



## Proposals Selected for Negotiation of Contracts

- **Acellent Technologies, Inc.**

835 Stewart Drive

Sunnyvale, CA 94085

Amrita Kumar (408) 745-1188

16-1-H5.03-7392 LaRC

[Flexible Multifunctional Structural Health Monitoring Systems](#) [1]

- **AdValue Photonics, Inc.**

3440 East Britannia Drive, Suite 190

Tucson, AZ 85706

Shibin Jiang (520) 790-5468

16-1-S1.01-7292 LaRC

[Compact High Pulse Energy Single Frequency Fiber Amplifier](#) [2]

- **AdValue Photonics, Inc.**

3440 East Britannia Drive, Suite 190

Tucson, AZ 85706

Shibin Jiang (520) 790-5468

16-1-S1.01-7291 LaRC

[Polarization Maintaining Ho-Doped Fiber Amplifier](#) [3]

- **Advanced Cooling Technologies, Inc.**

1046 New Holland Avenue

Lancaster, PA 17601

William Anderson (717) 295-6104

16-1-S3.07-8563 GSFC

[Loop Heat Pipe Manufacturing via DMLS for CubeSAT Applications](#) [4]

- **Advanced Cooling Technologies, Inc.**

1046 New Holland Avenue

Lancaster, PA 17601

William Anderson (717) 295-6104

16-1-S3.07-8558 GSFC

[Flexible Methane & Ethane Heat Pipes](#) [5]

- **Advanced Fluidics, LLC**

4217 Red Bandana Way

Ellicott City, MD 21042

Surya Raghu (443) 864-5295

16-1-A1.03-7624 GRC

[Fluidic Fuel Flow Modulation for Active Combustion Control](#) [6]

- **Advanced Fluidics, LLC**

4217 Red Bandana Way

Ellicott City, MD 21042

Surya Raghu (443) 864-5295

16-1-A1.04-7670 LaRC

[Colliding-Jet Fluidic Actuators for Active Flow Control](#) [7]

- **Advanced Materials and Devices, Inc.**

4750 Longley Lane, Suite #104

Reno, NV 89502

Faramarz Gordaninejad (775) 826-8868

16-1-H6.01-7276 JSC

[Fail-Safe, Controllable Liquid Spring/Damper System for Improved Rover Space Vehicle Mobility](#) [8]

- **Advanced Materials Applications**

19922 Pine Mountain Drive

Groveland, CA 95321

Kathleen Morse (408) 960-1474

16-1-S3.09-8388 GSFC

[Resilient Affordable Cubesat Processor](#) [9]

- **Advanced Numerical Solutions LLC**

3554 Mark Twain Court

Hilliard, OH 43026

Sandeep Vijayakar (614) 771-4861

16-1-A1.06-8494 ARC

[Distributed Contact Solver for 3D Dynamics Simulation of Drive Systems with Defects](#) [10]

- **Advanced Seismic Instrumentation and Research**

1945 Delores Way

Carbondale, CO 81623

Peter Eric Malin (214) 934-0752

16-1-S1.06-8175 JPL

[Lunar Borehole Seismometer](#) [11]

- **Adventium Enterprises, LLC**

111 Third Avenue South, Suite 100

Minneapolis, MN 55401

Lindsey Hillesheim (612) 481-0533

16-1-Z5.01-8383 JSC

[MonitAR](#) [12]

- **ADVR, Inc.**

2310 University Way, Building 1-1

Bozeman, MT 59715

Betsy Heckel (406) 522-0388

16-1-S1.01-7855 LaRC

[Space-Hardened Seed Laser for Use in High Spectral Resolution Lidar Systems](#) [13]

- **Advratech LLC**

714 East Monument Avenue

Dayton, OH 45402

Tim Sparling (937) 412-1208

16-1-Z3.01-7698 MSFC

[Selective Laser Ablation and Melting](#) [14]

- **Aeris Technologies, Inc.**

230D Twin Dolphin Drive

Redwood City, CA 94065

James Scherer (650) 620-9421

16-1-S1.07-7280 GSFC

[Ultrasensitive Airborne Formaldehyde Monitor](#) [15]

- **Aerodyne Microsystems, Inc.**

2374 Fosgate Avenue

Santa Clara, CA 95050

Justin Black (510) 316-4166

16-1-H14.01-8181 JSC

[MEMS-Based Sensor for Monitoring Cabin Air Quality on the ISS](#) [16]

- **Aerodyne Research, Inc.**

45 Manning Road

Billerica, MA 1821

David Nelson (978) 663-9500

16-1-S1.08-7939 ARC

[Real-Time Monitor of Clumped CO2 Isotope in Ambient Air](#) [17]

- **Aerodyne Research, Inc.**

45 Manning Road

Billerica, MA 1821

John McManus (978) 663-9500

16-1-S1.07-7938 GSFC

[Miniaturized Airborne Instrument for N2O](#) [18]

- **Aerodyne Research, Inc.**

45 Manning Road

Billerica, MA 1821

Jiri Cistecky (978) 932-0217

16-1-A1.03-8523 GRC

[Electrometric Aviation Soot Monitor](#) [19]

- **Air-Lock, Inc.**

Wampus Lane

Milford, CT 6460

Brian Battisti (203) 878-4691

16-1-H4.01-7875 JSC

[Dust Mitigation Strategies for High Pressure Oxygen QDs](#) [20]

- **Allcomp, Inc.**

209 Puente Avenue

City of Industry, CA 91746

Wei Shih (626) 369-1273

16-1-H5.02-7447 LaRC

[Novel, Functionally Graded Coating System for Reusable, Very High Temperature Applications](#) [21]

- **Alphacore, Inc.**

1616 East Main Street, Suite 221

Tucson, AZ 85203

Esko Mikkola (520) 647-4445

16-1-S1.02-7752 JPL

[RFI Mitigating Receiver Back End for Radiometers](#) [22]

- **Altius Space Machines, Inc.**

3001 Industrial Lane, Unit #5

Broomfield, CO 80020

Jonathan Goff (801) 362-2310

16-1-H5.01-8430 LaRC

[Solar Cube 2U: A Heliogyro Propulsion System for CubeSats](#) [23]

- **Altius Space Machines, Inc.**

3001 Industrial Lane, Unit #5

Broomfield, CO 80020

Jonathan Goff (801) 362-2310

16-1-H2.04-8454 GRC

[Lightweight, High-Flow, Low Connection-Force, In-Space Cryogenic Propellant Coupling](#) [24]

- **Altius Space Machines, Inc.**

3001 Industrial Lane, Unit #5

Broomfield, CO 80020

Jonathan Goff (801) 362-2310

16-1-H1.01-8453 JSC

[ISP3: In-Situ Printing Plastic Production System for Space Additive Manufacturing](#) [25]

- **Amethyst Research, Inc.**

123 Case Circle

Ardmore, OK 73401

Rob Kuester (580) 657-2575

16-1-S1.07-7494 GSFC

[Compact, Robust, Low Power High Sensitivity Gas Sensor](#) [26]

- **Analytical Mechanics Associates, Inc.**

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21 Enterprise Parkway, Suite 300

Hampton, VA 23666

Clara Anderson (757) 865-0000

16-1-H9.03-7096 GSFC

[Robust Trajectory Design in Highly Perturbed Environments Leveraging Continuation Methods](#) [27]

- **AOSense, Inc.**

929 East Arques Avenue

Sunnyvale, CA 94085

Jason Burke (408) 636-2643

16-1-H9.03-7387 GSFC

[Time Inter-Comparison Using Transportable Optical Combs](#) [28]

- **Apiq Semiconductor, LLC**

204 South Floys Street

Louisville, KY 40202

Robert Hickman (908) 303-3182

16-1-S3.03-7462 GRC

[Monolithic Power Integrated Circuits for Merging Power Electronics, Management, and Distribution](#) [29]

- **Applied Material Systems Engineering, Inc. (AMSENG)**

2309 Pennsbury Court

Schaumburg, IL 60194

Mukund Deshpande (630) 372-9650

16-1-S3.07-8451 GSFC

[Next Generation Thermal Management Materials: Boron Arsenide for Isotropic Diamond Like Thermal Conductivity - Affordable BAs Processing Innovations](#) [30]

- **Applied Technology Associates**

1300 Britt Street Southeast

Albuquerque, NM 87123

Tom Edmondson (505) 767-1214

16-1-S3.05-8104 GSFC

[DRG-Based CubeSat Inertial Reference Unit \(DCIRU\)](#) [31]

- **Applied University Research, Inc.**

605 Preston Avenue

Blacksburg, VA 24060

Roger Simpson (540) 961-3005

16-1-A1.08-7188 LaRC

[Small Sub-Micron-Particle Position-Resolving Laser-Doppler Velocimeter for High-Speed Flows](#) [32]

- **Apptronik**

1512 West 29th Street

Austin, TX 78703

Luis Sentis (650) 906-1196

16-1-H6.01-8135 JSC

[Liquid Cooled Viscoelastic Actuation for Robust Legged Robot Locomotion](#) [33]

- **Apri Instruments, LLC**

2440 West Ruthrauff Road, Suite 100

Tucson, AZ 85745

Robert Smythe (860) 398-5764

16-1-S2.04-7976 GSFC

[Low Coherence Wavefront Probe for Nanometer Level Free-Form Metrology](#) [34]

- **Aqwest, LLC**

8276 Eagle Road

Larkspur, CO 80118

John Vetrovec (303) 681-0456

16-1-S1.01-7369 LaRC

[Blue Laser Based on Frequency-Quadrupled Tm:Lu2O3](#) [35]



- **Aqwest, LLC**

8276 Eagle Road

Larkspur, CO 80118

John Vetrovec (303) 681-0456

16-1-S1.01-8531 LaRC

[1.5-Micron Amplifier for High-Average Power](#) [36]

- **Architecture Technology Corporation**

9971 Valley View Road

Eden Prairie, MN 55344

Stephen Cross (952) 992-9243

16-1-A3.01-8505 ARC

[Integrated Multi-Mode Automation for Trajectory Based Operations](#) [37]

- **Architecture Technology Corporation**

9971 Valley View Road

Eden Prairie, MN 55344

Stephen Cross (952) 992-9243

16-1-A3.03-8048 ARC

[Automated Real-Time Clearance Analyzer \(ARCA\)](#) [38]

- **Arctic Slope Technical Services, Inc.**

289 Dunlop Blvd, Bldg 300

Huntsville, AL 35824

Joseph Sims (256) 562-2191

16-1-S3.02-8307 GRC

[Multipulse Solid Rocket Motors for MAV](#) [39]

- **Arctic Slope Technical Services, Inc.**

289 Dunlop Blvd, Bldg 300

Huntsville, AL 35824

Joseph Sims (256) 562-2191

16-1-S2.03-8338 MSFC

[Additive Manufacturing of Telescope Mirrors](#) [40]

- **Arctic Slope Technical Services, Inc.**

289 Dunlop Blvd, Bldg 300

Huntsville, AL 35824

Joseph Sims (256) 562-2191

16-1-S4.03-8335 JPL

[Additively Manufactured Monolithic Catalyst Bed for Green Propellants](#) [41]

- **Arctic Slope Technical Services, Inc.**

289 Dunlop Blvd, Bldg 300

Huntsville, AL 35824

Joseph Sims (256) 562-2191

16-1-S3.02-8325 GRC

[Additively Manufactured Low Power Thrusters for Secondary Payloads](#) [42]

- **Arizona Systems Engineering Group, LLC.**

4572 South Avenida Paisano

Tucson, AZ 85746

Maria Flores (520) 665-9089

16-1-H10.02-8152 SSC

[Elimination of Rocket Ignition Side Loads](#) [43]

- **ATA Engineering, Inc.**

13290 Evening Creek Drive South, Suite 250

San Diego, CA 92128

Joshua Davis (858) 480-2028

16-1-A1.02-8366 GRC

[Continuous-Scan Phased Array Measurement Methods for Turbofan Engine Acoustic Testing](#) [44]

- **ATA Engineering, Inc.**

13290 Evening Creek Drive South, Suite 250

San Diego, CA 92128

Joshua Davis (858) 480-2028

16-1-A1.07-8365 GRC

[Improved Efficiency of Small Core Turbines through Tip Leakage and Secondary Flow Mitigation](#) [45]

- **ATA Engineering, Inc.**

13290 Evening Creek Drive South, Suite 250

San Diego, CA 92128

Joshua Davis (858) 480-2028

16-1-S3.07-8574 GSFC

[Advanced Reentry Aeroheating Simulation Framework](#) [46]

- **ATAC**

2770 De La Cruz Boulevard

Santa Clara, CA 95050

Charles Winkleman (408) 736-2822

16-1-A3.02-8018 ARC

[Increasingly Autonomous Traffic Flow Management Under Uncertainty](#) [47]

- **Atmospheric & Space Technology Research Associates, LLC**

5777 Central Avenue, Suite 221

Boulder, CO 80301

Gerald Thompson (303) 478-1780

16-1-S3.03-7556 GRC

[High Power CubeSat Control Sub-system \(HPoCCS\)](#) [48]

- **Aurora Flight Sciences Corporation**

90 Broadway, 11th Floor

Cambridge, MA 2142

Scott Hart (617) 500-4892

16-1-A2.02-8065 AFRC

[Tool for Collaborative Autonomy](#) [49]

- **AvMet Applications**

AvMet Applications Incorporated

Reston, VA 20191

Mark Klopfenstein (703) 453-9192

16-1-A3.01-7729 ARC

[Weather Scenario Generator for ATM Simulation and Testing Systems](#) [50]

- **Barrett Technology, LLC**

73 Chapel Street

Newton, MA 2458

David Wilkinson (617) 252-9000

16-1-S4.02-7665 JPL

[Miniature 70-W Brushless Motor-Controller for Compact Extraterrestrial-Based Actuation](#) [51]

- **Barron Associates, Inc.**

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

16-1-A2.02-7563 AFRC

[Run-Time Assurance for Safe UAS Operations with Reduced Human Oversight](#) [52]

- **Barron Associates, Inc.**

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

16-1-A2.02-7689 AFRC

[Self-Directed and Informed Forced-Landing System for UAV Avoidance of On-Ground Persons, Vehicles, and Structures](#) [53]

- **Barron Associates, Inc.**

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

16-1-A2.01-7801 AFRC

[Runtime Assurance for Flight Test Research Aircraft](#) [54]

- **Barron Associates, Inc.**

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

16-1-S3.04-7684 GSFC

[An Agile Aerial Sensor System Tailored for In-Situ Cloud Measurements](#) [55]

- **Beyond Photonics, LLC**

1650 Coal Creek Drive, Unit B

Lafayette, CO 80026

Sammy Henderson (303) 396-8536

16-1-S1.01-7246 LaRC

[Compact 2-Micron Transmitter for Remote Sensing Applications](#) [56]

- **Beyond Photonics, LLC**

1650 Coal Creek Drive, Unit B

Lafayette, CO 80026

Sammy Henderson (303) 396-8536

16-1-S1.07-7223 GSFC

[Compact Methane Sensing Lidar for Unmanned Aerial Vehicles](#) [57]

- **Black Swift Technologies LLC**

2100 Central Avenue, Suite 102

Boulder, CO 80301

Jack Elston (720) 933-4503

16-1-S3.04-8077 GSFC

[A Ruggedized UAS for Scientific Data Gathering in Harsh Environments](#) [58]

- **Blue Sun Enterprise, Inc.**

1942 Broadway Street, Suite 314

Boulder, CO 80302

Christopher Grasso (720) 394-8897

16-1-H9.02-7192 GRC

[Plug-In Architecture for Software-Defined Radios](#) [59]

- **Boulder Nonlinear Systems, Inc.**

450 Courtney Way, Unit 107

Lafayette, CO 80026

Mark Tanner (303) 604-0077

16-1-S2.03-7856 MSFC

[Phase Reconfigurable Nulling Interferometer](#) [60]

- **Bridger Photonics, Inc.**

2310 University Way, Building, 4-4

Bozeman, MT 59715

Lisa Bleile (406) 585-2774

16-1-S1.01-7662 LaRC

[High Power, Thermally Optimized Blue Laser for Lidar](#) [61]

- **Brimrose Technology Corporation**

P.O. Box 616, 19 Loveton Circle

Sparks, MD 21152

Diane Murray (936) 588-6901

16-1-S1.06-7773 JPL

[Compact Raman Spectrometer For In-Situ Planetary Chemistry](#) [62]

- **Busek Company, Inc.**

11 Tech Circle

Natick, MA 1760

Judy Budny (508) 655-5565

16-1-H8.01-7787 GRC

[A Novel Electrode Material for Thermionic Power Generation](#) [63]

- **Busek Company, Inc.**

11 Tech Circle

Natick, MA 1760

Judy Budny (508) 655-5565

16-1-S3.02-7785 GRC

[1mN Electrospray Thruster with Safe Passive Propellant Delivery](#) [64]

- **Carbon-Carbon Advanced Technologies, Inc.**

4704 Eden Road

Kennedale, TX 76060

James Thompson (817) 985-2500

16-1-H5.02-7100 LaRC

[Extreme Temperature Stitched Structures](#) [65]

- **CFD Research Corporation**

701 McMillian Way Northwest, Suite D

Huntsville, AL 35806

Silvia Harvey (256) 726-4858

16-1-Z1.01-8436 GSFC

[Characterization and Mitigation of Radiation and High Temperature Effects in SiC Power Electronics](#) [66]

- **CFD Research Corporation**

701 McMillian Way Northwest, Suite D

Huntsville, AL 35806

Silvia Harvey (256) 726-4858

16-1-S3.02-8435 GRC

[Propellant Gelation for Green In-Space Propulsion](#) [67]

- **Charles River Analytics, Inc.**

625 Mount Auburn Street

Cambridge, MA 2138

Yvonne Fuller (617) 491-3474

16-1-H12.01-7378 JSC

[Task Analysis Data Processing and Enhanced Representations \(TAPER\)](#) [68]

- **Clear Science Corporation**

663 Owego Hill Road, PO Box 233

Harford, NY 13784

Henry Carlson (607) 844-9171

16-1-A1.01-8553 LaRC

[Physics-based Models for Aeroservoelasticity Prediction and Control](#) [69]

- **Composite Technology Development, Inc.**

2600 Campus Drive, Suite D

Lafayette, CO 80026

Lori Bass (303) 664-0394

16-1-H5.01-7616 LaRC

[200W Deep Space CubeSat Composite Beam Roll-Up Solar Array \(COBRA\)](#) [70]

- **Continuum Analytics, Inc.**

221 West 6th Street, Suite 1550

Austin, TX 78701

Ashley Baal (240) 446-4888

16-1-S5.03-7927 GSFC



[Open Source Parallel Image Analysis and Machine Learning Pipeline](#) [71]

- **Control Point Corporation**

110 Castilian Drive, Suite 200

Goleta, CA 93117

Ed Marcarelli (805) 882-1884

16-1-H12.01-7824 JSC

[5D Task Analysis Visualization Tool](#) [72]

- **Converter Source, LLC**

16922 South Canaan Road

Athens, OH 45701

James Huth (740) 331-4751

16-1-H2.04-7770 GRC

[Innovative Stirling-Cycle Cryocooler for Long Term In-Space Storage of Cryogenic Liquid Propellants](#) [73]

- **CoolCAD Electronics, LLC**

7101 Poplar Avenue

Takoma Park, MD 20912

Lisa Sachar (301) 529-9517

16-1-Z1.01-8032 GSFC

[Improving the Response of Silicon Carbide Devices to Cosmic Radiation](#) [74]

- **CoolCAD Electronics, LLC**

7101 Poplar Avenue

Takoma Park, MD 20912

Lisa Sachar (301) 529-9517

16-1-S1.04-7518 GSFC

[Single Chip EUV, VUV and Deep UV Photodetector System with Integrated Amplifier](#) [75]

- **Cornerstone Research Group, Inc.**

2750 Indian Ripple Road

Dayton, OH 45440

Chrysa Theodore (937) 320-1877

16-1-H5.04-8148 LaRC

[Reclaimable Thermally Reversible Polymers for AM Feedstock](#) [76]

- **Cornerstone Research Group, Inc.**

2750 Indian Ripple Road

Dayton, OH 45440

Chrysa Theodore (937) 320-1877

16-1-H8.04-8147 GRC

[Advanced Lithium Sulfur Battery](#) [77]

- **Cornerstone Research Group, Inc.**

2750 Indian Ripple Road

Dayton, OH 45440

Chrysa Theodore (937) 320-1877

16-1-H5.01-8115 LaRC

[Electrically Activated Shape Memory Composite Deployable Boom](#) [78]

- **Creare, LLC**

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

16-1-Z2.01-7864 JSC

[Compact, Lightweight, Non-Venting, Phase-Change Heat Exchanger](#) [79]

- **Creare, LLC**

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

16-1-Z2.01-7858 JSC

[Closed-Loop, Non-Venting Thermal Control for Mars EVA Suits](#) [80]

- **Creare, LLC**

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

16-1-S3.07-7413 GSFC

[An Efficient, Reliable, Vibration-Free Refrigerant Pump for Space Applications](#) [81]

- **Creare, LLC**

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

16-1-H2.04-7766 GRC

[A High Efficiency Cryocooler for In-Space Cryogenic Propellant Storage](#) [82]

- **Creare, LLC**

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

16-1-S1.09-7871 GSFC

[A 10 K Multistage Cryocooler with Very Low Vibration](#) [83]

- **CU Aerospace, LLC**

301 North Neil Street, Suite 502

Champaign, IL 61820

David Carroll (217) 721-1703

16-1-H9.03-8310 GSFC

[NonLinear Parallel OPTimization Tool](#) [84]

- **CU Aerospace, LLC**

301 North Neil Street, Suite 502

Champaign, IL 61820

David Carroll (217) 239-1703

16-1-H2.04-8027 GRC

[Microcapillary Recuperative Heat Exchanger \(MRHX\)](#) [85]

- **CU Aerospace, LLC**

301 North Neil Street, Suite 502

Champaign, IL 61820

David Carroll (217) 239-1703

16-1-S3.02-7888 GRC

[Monofilament Vaporization Propulsion \(MVP\) System](#) [86]

- **CU Aerospace, LLC**

301 North Neil Street, Suite 502

Champaign, IL 61820

David Carroll (217) 239-1703

16-1-A1.04-8270 LaRC

[Cyclotronic Plasma Actuator with Arc-Magnet for Active Flow Control](#) [87]

- **Cybernet Systems Corporation**

3741 Plaza Drive

Ann Arbor, MI 48108

Margaret Press (734) 668-2567

16-1-A2.02-8241 AFRC

[Low SWaP-C FAA Compliant UAV Navigation](#) [88]

- **Deep Space Industries, Inc.**

NASA Ames Research Park, Building 156, Suite 204

Moffett Field, CA 94035

David Gump (703) 623-9616

16-1-H1.01-7789 JSC

[Extruded Clay-Based Regoliths for Construction on Mars, Phobos and NEAs](#) [89]

- **Deployable Space Systems, Inc.**

460 Ward Drive, Suite F

Santa Barbara, CA 93111

Brian Spence (805) 722-8090

16-1-H8.03-8031 GRC

[Affordable, Lightweight, Compactly Stowable, High Strength / Stiffness Lander Solar Array](#) [90]

- **Deployable Space Systems, Inc.**

460 Ward Drive, Suite F

Santa Barbara, CA 93111

Brian Spence (805) 722-8090

16-1-H8.03-7723 GRC

[Foldable Compactly Stowable Extremely High Power Solar Array System](#) [91]

- **Deployable Space Systems, Inc.**

460 Ward Drive, Suite F

Santa Barbara, CA 93111

Brian Spence (805) 722-8090

16-1-S3.01-7922 GRC

[Next-Generation Ultra-Compact Stowage/Lightweight Solar Array System](#) [92]

- **Dexmat, Inc.**

2429 Bissonnet Street

Houston, TX 77005

Alberto Goenaga (805) 895-8628

16-1-S3.03-7399 GRC

[Lightweight CNT Shielded Cables for Space Applications](#) [93]

- **e-beam, Inc.**

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21070 Southwest Tile Flat Road

Beaverton, OR 97007

Bernard Vancil (503) 628-0703

16-1-S1.02-8137 JPL

[Ka-Band Klystron Amplifier for CUBESATs](#) [94]

- **Eagle Harbor Technologies, Inc.**

169 Western Avenue West, Suite 263

Seattle, WA 98119

Timothy Ziemba (206) 582-1240

16-1-H13.02-7827 LaRC

[Precision Eddy Current Sensor for Nondestructive Evaluation of Spacecraft Structures](#) [95]

- **Eagle Harbor Technologies, Inc.**

169 Western Avenue West, Suite 263

Seattle, WA 98119

Timothy Ziemba (206) 582-1240

16-1-S4.05-7912 JPL

[Large-Area, Atmospheric Pressure Plasma Jet for Spacecraft Surface Sterilization for Planetary Protection](#) [96]

- **EM Photonics, Inc.**

51 East Main Street, Suite 203

Newark, DE 19711

Victoria Miller (302) 456-9003

16-1-A2.01-7618 AFRC

[Automated Tools and Technologies for Enhancing Long-Range Imagery](#) [97]

- **Emphysic, LLC**

5225 Nolan Drive

Minnetonka, MN 55343

Chris Coughlin (763) 744-6282

16-1-H13.01-8360 LaRC

[Fault-Tolerant NDE Data Reduction Framework](#) [98]

- **Empirical Systems Aerospace, Inc.**

P.O. Box 595

Pismo Beach, CA 93448

Andrew Gibson (805) 275-1053

16-1-A1.05-7880 LaRC

[Physics-Based Conceptual Design Flying Qualities Analysis using OpenVSP and VSPAero](#) [99]

- **Environmental and Life Support Tech.**

6600 East Lookout Drive

Parker, CO 80138

Clifford Jolly (303) 495-2090

16-1-H3.01-7294 JPL

[Silver Biocide Analysis & Control Device](#) [100]

- **EOTRON, LLC**

3516 Seagate Way, Suite 140

Oceanside, CA 92056

Ron Courtois (760) 815-3457

16-1-A2.02-8328 AFRC

[Compact High Power 3D LiDAR System for \(UAS\) Unmanned Aircraft Systems](#) [101]

- **EPIR, Inc.**

590 Territorial Drive

Bolingbrook, IL 60440

Silviu Velicu (630) 771-0203

16-1-S1.03-8095 JPL

[VIS-NIR Lightweight Spectrometer for the Sun and the Moon](#) [102]

- **Falkor Partners, LLC dba: Semicoa**

333 McCormick Avenue

Costa Mesa, CA 92626

Brian Triggs (714) 242-3029

16-1-Z1.01-8210 GSFC

[A Novel Approach to Improving the Radiation Hardness of SiC Power Devices](#) [103]

- **Fantom Materials, Inc.**

3038 Aukele Street

Lihue, HI 96766

William Fischer (570) 899-4191

16-1-S2.03-8014 MSFC

[Ultra-Stable Zero-CTE HoneySiC and H2CMN Mirror Support Structures](#) [104]

- **Faraday Technology, Inc.**

315 Huls Drive

Englewood, OH 45315

Jennings Taylor (937) 836-7749

16-1-H3.02-8508 ARC

[Electrochemical Peroxide Generation](#) [105]

- **FastCAP Systems Corporation**

21 Drydock Avenue

Boston, MA 2210

John Cooley (857) 239-7500

16-1-S3.03-7420 GRC

[Ultracapacitor Based Power Supply for CubeSats](#) [106]

- **FastCAP Systems Corporation**

21 Drydock Avenue

Boston, MA 2210

John Cooley (857) 239-7500



16-1-S3.06-7615 GSFC

[High Efficiency Hybrid Energy Storage Utilizing High Power Density Ultracapacitors For Long Duration Balloon Flights](#) [107]

- **Fibertek, Inc.**

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

16-1-S1.01-8414 LaRC

[Spaceflight 1.94 micron Tm Fiber Laser Transmitter](#) [108]

- **Fibertek, Inc.**

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

16-1-H9.01-8407 JPL

[High Speed Lasercom Signal Processing and Ground Station](#) [109]

- **Flight Works, Inc.**

17905 Sky Park Circle, Suite F

Irvine, CA 92614

Eric Besnard (949) 387-9552

16-1-S3.02-7901 GRC

[Pump-Fed, Compact, High Performance Green Propulsion System for Secondary Payloads](#) [110]

- **Flight Works, Inc.**

17905 Sky Park Circle, Suite F

Irvine, CA 92614

Eric Besnard (949) 387-9552

16-1-S3.02-7900 GRC

[Low Cost, Pump-fed, Non-Catalytic Thruster for Secondary Payload Green Propulsion](#) [111]

- **FOMS, Inc.**

3525 Del Mar Heights Road, #236

San Diego, CA 92130

Ella Volfson (858) 382-7200

16-1-H14.01-7508 JSC

[Space Facility for Orbital Remote Manufacturing \(SPACEFORM\)](#) [112]

- **Freedom Photonics, LLC**

41 Aero Camino

Santa Barbara, CA 93117

Milan Mashanovitch (805) 967-4900

16-1-S1.07-7358 GSFC

[Widely Tunable Semiconductor Laser at 1650nm for Greenhouse Gas LIDAR Detection](#) [113]

- **Freedom Photonics, LLC**

41 Aero Camino

Santa Barbara, CA 93117

Milan Mashanovitch (805) 967-4900

16-1-A2.01-7475 AFRC

[Inexpensive, Rugged and Compact Tunable Laser with Simple Tuning Control for Airborne Fiber Optic Sensor \(FOS\) Interrogators](#) [114]

- **GeneSiC Semiconductor, Inc.**

43670 Trade Center Place, Suite 155

Dulles, VA 20166

Ranbir Singh (703) 996-8200

16-1-S3.03-7942 GRC

[Monolithically Integrated Rad-Hard SiC Gate Driver for 1200 V DMOSFETs](#) [115]

- **Global Aerospace Corporation**

12981 Ramona Boulevard, Suite E

Irwindale, CA 91706

Kerry Nock (626) 960-8300

16-1-S3.06-8286 GSFC

[Titan Buoyant Atmospheric Glider](#) [116]

- **Global Technology Enterprises, Inc.**

13 Lariat Loop

Bozeman, MT 59715

Todd Johnson (406) 522-8027

16-1-H2.01-7193 GRC

[Diamond Copper Materials Based Solution for Improved Engine Performance](#) [117]

- **Helicity Technologies**

3655 James Road, Suite 110

Acworth, GA 30102

Viktoria Wang (770) 403-5549

16-1-A1.09-7646 GRC

[Durable Icephobic Cellulose Nanopaper Composite for Aircraft Icing Mitigation](#) [118]

- **Hersh Acoustical Engineering, Inc.**

22305 Cairnloch Street

Calabasas, CA 91302

Alan Hersh (818) 224-4699

16-1-A1.02-8281 GRC

[Validation of Standing Wave Liner Impedance Measurement Method](#) [119]

- **Higher Ground**

2225 East Bayshore Road, Suite 2

Palo Alto, CA 94303

Rob Reis (650) 322-3958

16-1-A3.02-8237 ARC

[Innovation in the Sky](#) [120]

- **Honeybee Robotics, Ltd.**

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Jason Herman (646) 459-7819

16-1-H4.01-7953 JSC

[Dust-Tolerant, High Pressure Oxygen Quick Disconnect for Advanced Spacesuit and Airlock Applications](#) [121]

- **Honeybee Robotics, Ltd.**

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Andrew Maurer (720) 491-5560

16-1-S4.04-7401 JPL

[High Temperature Joint Actuator](#) [122]

- **Honeybee Robotics, Ltd.**

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Jason Herman (646) 459-7819

16-1-H5.04-7952 LaRC

[Strut Attachment System for In-Space Robotic Assembly](#) [123]

- **Honeybee Robotics, Ltd.**

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Kris Zacny (510) 207-4555

16-1-S4.02-7456 JPL

[Planetary Vacuum Cleaner for Venus and Mars](#) [124]

- **Honeybee Robotics, Ltd.**

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Kris Zacny (510) 207-4555

16-1-H6.01-7532 JSC

[The Stinger: A Geotechnical Sensing Package for Robotic Scouting on a Small Planetary Rover](#) [125]

- **HyperV Technologies Corporation**

13935 Willard Road

Chantilly, VA 20151

Franklin Witherspoon (703) 378-4882

16-1-H10.02-7439 SSC

[Fast Fiber-Coupled Imaging of X-Rays Events](#) [126]

- **Industrial Measurement Systems Inc.**

2760 Beverly Drive, Unit 4

Aurora, IL 60502

Donald Yuhas (630) 236-5901

16-1-Z3.01-8477 MSFC

[Real-Time Thermal Stir Weld Temperature Monitor](#) [127]

- **Infinity Fuel Cell and Hydrogen, Inc.**

431A Hayden Station Road

Windsor, CT 6095

William Smith (860) 688-6500

16-1-S3.04-7619 GSFC

[High Efficiency Advanced Lightweight Fuel Cell \(HEAL-FC\)](#) [128]

- **Innoflight, Inc.**

9985 Pacific Heights Boulevard, Suite 250

San Diego, CA 92121

David Andaleon (858) 638-1580

16-1-S3.09-8581 GSFC

[Innoflight Middleware System \(IMS\)](#) [129]

- **Innoflight, Inc.**

9985 Pacific Heights Boulevard, Suite 250

San Diego, CA 92121

David Andaleon (858) 638-1580

16-1-Z6.01-8580 LaRC

[Wireless Sensor Piconet Radio \(WiSPiR\)](#) [130]

- **Innosense, LLC**

2531 West 237th Street, Suite 127

Torrance, CA 90505

Kisholoy Goswami (310) 530-2011

16-1-Z2.01-8287 JSC

[Modified Ionic Liquid-Based Phase Change Materials as Effective Heat Exchangers](#) [131]

- **Innosense, LLC**

2531 West 237th Street, Suite 127

Torrance, CA 90505

Kisholoy Goswami (310) 530-2011

16-1-H3.01-8321 JPL

[Polymer Nanowire-Based Reversible, and Quasi Real-Time, Ethylene Analyzer](#) [132]

- **InnovaPrep, LLC**

132 East Main Street

Drexel, MO 64742

Ann Packerham (816) 619-3375

16-1-H3.01-7134 JPL

[Devices and Methods for Collection and Concentration of Air and Surface Samples for Improved Detecti](#)  
[133]

- **Innovative Imaging and Research Corporation**

Building 1103, Suite 140C

Stennis Space Center, MS 39529

Mary Pagnutti (228) 688-2452

16-1-H10.02-8302 SSC

[Color-XHDR - A Compact High-Speed Color Extreme High Dynamic Range Video Capability for Rocket Engine Testing](#) [134]

- **Innovative Scientific Solutions, Inc.**

7610 McEwen Road

Dayton, OH 45459

Larry Goss (937) 630-3012

16-1-A1.08-7805 LaRC

[Development of an Elastomeric Force Balance](#) [135]

- **Intelligent Automation, Inc.**

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

16-1-A1.01-7636 LaRC

[Reduced Order Modeling for Aeroservoelastic Control and Analysis \(RACA\)](#) [136]

- **Intelligent Automation, Inc.**

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

16-1-A2.02-7634 AFRC

[Safety Analysis For Evaluating \(SAFE\) sUAS](#) [137]

- **Intelligent Automation, Inc.**

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

16-1-A3.01-7633 ARC

[Stakeholder Web-based Interrogable Federated Toolkit \(SWIFT\)](#) [138]

- **Intelligent Automation, Inc.**

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

16-1-A3.03-7631 ARC

[DAAS: Data Analytics for Assurance of Safety](#) [139]

- **Intelligent Fiber Optic Systems Corporation**

2363 Calle Del Mundo

Santa Clara, CA 95054

Behzad Moslehi (408) 565-9004

16-1-A2.01-8364 AFRC

[Optimal Realtime Damage Identification in Composite Structures](#) [140]

- **Intelligent Optical Systems, Inc.**

2520 West 237th Street

Torrance, CA 90505

Reuben Sandler (424) 263-6305

16-1-H3.01-7755 JPL

[Compact Chemical Monitor for Spacecraft Water Recovery Systems](#) [141]

- **Interdisciplinary Consulting Corporation**

5745 Southwest 75th Street, #364

Gainesville, FL 32608

Leonard Kubik (256) 960-9520

16-1-A1.02-7568 GRC

[Low Profile, Low Frequency, Adaptively-Tuned Acoustic Liner](#) [142]



- **Iris AO, Inc.**

2930 Shattuck Avenue, #304

Berkeley, CA 94705

Michael Helmbrecht (510) 849-2375

16-1-S2.01-7596 JPL

[1015 PTT Segment MEMS DM Development](#) [143]

- **Iris Technology Corporation**

PO Box 15115

Irvine, CA 92623

Marguerite Slater (949) 975-8410

16-1-S1.09-7978 GSFC

[Deep Space Cryocooler System \(DSCS\)](#) [144]

- **IRPI, LLC**

7929 Southwest Burns Way, Suite A

Wilsonville, OR 97070

Ryan Jenson (503) 545-2501

16-1-H2.04-7581 GRC

[Bubble Free Cryogenic Liquid Acquisition Device](#) [145]

- **Irvine Sensors Corporation**

3001 Red Hill Avenue, B3-108

Costa Mesa, CA 92626

Daryl Smetana (714) 444-8760

16-1-S3.09-7277 GSFC

[Bringing 3D Memory Cubes to Space: a "Rad-Hard by Design Study" with an Open Architecture](#) [146]

- **JENTEK Sensors, Inc.**

110-1 Clematis Avenue

Waltham, MA 2453

Joni Hatem (781) 373-9706

16-1-H7.01-7553 ARC

[Through-Thickness Health Monitoring of Thermal Protection Systems](#) [147]

- **KALSCOTT Engineering, Inc.**

PO Box 3426

Lawrence, KS 66046

Suman Saripalli (785) 979-1116

16-1-A3.02-7176 ARC

[SDR-Based MicroADS-B for Low Altitude Small UAS Operations](#) [148]

- **KALSCOTT Engineering, Inc.**

PO Box 3426

Lawrence, KS 66046

Suman Saripalli (785) 979-1116

16-1-A3.02-7644 ARC

[Autonomous Air Traffic Reporting and Operations for UAS](#) [149]

- **Kymeta Government Solutions**

12277 134th Court Northeast

Redmond, WA 98052

Jessica Stefani (425) 658-8705

16-1-H9.02-7669 GRC

[Ka-Band Electronically Steered CubeSat Antenna](#) [150]

- **Leiden Measurement Technology, LLC**

751 Laurel Street, #344

San Carlos, CA 94087

Richard Quinn (650) 691-8573

16-1-S1.06-7136 JPL

[A Compact Fluorescence Lifetime Excitation-Emission Spectrometer \(FLEXEMS\) for Detecting Trace](#)

[Organics](#) [151]

- **LoadPath**

2309 Renard Place Southeast, Suite 101

Albuquerque, NM 87108

Adam Biskner (866) 411-3131

16-1-H5.01-8169 LaRC

[Structural Origami Array \(SOAR\)](#) [152]

- **Luna Innovations, Inc.**

301 1st Street Southwest, Suite 200

Roanoke, VA 24016

Shirley Evans (540) 961-6724

16-1-S4.02-7734 JPL

[Miniaturized Interrogation System for Marsupial Rover Sensing Tether](#) [153]

- **Luna Innovations, Inc.**

301 1st Street Southwest, Suite 200

Roanoke, VA 24016

Shirley Evans (540) 961-6724

16-1-H7.01-8143 ARC

[Flexible Gap Filler for Ablative Thermal Protection Systems](#) [154]

- **Luna Innovations, Inc.**

301 1st Street Southwest, Suite 200

Roanoke, VA 24016

Shirley Evans (540) 961-6724

16-1-H5.03-7999 LaRC

[Integrated Structural Health Sensors for Inflatable Space Habitats](#) [155]

- **Luna Innovations, Inc.**

301 1st Street Southwest, Suite 200

Roanoke, VA 24016

Shirley Evans (540) 961-6724

16-1-A1.06-7988 ARC

[Rapid In-Place Composite Rotor Damage Detection](#) [156]

- **Luna Innovations, Inc.**

301 1st Street Southwest, Suite 200

Roanoke, VA 24016

Shirley Evans (540) 961-6724

16-1-H1.01-7981 JSC

[In-Situ Generation of Polymer Concrete Construction Materials](#) [157]

- **Luxel Corporation**

60 Saltspring Drive, PO Box 1879

Friday Harbor, WA 98250

Dianne Hall (360) 378-4137

16-1-S1.05-8269 GSFC

[LENA Conversion Foils Using Single-Layer Graphene](#) [158]

- **Lynntech, Inc.**

2501 Earl Rudder Freeway South

College Station, TX 77845

Darla Hisaw (979) 764-2219

16-1-H12.02-8240 ARC

[SpaceDoc-Intelligent Health Management System for Astronauts](#) [159]

- **Lynntech, Inc.**

2501 Earl Rudder Freeway South

College Station, TX 77845

Darla Hisaw (979) 764-2219

16-1-H8.02-8130 GRC

[An Advanced Anode Electrocatalysis Concept for Direct Methane SOFC Systems](#) [160]

- **M4 Engineering, Inc.**

4020 Long Beach Boulevard

Long Beach, CA 90807

Kevin Roughen (562) 981-7797

16-1-A1.01-7111 LaRC

[Reduced Order Nonlinear Dynamic Aeroservoelasticity](#) [161]

- **M42 Technologies, LLC**

8043 Ashworth Avenue North

Seattle, WA 98103

Nestor Voronka (206) 792-5852

16-1-S3.05-7207 GSFC

[RF Crosslink for Relative Navigation and Time/Frequency Distribution](#) [162]

- **Madison CryoGroup, LLC**

8540 Greenway Boulevard, #203

Middleton, WI 53562

James Maddocks (608) 338-8387

16-1-S1.09-7182 GSFC

[High Capacity, High Efficiency 10 to 20 K Pulse Tube Cryocooler](#) [163]

- **MagiQ Technologies, Inc.**

11 Ward Street

Somerville, MA 2143

Caleb Christensen (617) 661-8300

16-1-S3.08-7829 MSFC

[Fast-Light Enhanced Fiber Gyroscope](#) [164]

- **Mainstream Engineering Corporation**

200 Yellow Place

Rockledge, FL 32955

Michael Rizzo (321) 631-3550

16-1-S4.04-7385 JPL

[Bidirectional Dual Active Bridge Power Converter for Spacecraft Power Systems](#) [165]

- **Makel Engineering, Inc.**

1585 Marauder Street

Chico, CA 95973

Darby Makel (530) 895-2771

16-1-S1.07-8008 GSFC

[High Temperature Chemical Sensor Array Payload For UAV Based In-situ Volcanic Gas Measurements](#) [166]

- **Makel Engineering, Inc.**

1585 Marauder Street

Chico, CA 95973

Darby Makel (530) 895-2771

16-1-A2.01-8005 AFRC

[Aircraft Chemical Sensor Arrays for Onboard Engine and Bleed Air Monitoring](#) [167]

- **Makel Engineering, Inc.**

1585 Marauder Street

Chico, CA 95973

Darby Makel (530) 895-2771

16-1-S4.04-7816 JPL

[High Temperature, Radiation Hard Electronics Architecture for a Chemical Sensor Suite for Venus Atmospheric Measurements](#) [168]

- **Masten Space Systems, Inc.**

1570 Sabovich Street

Mojave, CA 93501

Katherine Rodway (310) 903-7543

16-1-H2.01-7120 GRC

[Additive Manufacturing Technology for a 25,000 lbf LOX/Methane Mars Ascent Engine](#) [169]

- **Materials Modification, Inc.**

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

16-1-H3.02-7349 ARC

[Multipurpose Waste Disposal Bags for Heat Melt Compactor Application](#) [170]

- **Materials Modification, Inc.**

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

16-1-A1.09-7073 GRC

[Thin-Film Hybrid Coating for Ice Mitigation on Aircraft](#) [171]

- **Materials Modification, Inc.**

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

16-1-H8.04-7232 GRC

[Aerogel-Ionic Liquid Hybrid Electrolytes](#) [172]

- **Materials Research and Design, Inc.**

300 East Swedesford Road

Wayne, PA 19087

Kerry Howren (610) 964-9000

16-1-H7.01-7145 ARC

[Evaluation of Alternative Carbon Fibers to Improve Joint Performance in 3D Woven Heatshields](#) [173]

- **METECS**

1030 Hercules Avenue

Houston, TX 77058

John MacLean (832) 476-8651

16-1-A2.01-7848 AFRC

[MATE: Modern Software Technology for Flight Test Automation and Orchestration](#) [174]

- **METECS**

1030 Hercules Avenue

Houston, TX 77058

John MacLean (832) 476-8651

16-1-H10.01-7839 KSC

[mREST: Flexible Open Interface Standard for Test and Launch Operations](#) [175]

- **Metis Technology Solutions, Inc.**

2309 Renard Place SE, Ste 200

Albuquerque, NM 87106

Joy Colucci (650) 207-9378

16-1-A3.03-7397 ARC

[Intelligent Information Processing for Enhanced Safety in the NAS](#) [176]

- **MetroLaser, Inc.**

22941 Mill Creek Drive

Laguna Hills, CA 92653

Christina Arnold (949) 553-0688

16-1-A1.03-8199 GRC

[Spatially and Temporally Resolved Diagnostics of Dense Sprays Using Gated, Femtosecond, Digital Holography](#) [177]

- **MetroLaser, Inc.**

22941 Mill Creek Drive



Laguna Hills, CA 92653

Christina Arnold (949) 553-0688

16-1-H7.02-8293 ARC

[Laser Scattering Diagnostic for Shock Front Arrival and Electron Number Density](#) [178]

- **MetroLaser, Inc.**

22941 Mill Creek Drive

Laguna Hills, CA 92653

Christina Arnold (949) 553-0688

16-1-H10.02-8292 SSC

[Plume Velocimetry Diagnostic for Large Rocket Engines](#) [179]

- **MetroLaser, Inc.**

22941 Mill Creek Drive

Laguna Hills, CA 92653

Christina Arnold (949) 553-0688

16-1-S1.07-8291 GSFC

[Optical System for Atmospheric Particle Measurement](#) [180]

- **Michigan Aerospace Corporation**

1777 Highland Drive, Suite B

Ann Arbor, MI 48108

John Dodds (734) 975-8777

16-1-S1.01-7997 LaRC

[Agile Etalon Filter for Differential Absorption LIDAR](#) [181]

- **Michigan Aerospace Corporation**

1777 Highland Drive, Suite B

Ann Arbor, MI 48108

John Dodds (734) 975-8777

16-1-S4.01-7996 JPL

[Speed Sensor for Planetary EDL: "SPRY" \[182\]](#)

- **Micro Cooling Concepts, Inc.**

7522 Slater Avenue, #122

Huntington Beach, CA 92647

Jack Fryer (714) 847-9945

16-1-A1.07-7705 GRC

[Injector-Integrated Fuel-Air Heat Exchanger Module \[183\]](#)

- **MicroCoating Technologies**

1824 Willow Trail Parkway

Norcross, GA

Angie Everett (404) 213-7208

16-1-H3.02-7564 ARC

[A Novel Cleaning Technology for Spacecraft Habitat \[184\]](#)

- **Microelectronics Research Development Corporation**

4775 Centennial Boulevard, Suite 130

Colorado Springs, CO 80919

Karen Van Cura (719) 531-0805

16-1-S4.04-8231 JPL

[Radiation Hardened High Speed Integrated Circuits SERDES I/O for Extreme Operating Environments \[185\]](#)

- **Microengineered Metals, Inc.**

1808 Country Hills Drive

Yorkville, IL 60560

Susan Wilson (740) 277-9610

16-1-A1.09-8557 GRC

[In-Flight Ice Accretion Hazard Mitigation with Low Surface Roughness Aluminum Airfoil \[186\]](#)

- **MicroLink Devices, Inc.**

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 920-9705

16-1-S3.01-8512 GRC

[High Energy Long Life Betavoltaic Battery](#) [187]

- **MicroLink Devices, Inc.**

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 588-3001

16-1-H8.03-8153 GRC

[38% Efficient Low-Cost Six-Junction GaAs/InP Solar Cells Using Double Epitaxial Lift-Off](#) [188]

- **MicroLink Devices, Inc.**

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 588-3001

16-1-S3.04-7152 GSFC

[Solar Powered Long Endurance Small UAS](#) [189]

- **Microtek, Inc.**

10865 Rancho Bernardo Road, Suite 101

San Diego, CA 92127

Cheryl Epstein (858) 275-2113

16-1-S3.08-8037 MSFC

[Ultra-Compact Slow-Light Enhanced Multiband Spectral Interferometer](#) [190]

- **MicroXact, Inc.**

1750 Kraft Drive, Suite 1007

Blacksburg, VA 24060

Elena Kochergina (540) 394-4040

16-1-S1.05-7780 GSFC

[Deep UV Blocking Particle Filter](#) [191]

- **Mohawk Innovative Technology, Inc.**

1037 Watervliet-Shaker Road

Albany, NY 12205

James Walton (518) 862-4290

16-1-H8.01-7293 GRC

[High Speed Closed Brayton Cycle Turboalternator](#) [192]

- **Mosaic ATM, Inc.**

540 Fort Evans Road, Suite 300

Leesburg, VA 20176

Chris Stevenson (540) 454-7458

16-1-A3.01-7271 ARC

[Simulation-Based Tool for Traffic Management Training](#) [193]

- **MotionPort, LLC**

473 South River Road, Suite 1-182

Saint George, UT 84790

Brant Ross (435) 703-9195

16-1-H5.01-7830 LaRC

[Simulating CubeSat Structure Deployment Dynamics](#) [194]

- **N&R Engineering**

6659 Pearl Road, #201

Parma Heights, OH 44130

Vinod Nagpal (440) 845-7020

16-1-A1.07-8448 GRC

[Design Concepts for Low Aspect Ratio High Pressure Turbines for High Bypass Ratio Turbofans](#) [195]

- **N&R Engineering**

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6659 Pearl Road, #201

Parma Heights, OH 44130

Vinod Nagpal (440) 845-7020

16-1-A1.07-8447 GRC

[Fan Duct Heat Exchanger for Turbine Cooling Air](#) [196]

- **N2 Biomedical, LLC**

One Patriots Park

Bedford, MA 1730

Eric Tobin (781) 325-0781

16-1-H3.02-8381 ARC

[Nano-Scale ZnO Coating for Reduction of Biofilm Formation](#) [197]

- **Nanohmics, Inc.**

6201 East Oltorf Street, Suite 400

Austin, TX 78741

Mike Mayo (512) 389-9990

16-1-H8.01-7513 GRC

[Thermal Energy Conversion](#) [198]

- **NANOLAB, INC**

179 Bear Hill Road

Waltham, MA 2451

David Carnahan (781) 609-2722

16-1-H3.01-7869 JPL

[Real-Time Ethylene Sensor Based on Chemical Anisotropic Nanochannel Impedance Spectroscopy](#) [199]

- **Nanosonic, Inc.**

158 Wheatland Drive

Pembroke, VA 24136

Melissa Campbell (540) 626-6266

16-1-H7.01-8243 ARC

[Flexible, High Char Yield Hybrid Sil Adhesive Materials for Next Generation Ablative Thermal Protection](#) [200]

- **Nanosonic, Inc.**

158 Wheatland Drive

Pembroke, VA 24136

Melissa Campbell (540) 626-6266

16-1-H7.02-8111 ARC

[High Sensitivity, High Frequency Sensors for Hypervelocity Testing and Analysis](#) [201]

- **Nanosonic, Inc.**

158 Wheatland Drive

Pembroke, VA 24136

Melissa Campbell (540) 626-6266

16-1-S1.08-8041 ARC

[Miniaturized Air Dropped Sensors for Environmental Monitoring of Heavy Metals in Water](#) [202]

- **Near Earth Autonomy, Inc.**

5001 Baum Boulevard, Suite 750

Pittsburgh, PA 15213

Marcel Bergerman (412) 513-6110

16-1-A2.02-7580 AFRC

[Autonomous Contingency Detection and Reaction for Unmanned Aircraft](#) [203]

- **NEI Corporation**

201 Circle Drive North, Suite 102/103

Piscataway, NJ 8873

Ganesh Skandan (732) 868-3141

16-1-A1.09-8166 GRC

[Performance Enhancement of Deicing Systems with the Use of an Anti-Ice Nano-Coating](#) [204]

- **NEI Corporation**

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201 Circle Drive North, Suite 102/103

Piscataway, NJ 8873

Ganesh Skandan (732) 868-3141

16-1-H8.04-8164 GRC

[High Energy Density Li-Ion Batteries Enabled By a New Class of Cathode Materials](#) [205]

- **New Jersey Microsystems, Inc.**

107 McCleary Ct

Raleigh, NC 27607

William Carr (973) 293-1450

16-1-Z6.01-7431 LaRC

[Multi-Use Passive RFID Sensor Tag System for NASA](#) [206]

- **NexTech Materials, Ltd.**

404 Enterprise Drive

Lewis Center, OH 43035

Andrew Patton (614) 842-6606

16-1-H8.02-8171 GRC

[Methane-Oxygen Solid Oxide Fuel Cell System](#) [207]

- **NextGen Imaging Technologies, Inc**

2 Golfview Road

Windham, NH 3087

Xiuhong Sun (603) 434-2338

16-1-S1.07-7253 GSFC

[Robotic Variable Interference Filter Imaging Spectrometer \(R-VIFIS\)](#) [208]

- **Nirvana Energy Systems, Inc.**

3130 Alpine Road, Suite 288 PMB 6

Portola Valley, CA 94028

Lambertus Hesselink (415) 269-7102

16-1-S3.01-7259 GRC

[Thermoacoustic Radioisotope Generator \(TRG\)](#) [209]

- **Nokomis, Inc.**

310 5th Street

Charleroi, PA 15022

Gena Johnson (724) 483-3946

16-1-A3.02-7084 ARC

[Hiawatha Aircraft Anti-Collision System](#) [210]

- **Nokomis, Inc.**

310 5th Street

Charleroi, PA 15022

Gena Johnson (724) 483-3946

16-1-A2.01-7127 AFRC

[RF Emission-Based Health Monitoring for Hybrid and/or All Electric Aircraft Distributed Propulsion S](#) [211]

- **NP Photonics, Inc.**

9030 South Rita Road

Tucson, AZ 85747

Linda Schadler (520) 405-9826

16-1-S1.01-8427 LaRC

[780 nm Single-Frequency Laser Source for High Spectral Resolution Lidar](#) [212]

- **Nu Waves, Ltd.**

122 Edison Drive

Middletown, OH 45044

Jeff Wells (513) 360-0800

16-1-S3.04-8085 GSFC

[High-Efficiency Power Amplifier for Over-the-Horizon Communications \(HYPERION\)](#) [213]

- **Nuvotronics, LLC**

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7586 Old Peppers Ferry Loop

Radford, VA 24141

Scott Meller (800) 341-2333

16-1-S1.02-7872 JPL

[mmWave PolyStrata\(R\) High Power Compact Transceiver](#) [214]

- **Optical Coating Solutions, Inc.**

2386 Grandview Drive

Camarillo, CA 93010

Carol Martinez (805) 482-1067

16-1-S1.08-8078 ARC

[Passive New UV Polarimeter for Remote Surface and Atmospheric Sensing](#) [215]

- **Optimal Synthesis, Inc.**

95 First Street, Suite 240

Los Altos, CA 94022

Victor Cheng (650) 559-8585

16-1-A3.03-7366 ARC

[Plug-and-Play ATM-Centric Speech-Enabled Agent for SMART-NAS Testbed](#) [216]

- **OptiPro Systems, LLC**

6368 Dean Parkway

Ontario, NY 14519

Tim Ansaldi (585) 265-0160

16-1-S2.04-7686 GSFC

[UltraForm Finisher Optical Mandrel Fabrication](#) [217]

- **Opto-Knowledge Systems, Inc. (OKSI)**

19805 Hamilton Avenue

Torrance, CA 90502

Nahum Gat (310) 756-0520

16-1-A3.02-8204 ARC

[IR Beacon System for Assisted or Automated Landing of Aircraft](#) [218]

- **Optonet, Inc.**

828 Davis Street, Suite 206

Evanston, IL 60201

Yingyan Huang (847) 722-6980

16-1-H9.01-7422 JPL

[200Gb/s WDM Optical Transceiver Chip Modules with RF Transmission, Quadrature Modulation and Fail-Safe Capabilities](#) [219]

- **Opus 12, Inc.**

2342 Shattuck Avenue, #820

Berkeley, CA 94704

Kendra Kuhl (650) 291-5614

16-1-H1.01-8191 JSC

[Compact In-Situ Polyethylene Production from Carbon Dioxide](#) [220]

- **Ozark Integrated Circuits, Inc.**

700 West Research Center Boulevard

Fayetteville, AR 72701

Anthony Francis (479) 575-1600

16-1-S4.04-7533 JPL

[A Wide-Temperature Range Wire-Line Communication Link Using the NASA Glenn SiC JFET Technology](#) [221]

- **Pacific Microchip Corporation**

3916 Sepulveda Boulevard, #108

Culver City, CA 90230

Dalius Baranauskas (310) 940-3083

16-1-S1.02-7333 JPL

[20GSps 6-bit Low-Power Rad-Tolerant ADC](#) [222]

- **Parabilis Space Technologies, Inc.**

1145 Linda Vista Drive

San Marcos, CA 92078

David Streich (855) 727-2245

16-1-S4.03-7586 JPL

[Novel Hybrid Propulsion System for Sample Return Missions](#) [223]

- **Paragon Space Development Corporation**

3481 East Michigan Street

Tucson, AZ 85714

Carole Leon (520) 382-4814

16-1-H2.04-8412 GRC

[Thermally Insulative Structural Connection for Cryogenic Propellant Tanks](#) [224]

- **Photon Sciences, Inc.**

4520 Savino Drive

Plano, TX 75093

Gary Evans (214) 207-9427

16-1-S5.01-7483 ARC

[A Low Power Terabit Laser-Modulator Array](#) [225]

- **Physical Optics Corporation**

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

16-1-H14.01-8449 JSC

[Orbital Fiber Optic Production Module](#) [226]

- **Physical Optics Corporation**

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

16-1-H13.02-8257 LaRC

[Penetrating Backscatter X-Ray Imaging System](#) [227]

- **Physical Optics Corporation**

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

16-1-A1.08-8552 LaRC

[Plenoptic Attitude Monitoring System](#) [228]

- **Physical Sciences, Inc.**

20 New England Business Center

Andover, MA 1810

David Green (978) 689-0003

16-1-S1.06-8301 JPL

[Miniature Integrated-Optic Trace-Gas Sensors for Off-World Science Missions](#) [229]

- **Picometrix, LLC**

2925 Boardwalk Drive

Ann Arbor, MI 48104

Marsha Gilbert (734) 864-5611

16-1-H13.02-7099 LaRC

[Differential Terahertz Imaging Methods for Enhanced Detection of Subsurface Features, Flaws, and Damage](#) [230]

- **Pioneer Astronautics**

11111 West 8th Avenue, Unit A

Lakewood, CO 80215

Robert Zubrin (303) 980-0890

16-1-H1.01-8072 JSC

[Extraterrestrial Metals Processing](#) [231]

- **Plasma Processes, LLC**

4914 Moores Mill Road

Huntsville, AL 35811

Timothy McKechnie (256) 851-7653

16-1-H2.02-7555 MSFC

[Joining of Tungsten Cermet Nuclear Fuel](#) [232]

- **Plasma Processes, LLC**

4914 Moores Mill Road

Huntsville, AL 35811

Timothy McKechnie (256) 851-7653

16-1-S3.02-8312 GRC

[Green Monopropellant Propulsion for Small Spacecrafts](#) [233]

- **Polestar Technologies, Inc.**

220-3 Reservoir Street

Needham Heights, MA 2494

Karen Carpenter (781) 449-2284

16-1-H3.01-7659 JPL

[Miniaturized Sensor Array Platform for Monitoring Calcium, Conductivity, and pH in Urine Brine](#) [234]

- **Powdermet, Inc.**

24112 Rockwell Drive

Euclid, OH 44117

Marilyn Rhoades (330) 671-1445

16-1-S3.09-7445 GSFC

[Microstructure Gradient-Z Composite for Additive Manufacture of Radiation Shielding](#) [235]

- **Precision Combustion, Inc.**

410 Sackett Point Road

North Haven, CT 6473

Amit Kumar (203) 287-3700

16-1-H8.02-8156 GRC

[Advanced Solid Oxide Cell Architecture and Materials for Durable, Regenerative Operation at Pressure](#) [236]

- **Precision Combustion, Inc.**

410 Sackett Point Road

North Haven, CT 6473

Amit Kumar (203) 287-3700

16-1-H4.02-8157 JSC

[Novel, Vacuum-Regenerable Trace Contaminant Control System for Advanced Spacesuit Applications](#) [237]

- **Prioria, Inc.**

606 Southeast Depot Avenue

Gainesville, FL 32601

Christopher Jacobs (352) 505-2188

16-1-A1.01-7107 LaRC

[Distributed Sensing, Computing, and Actuation Architecture for Aeroservoelastic Control](#) [238]

- **Protoinnovations,LLC**

5453 Albemarle Avenue

Pittsburgh, PA 15217

Dimitrios Apostolopo (412) 916-8807

16-1-H6.01-7882 JSC

[Retractable Robotic Anchor for Hard Rock and Granular Soils](#) [239]

- **Q-Peak, Inc.**

135 South Road

Bedford, MA 1730

David Green (978) 738-8146

16-1-S4.01-8277 JPL

[Ultra Compact Laser for 3D Imaging LIDAR](#) [240]

- **QmagiQ**

22 Cotton Road, Unit H, Suite 180

Nashua, NH 3063

Mani Sundaram (603) 821-3092

16-1-S1.03-8513 JPL

[Megapixel Longwave Infrared SLS FPAs for High Spatial Resolution Earth Observing Missions](#) [241]

- **Qualtech Systems, Inc.**

100 Corporate Place Suite 220

Rocky Hill, CT 6067

Marta Olenick (860) 761-9362

16-1-H6.04-8219 ARC

[Integrating ISHM with Flight Avionics Architectures for Cyber-Physical Space Systems](#) [242]

- **Qualtech Systems, Inc.**

100 Corporate Place Suite 220

Rocky Hill, CT 6067

Marta Olenick (860) 761-9362

16-1-S5.05-8214 ARC

[Standardization of Fault Management Techniques and Activities with TEAMS](#) [243]

- **Qualtech Systems, Inc.**

100 Corporate Place Suite 220

Rocky Hill, CT 6067

Marta Olenick (860) 761-9362

16-1-A1.06-8213 ARC

[Predictive Condition-Based Maintenance for Vertical Lift Vehicles](#) [244]

- **Quest Integrated, LLC**

19823 58th Place South, Suite 200

Kent, WA 98032

Vincent Fratello (480) 872-9500

16-1-H13.02-8093 LaRC

[Active Metamaterial Based Ultrasonic Guided Wave Transducer System](#) [245]

- **Quest Integrated, LLC**

19823 58th Place South, Suite 200

Kent, WA 98032

Vincent Fratello (253) 480-2027

16-1-H13.02-7477 LaRC

[Printed Ultra-High Temperature NDE Sensors for Complex Structures](#) [246]

- **QuickSilver Analytics, Inc.**

1371 Brass Mill Rd, Suite E

Belcamp, MD 21017

Rodney Hudson (410) 676-4300

16-1-H3.01-8576 JPL

[Innovative Microbial Surface Sampler](#) [247]

- **R Cubed Engineering, LLC**

4103 11th Street Court West, Unit #203

Palmetto, FL 34221

RaNae Contarino (202) 271-9698

16-1-A3.02-8235 ARC

[Avionic for Low Altitude High Density SUAS - Dynamic Configurable Dual ADS-B with Interrogation](#) [248]

- **Radiation Monitoring Devices, Inc.**

44 Hunt Street

Watertown, MA 2472

Mary Abud (617) 668-6809



16-1-S1.06-8099 JPL

[Radiation Tolerant Temperature-Invariant Scintillation Modules](#) [249]

- **Radiation Monitoring Devices, Inc.**

44 Hunt Street

Watertown, MA 2472

Carmen Danforth (617) 668-6846

16-1-S1.04-8232 GSFC

[Large-Area, Solid-State Photomultiplier for Ultraviolet Detection](#) [250]

- **Radiation Monitoring Devices, Inc.**

44 Hunt Street

Watertown, MA 2472

Jennifer Carey (617) 668-6811

16-1-S1.04-8039 GSFC

[High Efficiency Semiconductor Arrays for Hard X-Ray Imaging](#) [251]

- **RAM Photonics**

4901 Morena Boulevard, Suite 128

San Diego, CA 92117

John Marciante (585) 771-7311

16-1-H9.01-7254 JPL

[Low-Power-Consumption Integrated PPM Laser Transmitter](#) [252]

- **Reaction Systems, LLC**

17301 West Colfax Avenue, #160

Golden, CO 80401

Todd Leeson (303) 881-7992

16-1-H4.02-8142 JSC

[Advanced Supported Liquid Membranes for Ammonia and Formaldehyde Control in Spacesuits](#) [253]

- **Reactive Innovations, LLC**

2 Park Drive, Unit 4

Westford, MA 1886

Michael Kimble (978) 692-4664

16-1-H1.01-8380 JSC

[Micro-Channel Reactor for Processing Carbon Dioxide to Ethylene](#) [254]

- **Reactive Innovations, LLC**

2 Park Drive, Unit 4

Westford, MA 1886

Michael Kimble (978) 692-4664

16-1-S4.05-8480 JPL

[Vapor Hydrogen Peroxide Sterilization System for Contamination Control](#) [255]

- **Reactive Innovations, LLC**

2 Park Drive, Unit 4

Westford, MA 1886

Michael kimble (978) 692-4664

16-1-H2.02-7384 MSFC

[Electrolytic Method for Tungsten Coating of Uranium Oxide Spheres](#) [256]

- **Redondo Optics, Inc.**

811 North Catalina Avenue, Suite 1100

Redondo Beach, CA 90277

Edgar Mendoza (310) 292-7673

16-1-S4.01-7274 JPL

[Distributed Embedded Fiber Optic Sensor \(EFISense\) SHM System](#) [257]

- **Reflective X-ray Optics, LLC**

1361 Amsterdam Avenue, Suite 3B

New York, NY 10027

David Windt (347) 850-2212

16-1-S2.04-8306 GSFC

[Zero Net-Stress, Non-Distorting Iridium Coatings for Thin-Shell X-ray Telescope Mirrors](#) [258]

- **Research in Flight**

1919 North Ash Court

Auburn, AL 36830

Roy Hartfield (334) 444-8523

16-1-A1.05-7521 LaRC

[Robust Prediction of High Lift Using Surface Vorticity](#) [259]

- **Resonon, Inc.**

123 Commercial Drive

Bozeman, MT 59715

Michael Kehoe (406) 586-3356

16-1-S1.03-8518 JPL

[Lunar Spectral Irradiance Monitor](#) [260]

- **Robust Analytics**

2053 Liza Way

Gambrills, MD 21054

Peter Kostiuk (410) 980-3667

16-1-A3.03-7425 ARC

[Monitoring Real-Time NAS Safety with State-Dependent Risk Models](#) [261]

- **ROCCOR, LLC**

500 South Arthur, Unit 300

Louisville, CO 80027

Douglas Campbell (300) 200-0068

16-1-H5.01-7702 LaRC

[High Performance TRAC Boom for Solar Sails](#) [262]

- **ROCCOR, LLC**

500 South Arthur, Unit 300

Louisville, CO 80027

Doug Campbell (303) 200-0068

16-1-S3.07-7701 GSFC

[Lightweight Flexible Thermal Energy Management Panels for CubeSats](#) [263]

- **ROCCOR, LLC**

500 South Arthur, Unit 300

Louisville, CO 80027

Doug Campbell (303) 200-0068

16-1-Z4.01-7700 MSFC

[Bonding and Analysis of Composite TRAC Booms for NASA Science Missions](#) [264]

- **S&K Global Solutions, LLC**

145 South Lake Crest, Suite 2

Polson, MT 59860

Mike Monahan (406) 745-5725

16-1-H6.02-8297 ARC

[cFS-Based Autonomous Requirements Testing Tool](#) [265]

- **S&K Global Solutions, LLC**

145 South Lake Crest, Suite 2

Polson, MT 59860

Mike Monahan (406) 745-5725

16-1-S5.05-8295 ARC

[Fault Management Simulation and Visualization Tool](#) [266]

- **San Diego Composites, Inc.**

9220 Activity Road

San Diego, CA 92126

Robert Kolozs (858) 751-0450

16-1-H13.01-7712 LaRC

[Algorithms for Structural Dynamics Based Fiber Optic Strain Gage Health Monitoring](#) [267]

- **San Diego Composites, Inc.**

9220 Activity Road

San Diego, CA 92126

Robert Kolozs (858) 751-0450

16-1-H5.03-7546 LaRC

[Non-Invasive Environmental Sensing System for Lifecycle Management \(NIEL\)](#) [268]

- **Scientific, Inc.**

6700 Odyssey Drive, Suite 105

Huntsville, AL 35806

Gary Grant (256) 319-0858

16-1-S3.03-7534 GRC

[Development of Diamond Vacuum Differential Amplifier for Harsh Environment Power Electronics](#) [269]

- **Sensor Creations, Inc.**

6609 Santa Rosa Road

Camarillo, CA 93012

Stefan Lauxtermann (805) 479-4708

16-1-S1.03-7310 JPL

[Novel Read-Out Integrated Circuit with Individual Pixel Programmability for Astronomy Infrared Focal Plane Arrays](#) [270]

- **Sequoia Scientific, Inc.**

2700 Richards Road

Bellevue, WA 98005

Maria Rotar (425) 641-0944

16-1-S1.08-7139 ARC

[Investigating an Instrument for Measurement of Hyperspectral Backscattering in Natural Waters](#) [271]

- **Serionix**

60 Hazelwood Drive

Champaign, IL 61820

James Langer (651) 503-3930

16-1-H4.02-7354 JSC

[Fiber-Based Adsorbents Tailored for PLSS Ammonia and Formaldehyde Removal](#) [272]

- **Sienna Technologies, Inc.**

19501 144th Avenue North East, Suite F-500

Woodinville, WA 98072

Karen Valdastris (425) 485-7272

16-1-H2.03-7641 GRC

[Long Life Cathode Heaters for Hollow Cathodes](#) [273]

- **Silicon Technologies, Inc.**

4568 South Highland Drive, Suite 300

Holladay, UT 84117

Thomas Wolf (801) 913-4332

16-1-H4.03-7597 JSC

[Speaker Driver and Wireless Transceiver ASIC](#) [274]

- **Sivananthan Laboratories, Inc.**

590 Territorial Drive, Unit H

Bolingbrook, IL 60440

Christoph Grein (630) 226-0086

16-1-S1.03-7414 JPL

[Hydrogenation of Very Long Wavelength Infrared Focal Plane Arrays Based on Type II Superlattices](#) [275]

- **Space Micro, Inc.**

10237 Flanders Court

San Diego, CA 92121

David Strobel (858) 332-0700

16-1-S1.03-7356 JPL

[Compact, Low Power, Readout Electronics for KID Arrays](#) [276]

- **Space Propulsion Group, Inc.**

1007 South Claremont Street

San Mateo, CA 94402

Arif Karabeyoglu (650) 799-1409

16-1-S4.03-7862 JPL

[Ignition Systems for Long-Term Storage and Multi-Start Capability](#) [277]

- **Special Aerospace Services**

3005 30th Street

Boulder, CO 80301

Heather Bulk (303) 625-1010

16-1-H10.01-7772 KSC

[Improved Test and Launch Operations](#) [278]

- **Spectral Energies, LLC**

5100 Springfield Street, Suite 301

Dayton, OH 45431

Sukesh Roy (937) 902-6546

16-1-A1.02-7604 GRC

[Advanced Analytical Tools for the Characterization of Fundamental Jet Noise Sources and Structures](#) [279]

- **Spectral Energies, LLC**

5100 Springfield Street, Suite 301

Dayton, OH 45431

Sivaram Gogineni (937) 266-9570

16-1-A1.08-8296 LaRC

[High-Repetition-Rate Interferometric Rayleigh Scattering for Velocity, Density, and Temperature Meas](#) [280]

- **Spectral Energies, LLC**

5100 Springfield Street, Suite 301

Dayton, OH 45431

Sukesh Roy (937) 902-6546

16-1-A1.04-7639 LaRC

[Flow Control on a High Lift Airfoil Using High-Bandwidth Microactuators](#) [281]

- **STAR Cryoelectronics, LLC**

25-A Bisbee Court

Santa Fe, NM 87508

Robin Cantor (505) 424-6454

16-1-H9.01-8402 JPL

[Superconducting Magnesium Diboride Thin Films for Ground Receiver Detectors](#) [282]

- **STAR Cryoelectronics, LLC**

25-A Bisbee Court

Santa Fe, NM 87508

Robin Cantor (505) 424-6454

16-1-S1.03-7569 JPL

[High-Temperature Superconducting Thin Films for IR Detectors](#) [283]

- **Stellarray, Inc.**

9210 Cameron Road, Suite 300

Austin, TX 78754

Mark Eaton (512) 997-7781

16-1-H12.03-8207 GRC

[Multi-Purpose X-ray System](#) [284]

- **Stottler Henke Associates, Inc.**

1650 South Amphlett Boulevard, Suite 300



San Mateo, CA 94402

Nate Henke (650) 931-2700

16-1-A2.02-8094 AFRC

[Smart COordination of UAV Teams \(SCOUT\)](#) [285]

- **Stottler Henke Associates, Inc.**

1650 South Amphlett Boulevard, Suite 300

San Mateo, CA 94402

Nate Henke (650) 931-2700

16-1-H6.04-8395 ARC

[Multiple Failure Response Procedure System](#) [286]

- **Stottler Henke Associates, Inc.**

1650 South Amphlett Boulevard, Suite 300

San Mateo, CA 94402

Nate Henke (650) 931-2700

16-1-H6.03-8394 ARC

[An Intelligent Consumables Management System Development Framework based on Artificial Intelligence Techniques](#) [287]

- **Stottler Henke Associates, Inc.**

1650 South Amphlett Boulevard, Suite 300

San Mateo, CA 94402

Nate Henke (650) 931-2700

16-1-S5.04-8391 JPL

[Model Annotations and Tools for Teamwork, Execution, and Reuse \(MATTER\)](#) [288]

- **Superconducting Systems, Inc.**

900 Middlesex Turnpike

Billerica, MA 1821

Shahin Pourrahimi (978) 935-2805

16-1-S1.09-7386 GSFC

[Low Loss Superconducting Magnets Operating at 15 - 40 K](#) [289]

- **Supercool Metals, LLC**

140 Ardmore Street

Hamden, CT 6517

Miriam Schroers (203) 747-0945

16-1-Z3.01-7643 MSFC

[Net Shaping of Multifunctional Bulk Metallic Glass Containers and Structures](#) [290]

- **Swift Engineering, Inc.**

1141 Via Callejon

San Clemente, CA 92673

Jonathan Faiella (949) 492-6608

16-1-S3.04-7968 GSFC

[UAS Flight Planning Tool for Atmospheric Energy Extraction](#) [291]

- **Swift Engineering, Inc.**

1141 Via Callejon

San Clemente, CA 92673

Jonathan Faiella (949) 492-6608

16-1-S3.04-7657 GSFC

[Swift Ultra Long Endurance \(SULE\) Unmanned Air Vehicle \(UAV\)](#) [292]

- **Systems Technology, Inc.**

13766 Hawthorne Boulevard

Hawthorne, CA 90250

Suzie Fosmore (310) 679-2281

16-1-Z5.01-8101 JSC

[The Station Manipulator Arm Augmented Reality Trainer](#) [293]

- **Systems Technology, Inc.**

13766 Hawthorne Boulevard

Hawthorne, CA 90250

Suzie Fosmore (310) 679-2281

16-1-A1.05-8105 LaRC

[Defining Handling Qualities of Unmanned Aerial Systems](#) [294]

- **Systema Technologies, Inc.**

10809 120th Avenue Northeast

Kirkland, WA 98033

Taylor Banks (425) 487-4020

16-1-S3.02-7519 GRC

[Non-Catalytic Thruster for High Performance Advanced Monopropellant](#) [295]

- **TDA Research, Inc.**

12345 West 52nd Avenue

Wheat Ridge, CO 80033

John Wright (303) 940-2300

16-1-H7.01-7929 ARC

[High Char Flexible Polymers](#) [296]

- **TDA Research, Inc.**

12345 West 52nd Avenue

Wheat Ridge, CO 80033

John Wright (303) 940-2300

16-1-H4.02-8047 JSC

[Advanced TCCS for Spacesuit Applications](#) [297]

- **TDA Research, Inc.**

12345 West 52nd Avenue

Wheat Ridge, CO 80033

John Wright (303) 940-2300

16-1-H1.01-8046 JSC

[Polyethylene Production from In-Situ Resources in Microchannel Reactors](#) [298]

- **Techshot, Inc.**

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

16-1-H14.01-7565 JSC

[Sintered Inductive Metal Printer with Laser Exposure](#) [299]

- **Tendeg, LLC**

686 South Taylor Avenue, Suite 108

Louisville, CO 80027

Gregg Freebury (303) 929-4466

16-1-S2.01-7911 JPL

[Robust Optical Edge for a Starshade Petal](#) [300]

- **Tendeg, LLC**

686 South Taylor Avenue, Suite 108

Louisville, CO 80027

Gregg Freebury (303) 929-4466

16-1-S2.02-7091 JPL

[Solar Array for a Starshade Inner Disk](#) [301]

- **Tendeg, LLC**

686 South Taylor Avenue, Suite 108

Louisville, CO 80027

Gregg Freebury (303) 929-4466

16-1-S2.02-8088 JPL

[Optical Shield for a Starshade Petal](#) [302]

- **Tendeg, LLC**

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686 South Taylor Avenue, Suite 108

Louisville, CO 80027

Gregg Freebury (303) 929-4466

16-1-S1.02-7322 JPL

[High Frequency Reflective Mesh for Small Aperture Antennas](#) [303]

- **Tethers Unlimited, Inc.**

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

16-1-H14.01-8013 JSC

[ERASMUS: Food Contact Safe Plastics Recycler and 3D Printer System](#) [304]

- **Tethers Unlimited, Inc.**

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

16-1-S3.09-8009 GSFC

[3D Printed Composite-Z and Graded-Z Radiation Shields \(CoGZ-Rad\)](#) [305]

- **Tethers Unlimited, Inc.**

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

16-1-H9.02-7583 GRC

[OpenSWIFT-SDR for STRS](#) [306]

- **Tethers Unlimited, Inc.**

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

16-1-H6.01-7743 JSC

[Modular Advanced Networked Telerobotic Interface System \(MANTIS\)](#) [307]

- **Tetra Research Corporation**

420 Park Avenue West

Princeton, IL 61356

Rex Chamberlain (815) 872-0702

16-1-H10.02-7667 SSC

[Robust Cryogenic Cavitation Modeling for Propulsion Systems Ground Test Facilities](#) [308]

- **TGV Rockets, Inc.**

2519 Benning Road Northeast

Washington, DC 20002

Chuck Burch (571) 426-3290

16-1-H2.01-8108 GRC

[Ultrasonic Additive Manufacturing for High Performance Combustion Chambers](#) [309]

- **The Innovation Laboratory, Inc.**

2360 Southwest Chelmsford Avenue

Portland, OR 97201

Michelle Camarda (503) 242-1761

16-1-A3.01-7346 ARC

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- **The Innovation Laboratory, Inc.**

2360 Southwest Chelmsford Avenue

Portland, OR 97201

Michelle Camarda (503) 242-1761

16-1-A3.02-7738 ARC

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- **The Peregrine Falcon Corporation**

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1051 Serpentine Lane, Suite 100

Pleasanton, CA 94566

Robert Hardesty (925) 461-6800

16-1-S2.04-7737 GSFC

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- **The Peregrine Falcon Corporation**

1051 Serpentine Lane, Suite 100

Pleasanton, CA 94566

Robert Hardesty (925) 461-6800

16-1-H8.01-7759 GRC

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- **The Peregrine Falcon Corporation**

1051 Serpentine Lane, Suite 100

Pleasanton, CA 94566

Robert Hardesty (925) 461-6800

16-1-H8.01-7742 GRC

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- **Thermosolv, LLC**

3474 North 3rd Street

Laramie, WY 82072

Vijay Sethi (307) 721-2376

16-1-Z1.01-7407 GSFC

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- **Thin Red Line USA, dba of MKF Interests, LLC**

1322 Space Park Drive, Suite B150

Houston, TX 77058

Gary Lantz (281) 910-5257

16-1-S3.06-7551 GSFC

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- **Tietronix Software, Inc.**

1331 Gemini Avenue, Suite 300

Houston, TX 77058

Victor Tang (281) 404-7222

16-1-H12.03-7975 GRC

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- **Touchstone Research Laboratory, Ltd.**

The Millennium Centre, 1142 Middle Creek Road

Triadelphia, WV 26059

Brian Joseph (304) 547-5800

16-1-Z3.01-7393 MSFC

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- **TRAC Labs, Inc.**

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

16-1-H6.03-7501 ARC

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- **TRAC Labs, Inc.**

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

16-1-A2.01-7500 AFRC

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- **TRAC Labs, Inc.**

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

16-1-Z5.01-7920 JSC

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- **Transition45 Technologies, Inc.**

1739 North Case Street

Orange, CA 92865

Edward Chen (714) 283-2118

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- **Triton Systems, Inc.**

200 Turnpike Road

Chelmsford, MA 1824

Collette Jolliffe (978) 856-4158

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- **Tyvak Nano-Satellite System Inc**

15265 Alton Parkway, Suite 200

Irvine, CA 92618

Austin Williams (480) 227-1113

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- **Tyvak Nano-Satellite System Inc**

15265 Alton Parkway, Suite 200

Irvine, CA 92618

Austin Williams (480) 227-1113

16-1-S3.05-7455 GSFC

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- **Ultra Safe Nuclear Corporation**

186 Piedra Loop

Los Alamos, NM 87544

Paolo Venneri (858) 342-4837

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- **Valley Tech Systems, Inc.**

160 Blue Ravine Road, Suite B

Folsom, CA 95630

Joseph Viola (916) 760-3603

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- **Ventions, LLC**

1142 Howard Street

San Francisco, CA 94103

Amit Mehra (202) 213-2846

16-1-S4.03-8343 JPL

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- **Victor Technologies, LLC**

P.O. Box 7706

Bloomington, IN 47407

Harold Sabbagh (812) 360-3645

16-1-H13.01-8500 LaRC

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- **Virginia Diodes, Inc.**

979 Second Street, Southeast

Charlottesville, VA 22902

Thomas Crowe (434) 297-3257

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- **VorCat, Inc.**

22828 Styles Street

Woodland H, MD 91367

Jacob Krispin (240) 498-6150

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- **Voxel, Inc.**

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

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- **Voxel, Inc.**

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

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- **White Light Power, Inc.**

149 Cuesta Drive

Los Altos, CA 94022

Eve Cohen (650) 492-0657

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- **Windhover Labs**

2115 Castle Drive

League City, TX 77573

Mathew Benson (832) 640-4018

16-1-A2.02-7076 AFRC

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- **Wizbe Innovations, LLC**

167 Kerns Hill Road

Manchester, ME 4351

Stan Farrell (207) 485-5690

16-1-S3.04-7731 GSFC

[Airfoil Controlled Glide and Directional Control](#) [336]

- **WxOps, Inc.**

500 Ala Moana Blvd Suite 400

Honolulu, HI 96813

Scott Shipley (571) 309-6024

16-1-A3.03-7315 ARC

[Integration of 4D Airline Operation Control Systems into NextGen and the NAS](#) [337]

- **X-wave Innovations, Inc.**

407 Upshire Circle

Gaithersburg, MD 20878

Dan Xiang (301) 948-8351

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- **X-wave Innovations, Inc.**

407 Upshire Circle

Gaithersburg, MD 20878

Dan Xiang (301) 948-8351

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- **XL Scientific, LLC**

6100 Uptown Boulevard Northeast, Suite 260

Albuquerque, NM 87110

Susan Haverland (505) 244-8502

16-1-H11.01-7730 LaRC

[Process and Tool Innovation for CAD Integration with OLTARIS](#) [340]

- **ZONA Technology, Inc.**

9489 East Ironwood Square Drive

Scottsdale, AZ 85258

Jennifer Scherr (480) 945-9988

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