc.
  1811 Francisco Street, #4
  Berkeley, CA 94703
  Jason Husk (925) 289-9623

University of California Berkeley
2150 Shattuck Ave., 10th Floor
Berkeley, CA 94704

18-1-T6.01-1154 MSFC

Efficient CO2 and H2O Removal with Novel Adsorbents for Life Support Applications on Mars [16]

- Nanosonic, Inc.
  158 Wheatland Drive
  Pembroke, VA 24136
  Melissa Campbell (540) 626-6266

Virginia Tech
Virginia Tech MC 0238
Blacksburg, VA 24061

18-1-T13.01-5942 SSC

Wireless Networked Cryogenic and Minimum Pressure Sensors [17]

- Nanosonic, Inc.
  158 Wheatland Drive
  Pembroke, VA 24136
  Melissa Campbell (540) 626-6266

Virginia Tech
403 Durham Hall
Blacksburg, VA 24061
Hydroponic Rego-rock Produced In-Space for Efficient and Healthy Crop Growth [18]

- **NextGen Materials & Processing, LLC**
  31 Wells Drive
  Tewksbury, MA 1876
  Konstantine Fetfatsidis (978) 604-1660
  
  **University of Massachusetts Lowell**
  600 Suffolk Street, Suite 212
  Lowell, MA 1854
  18-1-T12.01-1662 LaRC
  
  Automated Fiber Placement of Thin-Ply Composite Materials for Large Aerospace Structures [19]

- **Nexus Photonics, LLC**
  2320 De La Vina Street, #12
  Santa Barbara, CA 93105
  Tin Komljenovic (805) 895-4733
  
  **University of California-Santa Barbara**
  5221 Cheadle Hall
  Santa Barbara, CA
  18-1-T8.02-3882 GSFC
  
  Chip-scale THz Spectrometer [20]

- **NuMat Technologies**
  8025 Lamon Avenue
  Skokie, IL 60077
  William Morris (847) 929-4186
  
  **Northwestern University**
  633 Clark St
  Evanston, IL
  18-1-T6.01-1733 ARC
Plug and Play: Utilizing MOFs in Preexisting Carbon Dioxide Removal Assemblies for Enhanced Performance, Smaller Footprint, and Lower Energy Consumption. [21]

- **OEwaves, Inc.**
  465 North Halstead Street, Suite #140
  Pasadena, CA 91107
  Debra Coler (626) 351-4200

**Georgia Institute of Technology-School of Electrical and Computer Engineering**
505 Tenth Street
Atlanta, GA 30332
18-1-T8.02-7183 GRC

Integrated Photonic Filters for RF Signal Processing [22]

- **Omega Optics, Inc.**
  8500 Shoal Creek Boulevard, Building 4, Suite 200
  Austin, TX 78757
  Gloria Chen (512) 996-8833

**The University of Texas at Austin**
110 Inner Campus Drive
Austin, TX
18-1-T8.02-3833 GSFC

Flash Drive Integrated Label Free Silicon Nano-Photonic Bio-Assays for Space Station Bio-Diagnostics [23]

- **Opterus Research and Development, Inc.**
  4221 Rolling Gate Road
  Fort Collins, CO 80526
  Thomas Murphey (505) 250-3006

**COLORADO STATE UNIVERSITY**
Sponsored Programs; 601 S. Howes St.
Fort Collins, CO 80523
18-1-T12.01-5482 LaRC
Validated Engineering Tools for Thin-Ply Composites [24]

- **Parabilis Space Technologies, Inc.**
  1195 Linda Vista Drive, Suite F
  San Marcos, CA 92078
  David Brynes (619) 750-4484
  University of Southern California
  3720 S. Flower Street
  Los Angeles, CA 90089
  18-1-T1.01-8823 MSFC
  Nanosat Maneuvering and Orbital Transfer Stage [25]

- **Pegasense, LLC**
  1511 East State Road 434, Suite 2001
  Winter Springs, FL 32708
  Svetlana Malocha (407) 766-5783
  University of Central Florida
  4000 Central Florida Blvd
  Orlando, FL
  18-1-T13.01-1144 SSC
  Multi-Band Software Defined Radio Sensor System [26]

- **Phoenix Analysis and Design Technologies**
  7755 South Research Drive, Suite 110
  Tempe, AZ 85284
  Ward Rand (480) 813-4884
  Arizona State University-Polytechnic
  P.O. Box 876011
  Tempe, AZ 85287
  18-1-T3.03-3883 GRC
Bio-inspired Cellular Material Optimization for the Design of Additively Manufactured Multi-Functional Lightweight Structures [27]

- **Physical Sciences, Inc.**
  20 New England Business Center
  Andover, MA 1810
  B. David Green (978) 689-0003

Concurrent Technologies Corporation
  100 CTC Drive
  Johnstown, PA 15904
  18-1-T9.01-8762 MSFC

Regeneratively Cooled Ceramic Matrix Composite Nozzle Assembly for Reduced Weight [28]

- **Reaction Systems, LLC**
  17301 West Colfax Avenue, #160
  Golden, CO 80401
  Todd Leeson (303) 881-7992

Regents of the University of Colorado
  3100 Marine Street
  Boulder, CO 80303
  18-1-T6.01-1259 JSC

A Supported Liquid Membrane System for Steady State CO2 Control in a Spacecraft Cabin [29]

- **ROCCOR, LLC**
  2602 Clover Basin Drive, Suite D
  Longmont, CO 80503
  Stephanie Amend (300) 200-0068

The University of Central Florida Board of Trustees
  12201 Research Parkway, Suite 501
  Orlando, FL 32826
  18-1-T12.01-7072 LaRC
Engineering and Qualification of Thin-Ply Composites [30]

- Sensatek Propulsion Technology, Inc
  1736 W. Paul Dirac Drive, Suite 113
  Tallahassee, FL 32310
  Azryana Soto (850) 348-0687

Florida State University
222 S. Copeland Street
Tallahassee, FL
18-1-T13.01-1183 SSC
Wireless Passive Nanoparticle based Intelligent Sensor System for Extreme Environments [31]

- Sentient Science
  672 Delaware
  Buffalo, NY 14209
  Melissa McReynolds (716) 239-8215

University of Nebraska - Lincoln
2200 Vine Street
Lincoln, NE 68583
18-1-T12.02-4053 JPL
Sentient Science - A Multiscale Modeling Suite for Process and Microstructure Prediction in Metal Additive Manufacturing [32]

- Space Lab Technologies, LLC
  P.O. Box 448
  Pinecliffe, CO 80471
  Christine Escobar (720) 309-8475

Regents of the University of Colorado
3100 Marine Street
Boulder, CO 80303
18-1-T7.02-2932 KSC
MarsOasis - An Efficient Autonomously Controlled Martian Crop Production System [33]

- **Stottler Henke Associates, Inc.**
  1650 South Amphlett Boulevard, Suite 300
  San Mateo, CA 94402-2516
  Nate Henke (650) 931-2719

**Montana State University**
Montana State University
Bozeman, MT
18-1-T3.02-1093 GRC

Intelligent, Autonomous, Distributed Vehicle and Electrical Power System Management [34]

- **Streamline Numerics, Inc.**
  3221 North West 13th Street, Suite A
  Gainesville, FL 32609
  Siddharth Thakur (352) 271-8841

**Mississippi State University**
Lee Boulevard
Mississippi State, MS
18-1-T9.01-2162 GRC

Multiscale Eulerian-Lagrangian Spray Methodology Coupled with Flamelet Models for Liquid Rocket Engine Combustion [35]

- **Structured Materials Industries, Inc.**
  201 Circle Drive North, Suite 102/103
  Piscataway, NJ 8854
  Gary Tompa (732) 302-9274

**Arizona State University-Tempe**
551 E. Tyler Mall St ERC RM 159
Tempe, AZ 85281
18-1-T8.02-2073 GSFC
Si-Based Lab-on-A-Chip Integrated Photonic Spectrometer [36]

- **Sustainable Bioproducts, LLC**
  920 Technology Boulevard
  Bozeman, MT 59718
  Rich Macur (406) 579-1370

  Montana State University-Bozeman, Center for Biofilm Engineering
  Montana State University-Bozeman, Center for Biofilm Engineering
  Bozeman, MT 59717
  18-1-T7.01-1083 ARC

  *A Robust Biofilm-Biomat Reactor for Conversion of Mission-Relevant Feedstocks to Products* [37]

- **Sustainable Innovations, LLC**
  111 Roberts Street, Suite J
  East Hartford, CT 6108
  Trent Molter (860) 652-9690

  University of South Carolina-Columbia
  Columbia-Campus
  Columbia, SC
  18-1-T6.01-1070 JSC

  *Bifunctional Regenerative Electrochemical Air Transformation for Human Environments* [38]

- **Technical Data Analysis, Inc.**
  3190 Fairview Park Drive, Suite 650
  Falls Church, VA 22042
  Scott Bradfield (703) 226-4061

  Missouri University of Science and Technology
  1201 N. State St.
  Rolla, MO
  18-1-T12.01-7662 LaRC

  *Multiscale Design Tool and Process Development of Thin-Ply Composites* [39]
• **TGV Rockets, Inc.**
  2519 Benning Road Northeast
  Washington, DC 20002
  Pat Bahn (240) 462-8848

**Edison Welding Institute**
1250 Arthur E Adams Drive
Columbus, OH 43221
18-1-T9.01-3963 GRC

*Ultrasonic Additive Manufacturing of a deep throttling methane injector.* [40]

• **UbiQD**
  134 Eastgate Drive
  Los Alamos, NM 87544
  Hunter McDaniel (505) 310-6767

**University of Arizona**
1177 E. 4th Street, Shantz Building
Tucson, AZ 85721
18-1-T7.02-8052 KSC

*Tailoring the Solar Spectrum for Enhanced Crop Yield for Space Missions* [41]

• **Valley Tech Systems, Inc.**
  160 Blue Ravine Road, Suite B
  Folsom, CA 95630
  Joseph Viola (916) 760-3603

**The University of Texas at El Paso**
500 W. University Ave
El Paso, TX
18-1-T1.01-3842 MSFC

*Refractory Additively Manufactured Affordable Launch Vehicle RCS* [42]
- Vecna Technologies, Inc.
  7500 Greenway Center Drive, Suite 1130
  Greenbelt, MD 20770
  Gentiana Spahiu Pina (617) 864-0636

  Massachusetts Institute of Technology
  77 Massachusetts Avenue
  Cambridge, MA
  18-1-T4.03-2132 JPL
  Coordination of Heterogeneous Robot Swarms for Planetary Logistics Operations [43]

- VisSidus Technologies, Inc.
  601 Innovation Way
  Daytona Beach, FL 32114
  Rachel Campbell (206) 617-2445

  The University of Tennessee-Knoxville
  527 Andy Holt Tower
  Knoxville, TN
  18-1-T4.03-6342 JPL
  Smallsat Swarm Sparse Aperture SAR for Recon and Surveillance (SSSASAfRaS) [44]