Proposals Selected for Negotiation of Contracts

- **Focus Area 1 In-Space Propulsion Technologies (8)**
  
  **CU Aerospace, LLC**
  
  3001 Newmark Drive
  
  Champaign, IL 61822
  
  David Carroll (217) 239-1703
  
  **University of Michigan**
  
  3003 South State Street
  
  Ann Arbor, MI 48109
  
  19-1-T2.02-2527 GRC
  
  Advanced Flow Control System for In-Space Electric Propulsion [1]

  **En'Urga, Inc.**
  
  1201 Cumberland Avenue, Suite R
  
  West Lafayette, IN 47906
  
  Deepa Divakaran (765) 497-3269

  **University of Michigan**
  
  3003 South State Street
  
  Ann Arbor, MI 48109
  
  19-1-T2.03-3834 AFRC
  
  Planar Chemiluminescence Absorption Tomography [2]

  **Espace, Inc.**
  
  30 Lynn Avenue
  
  Hull, MA 02045
  
  Francois Martel (781) 925-3893
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 02139
19-1-T2.03-2775 MSFC

Bimodal Ion-Chemical Thruster System [3]

Plasma Controls, LLC
1180 La Eda Lane
Fort Collins, CO 80526
Casey Farnell (970) 581-2239

COLORADO STATE UNIVERSITY
Sponsored Programs; 601 S. Howes St.
Fort Collins, CO 80523
19-1-T2.02-2644 GRC

Energy and Velocity Analyzer for Distributions of Electric Rockets [4]

Plasma Processes, LLC
4914 Moores Mill Road
Huntsville, AL 35811
Timothy McKechnie (256) 851-7653

Georgia Institute of Technology-Main Campus
225 North Ave
Atlanta, GA
19-1-T2.03-3789 MSFC

Dual Mode Green Monopropellant Propulsion System for Interplanetary Missions [5]

QorTek, Inc.
1965 Lycoming Creek Road, Suite 205
Williamsport, PA 17701
Cathy Bower (570) 322-2700

COLORADO STATE UNIVERSITY
Sponsored Programs; 601 S. Howes St.
Propellant Storage and Distribution System Based on Textured Ceramic Valves for Xenon Electric Propulsion Systems [6]

Spectral Energies, LLC
4065 Executive Drive
Dayton, OH 45430
Sivaram Gogineni (937) 266-9570

Purdue University-Main Campus
155 South Grant Street
West Lafayette, IN 47907
19-1-T2.03-4300 GRC

Concurrent High-Fidelity Measurements and Simulations for Advancing the Design of Rotating Detonation Engines [7]

Streamline Automation, LLC
3100 Fresh Way Southwest
Huntsville, AL 35805
Alton Reich (256) 713-1220

University of Tennessee Space Institute
411 B.H. Goethert Pkwy
Tullahoma, TN 37388
19-1-T2.03-2452 MSFC

Demonstration of Dual Mode Ionic Liquid Propulsion [8]

Focus Area 3 Autonomous Systems for Space Exploration (3)

ASTER Labs, Inc.
155 East Owasso Lane
Shoreview, MN 55126
Suneel Sheikh (651) 484-2084
The Regents of the University of Minnesota
200 Oak Street S.E.
Minneapolis, MN 55455
19-1-T4.03-3451 JPL

Provably Convergent Game-Theoretic Coordination for Space Vehicle Swarms [9]

Orbit Logic, Inc.
7852 Walker Drive
Greenbelt, MD 20770
Ella Herz (301) 982-6234

Regents of the University of Colorado
3100 Marine Street
Boulder, CO 80303
19-1-T4.03-3131 JPL

Mars/Interplanetary Swarm Design and Evaluation Framework (MISDEF) [10]

Tyvak Nano-Satellite System, Inc.
15330 Barranca Parkway
Irvine, CA 92618
Todd Mosher (949) 562-8684

Stanford University
3160 Porter Drive Suite 100
Palo Alto, CA 94304
19-1-T4.03-4413 JPL

Distributed Multi-GNSS Timing and Localization (DiGiTal) 2.0 for Nanosatellites [11]

- Focus Area 4 Robotic Systems for Space Exploration (2)

New Rights Group, Inc. DBA Development Seed
1226 9th Street Northwest, Second Floor
Washington, DC 20001
Mark Wronkiewicz (573) 578-1453
Arizona State University
650 E Tyler Mall Goldwater Center # 208
Tempe, AZ 85281
19-1-T4.01-2855 ARC
Planetary-Scale Surface Feature Detection and Mapping for Future Exploration Missions [12]

Veth Research Associates, LLC
4591 Highway 20E, Premier Building, Suite 202J
Niceville, FL 32578
Michael Veth (937) 529-8384

Georgia Institute of Technology-Main Campus
225 North Ave
Atlanta, GA
19-1-T4.01-3821 ARC
Autonomous Navigation on Icy Moons and Ocean Worlds [13]

• Focus Area 5 Communications and Navigation (2)

Electro Magnetic Applications
7655 West Mississippi Avenue, Suite 300
Lakewood, CO 80226
Matthew Miller (217) 840-1382

Wichita State University
1845 N. Fairmount
Wichita, KS
19-1-T5.02-3243 KSC
Power Balance Solver Enhanced by an Experimental Absorption Cross-Section Database [14]

SoneLite, Inc.
2311 Via Aprilia
Del Mar, CA 92014
Focus Area 6 Life Support and Habitation Systems (7)

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

**Vanderbilt University**
2101 West End Avenue
Nashville, TN
19-1-T6.05-4023 LaRC

**Cactus Materials**
7700 S River Parkway
Chandler, AZ 85284
Mohammed Rafiql Islam (480) 213-4704

**Arizona State University**
650 E Tyler Mall Goldwater Center # 208
Tempe, AZ 85281
19-1-T6.06-4319 JSC

**CertainTech, Inc.**
20695 Settlers Point Place
Sterling, VA 20165
Ponniah Srinivasan (703) 584-5721

**George Washington University**
2121 I Street, NW
Washington, DC
19-1-T6.06-3792 ARC

[18] Nanoporous Carbon Nitride Photocatalyst Based Water Recovery System

**H2O Insights, LLC**
12794 E Sahuaro Drive
Scottsdale, AZ 85259
Kelly Westerhoff (480) 209-9140

**Arizona State University-Tempe**
551 E. Tyler Mall St ERC RM 159
Tempe, AZ 85281
19-1-T6.06-2448 JSC

[19] Side-Emitting Optical Fibers for Delivery of UV-C Light to Disinfect Key Bacteria in Space Station Water and Storage and Conveyance Systems

**Nanomatronix, LLC**
700 Research Center Boulevard
Fayetteville, AR 72701
Matthew Leftwich (479) 215-9438

**University of Arkansas at Little Rock**
2801 S University Ave
Little Rock, AR
19-1-T6.06-4074 JSC

[20] Thermally Partially Reduced Graphene Oxide Membranes for Water Recovery from Wastewater

**Nanosonic, Inc.**
158 Wheatland Drive
Pembroke, VA 24136
Melissa Campbell (540) 626-6266
Virginia Tech
Virginia Tech MC 0238
Blacksburg, VA 24061
19-1-T6.06-3677 JSC

Streamline Automation, LLC
3100 Fresh Way Southwest
Huntsville, AL 35805
Alton Reich (256) 713-1220

Alabama A&M University
Normal, Alabama 35762
Normal, AL 35762
19-1-T6.05-3299 LaRC
Testing of COTS Systems in Space [22]

• Focus Area 9 Sensors, Detectors and Instruments (7)

  Applied NanoFemto Technologies, LLC
  181 Stedmen Street, Unit #2
  Lowell, MA 01851
  Jing Chen (978) 761-4293

  Massachusetts Institute of Technology
  77 Massachusetts Avenue
  Cambridge, MA 77058
  19-1-T8.02-3207 JSC
  Photonics Integrated Circuit Enabled Miniature On-Chip Urine Test system with High Sensitivity and Reliability [23]

  Lynntech, Inc.
  2501 Earl Rudder Freeway South
  College Station, TX 77845
Darla Hisaw (979) 764-2219

**Texas A&M Engineering Experiment Station**
7607 Eastmark Drive
College Station, TX 77840
19-1-T8.02-2760 GRC

*Integrated Multi-Mode Photonic Crystal Spectrometer with On-Chip Photodetection* [24]

**Mirios, Inc.**
429 West Valerio Street, #25
Santa Barbara, CA 93101
Alexander Spott (805) 364-2987

**The Regents of the University of California, Santa Barbara**
3227 Cheadle Hall, 3rd Floor
Santa Barbara, CA 93106
19-1-T8.02-3360 GSFC

*Multispectral Mid-Infrared Laser* [25]

**Multi3D, LLC**
434 Golden Harvest Loop
Cary, NC 27519
Allen Gray (919) 667-7499

**Duke University**
103 Allen Bldg
Durham, NC
19-1-T8.04-3301 GSFC

*Rapid Prototyping of Beam-Shaping Metamaterial Antennas via Additive Manufacturing of a Highly Conductive Filament* [26]

**Nanohmics, Inc.**
6201 East Oltorf Street, Suite 400
Austin, TX 78741
Mike Mayo (512) 389-9990
Research Foundation of the City University of New York-Advanced Science Research Center
85 Saint Nicholas Terrace
New York, NY 10031
19-1-T8.04-3418 GSFC

Metagrating Beam Shaping Optics [27]

Renan Moreira
4453 La Paloma Avenue
Santa Barbara, CA 93105
Renan Moreira (805) 319-2491

The Regents of the University of California, Santa Barbara
3227 Cheadle Hall, 3rd Floor
Santa Barbara, CA 93106
19-1-T8.02-4150 GSFC

Broadband Arrayed Waveguide Grating with Microwave Kinetic Detector Array for Fully Integrated High-Resolution Photonic Spectrograph [28]

Rochester Precision Optics
850 John Street
West Henrietta, NY 14586
Stephanie McCaig (585) 292-5450

Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 77058
19-1-T8.04-3019 JPL

Hierarchical Metasurface Optics for Multiplexed Visible to Terahertz Cross-Band Systems [29]

- **Focus Area 14 In-Space and Advanced Manufacturing (4)**

  Cornerstone Research Group, Inc.
  510 Earl Boulevard
  Miamisburg, OH 45342
Chrysa Theodore (937) 320-1877

The University of Texas at Austin
110 Inner Campus Drive
Austin, TX
19-1-T12.05-3201 JSC
In-Situ Application of Multi-Layer Thermal Protection System [30]

Intelligent Optical Systems, Inc.
2520 West 237th Street
Torrance, CA 90505
Reuben Sandler (424) 263-6305

University of Southern California
3720 S. Flower Street, 3rd Floor
Los Angeles, CA 90089
19-1-T12.05-3033 ARC
A Modular In-Situ Curing Apparatus for Thermoset Resin Mixtures Applied as Thermal Protection Systems [31]

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

Virginia Tech
245 Goodwin Hall
Blacksburg, VA 24061
19-1-T12.05-3378 JSC
Cure in Place Hybridsil Polyimide Materials for Next Generation Additively Manufactured TPS Heat Shields [32]

Tethers Unlimited, Inc.
11711 North Creek Parkway South, Suite D113
Bothell, WA 98011
Robert Hoyt (425) 486-0100
Western Washington University
516 High Street
Bellingham, WA
19-1-T12.05-4015 JSC
[Resin Additive Manufacturing Processed Thermal Protection Systems (RAMP TPS) [33]

- **Focus Area 15 Materials, Materials Research, Structures, and Assembly (4)**

  AnalySwift
  5413 Crus Corvi Road
  West Jordan, UT 84081
  Allan Wood (801) 599-5879

  Purdue University-Main Campus
  155 South Grant Street
  West Lafayette, IN 47907
  19-1-T12.01-3920 LaRC
  [Efficient High-Fidelity Modeling of High Strain Thin-Ply Composites [34]

  Navatek, LLC
  841 Bishop Street, Suite 1110
  Honolulu, HI 96813
  Todd Peltzer (808) 551-4713

  University of Maine
  168 College Avenue
  Orono, ME
  19-1-T12.01-3729 LaRC
  [Thin-Ply Inflatable Composites with Drop Stitch Reinforcement [35]

  Opterus Research and Development, Inc.
  4221 Rolling Gate Road
  Fort Collins, CO 80526
  Thomas Murphey (505) 250-3006
North Carolina State University at Raleigh
2701 Sullivan Drive
Raleigh, NC 27695
19-1-T12.01-2915 GRC

Braided Thin-Ply Tapes [36]

Touchstone Research Laboratory, Ltd.
The Millennium Centre, 1142 Middle Creek Road
Triadelphia, WV 26059
Brian Gordon (304) 547-5800

Clemson University
201 Sikes Hall
Clemson, SC
19-1-T12.01-4092 LaRC

Precision Heated Tooling for QOA Curing of Thin-Ply Composites [37]

• Focus Area 16 Ground & Launch Processing (2)
  Alphacore, Inc.
  398 South Mill Avenue, Suite 304
  Tempe, AZ 85281
  Kimberlee Olson (480) 494-5618

  Arizona State University-Tempe
  University Drive and Mill Avenue
  Tempe, AZ
  19-1-T13.01-4035 SSC

  Ensuring Correct Sensor Operation and Decisions Under Harsh Environments [38]

  Intelligent Fiber Optic Systems Corporation
  2363 Calle Del Mundo
  Santa Clara, CA 95054
Behzad Moslehi (408) 565-9004

**Northwestern University**
633 Clark St.
Evanston, IL 60208
19-1-T13.01-2665 SSC

[Enhanced Real Time Distributed Strain and Temperature Monitoring for Rocket Ground Testing][39]

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**Focus Area 18 Air Vehicle Technology (6)**

**Chemtronergy, LLC**
3619 West 1987 South
Salt Lake City, UT 84104
Gege Tao (801) 981-9997

**University of Utah**
201 Presidents Circle, ROOM 201
Salt Lake City, UT
19-1-T15.03-4336 GRC

[Solid State Li-S Battery Based on Novel Polymer/Mineral Composite][40]

**Continuum Dynamics, Inc.**
34 Lexington Avenue
Ewing, NJ 08618
Barbara Agans (609) 538-0444

**Georgia Institute of Technology-Main Campus**
225 North Ave
Atlanta, GA
19-1-T15.01-2847 ARC

[Next Generation Distributed Electric Propulsion Urban Air Mobility Aircraft Analysis/Design Tools][41]
Barbara Agans (609) 538-0444

**Pennsylvania State University-Main Campus**

201 Old Main

University Park, PA

19-1-T15.01-3500 AFRC

[DEP Aircraft Terminal Area Ride Quality/Safety of Operations Assessment Tool](#) [42]

**Cornerstone Research Group, Inc.**

510 Earl Boulevard

Miamisburg, OH 45342

Chrysa Theodore (937) 320-1877

**University of Maryland**

3112 Lee Building, 7809 Regents Drive

College Park, MD 20742

19-1-T15.03-3203 GRC

[Hybrid Anode for Electrified Aircraft Propulsion](#) [43]

**Research in Flight**

1919 North Ashe Court

Auburn, AL 36830

Roy Hartfield (334) 444-8523

**Auburn University**

141 Engineering Drive

Auburn, AL 36849

19-1-T15.01-2965 ARC

[Air Vehicle Gust Response analysis for Conceptual Design](#) [44]

**SurfPlasma**

8722 Northwest 9th Place

Gainesville, FL 32606

Subrata Roy (810) 516-0991
University of Florida
201 Criser Hall PO Box 114000
Gainesville, FL
19-1-T15.01-3721 GRC
Vortex Control for Low-Noise DEP Urban Aircraft [45]

Focus Area 23 Digital Transformation for Aerospace (3)
Emergent Space Technologies, LLC
7901 Sandy Spring Road, Suite 511
Laurel, MD 20707
Everett Cary (301) 345-1535
The University of Texas at San Antonio
One UTSA Circle
San Antonio, TX
19-1-T11.03-3448 MSFC
ROBOT: Rules Oriented Blockchain Operations Transactor [46]
Mycroft AI, Inc.
300 East 39th Street
Kansas City, MO 64111
Eric Jurgeson (913) 406-4011
Texas A&M Engineering Experiment Station
7607 Eastmark Drive
College Station, TX 77840
19-1-T11.04-4219 LaRC
Development of A Digital Assistant for Early Mission Analysis and Design [47]
Tietronix Software, Inc.
1331 Gemini Avenue, Suite 300
Houston, TX 77058
Frank Hughes (281) 461-9300
University of Houston-Clear Lake

2700 Bay Area Blvd

Houston, TX

19-1-T11.03-2769 MSFC

Blockchain for Model Based System Engineering [48]