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.
Fort Collins, CO 80523
19-1-T2.02-3763 GRC

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 (DiGi Tal) 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
Paul Bremner (619) 977-4048

**Oklahoma State University-Main Campus**
107 Whitehurst
Stillwater, OK
19-1-T5.02-3311 KSC

*Electric Field Prediction and Mapping Methods Within Spacecraft Enclosures* [15]

- **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

  *Model and Testing Based Assurance of COTS Systems in Space Radiation Environments* [16]

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

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

  *Controlling Silver Release from Antimicrobial Surface Coatings for Biofouling Control* [17]

  **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

Nanoporous Carbon Nitride Photocatalyst Based Water Recovery System [18]

**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

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

**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

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

**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]

  **Martin Defense Group, 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 OOA 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]

• 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

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 [41]

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 [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]