



Proposals Selected for Negotiation of Contracts

Expand All

- **A1 Aviation Safety (12)**

Aptima, Inc.

12 Gill Street, Suite 1400

Woburn, MA 01801

Gino Cascieri (781) 496-2462

11-1-A1.17-8942 ARC

[Causal Models for Safety Assurance Technologies](#) [1]

Area-I, Inc.

1590 North Roberts Road, Suite 203

Kennesaw, GA 30144

Nicholas Alley (678) 594-5227

11-1-A1.15-9362 LaRC

[Design of Prototype-Technology Evaluator and Research Aircraft \(PTERA\) Configuration for Loss of Control Flight Research](#) [2]

Aries Design Automation, LLC

2705 West Byron Street

Chicago, IL 60618

Miroslav Velez (773) 856-6633

11-1-A1.20-8922 ARC

[Scalable Parallel Algorithms for Formal Verification of Software](#) [3]

Artium Technologies

150 Iowa Street, Suite 101

Sunnyvale, CA 94086

William Bachalo (408) 737-2364

11-1-A1.02-9514 GRC

[Mixed-Phase Ice Crystal and Droplet Characterization and Thermometry](#) [4]

Aurora Flight Sciences Corporation

9950 Wakeman Drive

Manassas, VA 20110

Scott Hart (617) 500-4892

11-1-A1.18-8869 ARC

[Self-Aware Aerospace Vehicle Contingency Management](#) [5]

Barron Associates, Inc.

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

11-1-A1.13-8936 LaRC

[An Automated Energy Management and Crew Alerting System for Upset Prevention](#) [6]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Larry Johns (703) 471-7671

11-1-A1.01-9717 LaRC

[Multi-function Fiber Laser Kinetic Aviation Hazard Sensor](#) [7]

Hidden Solutions, LLC

8860 Parliament Court,

Kissimmee, FL 34747

James Hall (904) 335-8634

11-1-A1.05-8130 LaRC

[Multi-Path Guided Wave Imaging for Inspection and Monitoring of Large, Complex Structures](#) [8]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 400

Rockville, MD 20855

Mark James (301) 294-5221

11-1-A1.08-8557 LaRC

[Non-intrusive Hazardous Pilot Cognitive State Assessment via Semi-Supervised Deep Learning: CSA-Deep](#) [9]

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Lisa Lawson (540) 626-6266

11-1-A1.02-8954 GRC

[HybridSil Icephobic Nanocomposites for Next Generation Aircraft In-Flight Icing Measurement and Mitigation](#) [10]

Odyssey Research Associates, Inc.

33 Thornwood Drive Suite 500

Ithaca, NY 14850

Richard Smith (607) 257-1975

11-1-A1.20-9873 ARC

[Emile: The EventML Explorer](#) [11]

Q-Peak, Inc.

135 South Road

Bedford, MA 01730

B. David Green (978) 783-8105

11-1-A1.01-8718 LaRC

[Low-Cost Lidar for Wake-Vortex and Other Hazard Detection](#) [12]

• **A2 Fundamental Aeronautics (26)**

A&P Technology

4595 East Tech Drive

Cincinnati, OH 45245

Lindsay Miller (513) 688-3223

11-1-A2.09-8194 ARC

[Braided Composite Technologies for Rotorcraft Structures](#) [13]

Arcast Inc.

264 Main Street

Oxford, ME 04270

Sasha Long (207) 539-9638

11-1-A2.01-9619 GRC

[Alloying and Casting Furnace for Shape Memory Alloys](#) [14]

Artium Technologies

150 Iowa Street, Suite 101

Sunnyvale, CA 94086

William Bachalo (408) 737-2364

11-1-A2.02-9036 LaRC

[Ultra-Sensitive Instrument for Gas Turbine Black Carbon Emissions Measurements](#) [15]

ATA Engineering, Inc.

11995 El Camino Real

San Diego, CA 92130

Ronan Cunningham (858) 480-2000

11-1-A2.03-9148 LaRC

[Deployable Engine Air-Brake for Drag Management Applications](#) [16]

Bodkin Design & Engineering

77 Oak Street, Suite 201

Newton, MA 02464

James Daly (617) 795-1968

11-1-A2.06-8030 LaRC

[Precision Surface Temperature Mapping for Heat Shield Testing](#) [17]

CFD Research Corporation

215 Wynn Drive, 5th Floor

Huntsville, AL 35805

Silvia Harvey (256) 726-4858

11-1-A2.06-9878 LaRC

[Electron Kinetics in Hypersonic Plasmas](#) [18]

CFD Research Corporation

215 Wynn Drive, 5th Floor

Huntsville, AL 35805

Silvia Harvey (256) 726-4858

11-1-A2.02-9783 LaRC

[Eulerian Transported PDF Framework for Scramjet Flowpath Analysis](#) [19]

CFD Research Corporation

215 Wynn Drive, 5th Floor

Huntsville, AL 35805

Silvia Harvey (256) 726-4858

11-1-A2.04-9682 AFRC

[Nonlinear AeroServoElastic Reduced Order Model for Active Structural Control](#) [20]

Continuum Dynamics, Inc.

34 Lexington Avenue

Ewing, NJ 08618

Barbara Agans (609) 538-0444

11-1-A2.09-9092 ARC

[Large Civil Tiltrotor Wake Hazard Assessment Tool](#) [21]

Cornerstone Research Group, Inc.

2750 Indian Ripple Road

Dayton, OH 45440

Stephen Vining (937) 320-1877

11-1-A2.09-9744 ARC

[Tunable Interior Rotorcraft Noise Control](#) [22]

Create, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

11-1-A2.01-9150 GRC

[A Turbo-Brayton Cryocooler for Aircraft Superconducting Systems](#) [23]

CRM Solutions, Inc.

4092 Memorial Pkwy SW, Suite 200

Huntsville, AL 35802

LES HALL (256) 885-1577

11-1-A2.05-8412 LaRC

[Mesh Adaptation and Shape Optimization on Unstructured Meshes](#) [24]

Direct Vapor Technologies International, Inc.

2 Boars Head Lane

Charlottesville, VA 22903

Matthew Terry (434) 977-1405

11-1-A2.01-8436 GRC

[Innovative Processing Methods for the Affordable Manufacture of Multifunctional High Temperature Coatings](#) [25]

Gloyer-Taylor Laboratories LLC

2212 Harton Boulevard

Tullahoma, TN 37388

Paul Gloyer (931) 581-6134

11-1-A2.02-9426 LaRC

[Nonlinear Data Analysis Tool for Scramjets and Other Engines](#) [26]

Innovative Scientific Solutions, Inc.

2766 Indian Ripple Road

Dayton, OH 45440

Larry Goss (937) 429-4980

11-1-A2.10-8521 GRC

[Skin Friction and Pressure Measurements in Supersonic Inlets](#) [27]

Innovative Scientific Solutions, Inc.

2766 Indian Ripple Road

Dayton, OH 45440

Larry Goss (937) 429-4980

11-1-A2.09-8454 ARC

[Fast Responding Pressure-Sensitive Paint for Large-Scale Wind Tunnel Testing](#) [28]

Innovative Technology Applications Co.

P.O. Box 6971

Chesterfield, MO 63006

Alan Cain (314) 373-3311

11-1-A2.10-8337 GRC

[Extension of the Eddy Dissipation Concept for Improved Low-Cost Turbulence-Chemistry Interaction Modeling](#) [29]

International Electronic Machines Corporation (IEM)

850 River Street

Troy, NY 12180

Robert Foss (518) 268-1636

11-1-A2.09-9874 ARC

[Adaptive Rotorcraft Condition and Usage Tracking System \(ARCUTS\)](#) [30]

KAI, Inc.

6402 Needham Lane

Austin, TX 78739

Penelope Koo (512) 301-4170

11-1-A2.01-9525 GRC

[Functionally Graded Polyimide Nanocomposite Foams for Ablative and Inflatable/Flexible/Deplorable Structures](#) [31]

MATECH

31304 Via Colinas, Suite 102

Westlake Village, CA 91362

Edward Pope (818) 991-8500

11-1-A2.01-9669 JPL

[Advanced High Temperature Structural Honeycomb TPS](#) [32]

Nanomatronix, LLC

700 Research Center Boulevard

Fayetteville, AR 72701

Matthew Leftwich (479) 215-9438

11-1-A2.01-8229 GRC

[Development of a Novel, Reactive Extrusion Process for Continuous Production of Long, Pure Carbon Nanotubes for Application in Lightweight Composite Materials](#) [33]

Sukra Helitek Inc.

3146 Greenwood Road

Ames, IA 50014

R Ganesh Rajagopalan (515) 292-9646

11-1-A2.09-8607 ARC

[An Aero-Acoustic Tool for Terminal Area Operations](#) [34]

Systems Technology, Inc.

13766 Hawthorne Boulevard

Hawthorne, CA 90250

Suzie Fosmore (310) 679-2281

11-1-A2.04-8418 LaRC

[Reduced Order Aeroservoelastic Models with Rigid Body Modes](#) [35]

Tech-X Corporation

5621 Arapahoe Avenue, Suite A

Boulder, CO 80303

Leslie Rosczyk (720) 974-1855

11-1-A2.05-9240 LaRC

[Shock Wave Boundary Layer Interaction Control Using Pulsed DBD Plasma Actuators](#) [36]

ZONA Technology, Inc.

9489 East Ironwood Square Drive

Scottsdale, AZ 85258

Jennifer Scherr (480) 945-9988

11-1-A2.07-9795 ARC

[Predictive Gust Load Alleviation Control Using Leading Edge Stagnation Point Sensor](#) [37]

ZONA Technology, Inc.

9489 East Ironwood Square Drive

Scottsdale, AZ 85258

Jennifer Scherr (480) 945-9988

11-1-A2.08-9794 LaRC

[ModelCenter-Integrated Reduced Order Multi-fidelity Optimization Scheme for NASA MDAO Framework](#) [38]

• **A3 Airspace Systems (8)**

Masstech, Inc.

6992 Columbia Gateway Drive, Suite 200

Columbia, MD 21046

Richard Lee (443) 539-1742

11-1-A3.02-9484 LaRC

[Raman Lidar Temperature Profiler](#) [39]

Mosaic ATM, Inc.

801 Sycolin Road, Suite 306

Leesburg, VA 20175

Chris Stevenson (540) 454-7458

11-1-A3.01-9499 LaRC

[Metroplex Coordinated Runway Scheduling](#) [40]

Munro and Associates, Inc.

1749 Northwood

Troy, MI 48084

Joe Feord (248) 362-5110

11-1-A3.01-8478 LaRC

[An ADS-B derived ATC linked ER System for NextGen Safety](#) [41]

NextGen AeroSciences, LLC

205 Skimino Landing Drive

Williamsburg, VA 23188

Bruce Holmes (757) 207-0966

11-1-A3.01-9899 LaRC

[A Method for Assessing Airspace Efficiency in Super Density Operations Using an Airspace Phase State Approach](#) [42]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

Victor Cheng (650) 559-8585

11-1-A3.01-8393 ARC

[Safety Enhancement Technologies for Airport Ramp Area Operations](#) [43]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

Victor Cheng (650) 559-8585

11-1-A3.02-8221 ARC

[Networked Communications and Speech System for Airspace System Assessments](#) [44]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

P. K. Menon (650) 559-8585

11-1-A3.01-8042 ARC

[A Risk-Hedged Approach to Traffic Flow Management under Atmospheric Uncertainties](#) [45]

The Innovation Laboratory, Inc.

2360 Southwest Chelmsford Avenue

Portland, OR 97201

Michelle Camarda (503) 242-1761

11-1-A3.01-9069 ARC

[Derived Weather State Information via ADS-B](#) [46]

- **A4 Aeronautics Test Technologies (5)**

- **Area-I, Inc.**

- 1590 North Roberts Road, Suite 203

- Kennesaw, GA 30144

- Nicholas Alley (678) 594-5227

- 11-1-A4.02-9670 AFRC

- [Prototype-Technology Evaluator and Research Aircraft \(PTERA\) Flight Test Assessment](#) [47]

- **EM Photonics, Inc.**

- 51 East Main Street, Suite 203

- Newark, DE 19711

- Eric Kelmelis (302) 456-9003

- 11-1-A4.02-8060 AFRC

- [Advanced Long-Range Video Capabilities Using Speckle Imaging Techniques](#) [48]

- **Greene R&D International, Inc.**

- 16990 Frank Avenue

- Los Gatos, CA 95032

- Rosemary Greene (408) 356-7775

- 11-1-A4.01-8230 GRC

- [Aero-acoustic Measurement and Monitoring of Dynamic Pressure Fields](#) [49]

- **Innovative Scientific Solutions, Inc.**

- 2766 Indian Ripple Road

- Dayton, OH 45440

- Larry Goss (937) 429-4980

- 11-1-A4.01-8032 GRC

- [Simultaneous Skin Friction and Pressure Sensitive Paint](#) [50]

- **Michigan Aerospace Corporation**

1777 Highland Drive, Suite B

Ann Arbor, MI 48108

John Dodds (734) 975-8777

11-1-A4.01-8847 GRC

[Optical Mach Probe](#) [51]

- **A5 Integrated System Research Project (ISRP) (4)**

- **Intelligent Automation, Inc.**

- 15400 Calhoun Drive, Suite 400

- Rockville, MD 20855

- Mark James (301) 294-5221

- 11-1-A5.01-8555 AFRC

- [UAS Demand Generation and Airspace Performance Impact Prediction](#) [52]

- **Mosaic ATM, Inc.**

- 801 Sycolin Road, Suite 306

- Leesburg, VA 20175

- Chris Stevenson (540) 454-7458

- 11-1-A5.01-9500 AFRC

- [Rapid Automated Mission Planning System](#) [53]

- **Numerica Corporation**

- 4850 Hahns Peak Drive, Suite 200

- Loveland, CO 80538

- Jeff Poore (970) 461-2000

- 11-1-A5.01-8803 ARC

- [Real-time Estimation of UAS Performance Using Efficient Sampling of Functional Models](#) [54]

- **Sandia Research Corporation**

- 5810 South Sossaman Road, Suite 108

- Mesa, AZ 85212

- Kimberly McGrane (480) 988-1000

11-1-A5.01-9417 ARC

[A UAS-ATC Simulation Test-Bed](#) [55]

- **O1 Space Communications (11)**

- **Auriga Measurement Systems (Auriga Microwave)**

- 650 Suffolk Street

- Lowell, MA 01854

- Moosa (978) 441-1117

- 11-1-O1.05-9434 JPL

- [High-power X- and Ka-band Gallium Nitride Amplifiers with Exceptional Efficiency](#) [56]

- **CommLargo, Inc.**

- 8316 36th Avenue North

- Saint Petersburg, FL 33710

- Tracy Stephens (727) 346-9668

- 11-1-O1.06-9056 GRC

- [Scintillation-Hardened GPS](#) [57]

- **Emergent Space Technologies, Inc.**

- 6411 Ivy Lane, Suite 303

- Greenbelt, MD 20770

- Erin Bull (301) 345-1535

- 11-1-O1.06-9631 GRC

- [Radio Navigation Waveform Experiment](#) [58]

- **Fibertek, Inc.**

- 13605 Dulles Technology Drive

- Herndon, VA 20171

- Larry Johns (703) 471-7671

- 11-1-O1.04-9718 JPL

- [Downlink Fiber Laser Transmitter for Deep Space Communication](#) [59]

Gener8 Incorporated

535 Del Rey Avenue

Sunnyvale, CA 94085

William Bischel (650) 940-9898

11-1-O1.03-8392 GRC

[Quantum Communications Transmitter at 775 nm](#) [60]

Maryland Aerospace, Inc.

2138 Priest Bridge Court, Suite 3

Crofton, MD 21114

Steve Fujikawa (410) 451-2505

11-1-O1.03-9552 GRC

[Plug-and-Play Compatibility for CubeSat Attitude Determination and Control Systems](#) [61]

Nitronex Corporation

2305 Presidential Drive

Durham, NC 27703

Richie Richards (919) 424-5182

11-1-O1.05-9304 JPL

[X-Band GaN Power Amplifiers for Long Range Space RF Telecommunications](#) [62]

Pacific Microchip Corporation

3916 Sepulveda Boulevard #108

Culver City, CA 90230

Dalius Baranauskas (310) 683-2628

11-1-O1.02-8652 GRC

[Reconfigurable/Reprogrammable Communications Systems](#) [63]

RAM Photonics

4901 Morena Boulevard, Suite 128

San Diego, CA 92117

John Marciante (585) 771-7311

11-1-O1.04-8043 JPL

[High-Efficiency Data-Rate-Scalable Laser Transmitter for Interplanetary Optical Communications](#) [64]

Ridgetop Group, Inc.

3580 West Ina Road

Tucson, AZ 85741

Milena Thompson (520) 742-3300

11-1-O1.02-9553 GRC

[High Performance ADC for Reconfigurable/Reprogrammable Communication Systems](#) [65]

Space Micro, Inc.

10237 Flanders Court

San Diego, CA 92121

David Strobel (858) 332-0700

11-1-O1.06-9050 GRC

[Agile cognitive space radio demo on ISS](#) [66]

• **O2 Space Transportation (9)**

Combustion Research and Flow Technology

6210 Keller's Church Road

Pipersville, PA 18947

Katherine Young (215) 766-1520

11-1-O2.05-9843 SSC

[Propulsion Test Support Analysis with GPU Computing](#) [67]

Composite Technology Development, Inc.

2600 Campus Drive, Suite D

Lafayette, CO 80026

Lori Bass (303) 664-0394

11-1-O2.04-8904 MSFC

[Microcrack Resistant Matrix Materials for Out-of-Autoclave Processing of Composite Cryogenic Tanks](#) [68]

Firestar Engineering, LLC

1122 Flightline Street, #76

Mojave, CA 93501

Greg Peters (661) 860-1088

11-1-O2.02-8647 AFRC

[Low Energy Electronic Ignition System for NOFBX Thrusters](#) [69]

Garvey Spacecraft Corporation

389 Haines Avenue

Long Beach, CA 90814

John Garvey (562) 498-2984

11-1-O2.01-8344 KSC

[Alternative Hydrocarbon Propulsion for Nano / Micro Launch Vehicle](#) [70]

Interorbital Systems

1394 Barnes Street, Building #7

Mojave, CA 93501

Randa Milliron (661) 965-0771

11-1-O2.01-9812 KSC

[Neptune modular rockets for breakthrough low-cost space access](#) [71]

KT Engineering Corporation

238 Business Park Boulevard, Building 23B Suite J

Madison, AL 35758

Dave Sisk (256) 461-8522

11-1-O2.03-8067 KSC

[Low Cost, High Efficiency, Pressurization System for Responsive Launch Operations](#) [72]

NEI Corporation

201 Circle Drive North, Suite 102/103

Piscataway, NJ 08873

Ganesh Skandan (732) 868-3141

11-1-O2.04-8793 MSFC

[Self-healing Nanocomposites for Reusable Composite Cryotanks](#) [73]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

11-1-O2.02-8895 MSFC

[Integrated Ceramic Matrix Composite and Carbon/Carbon Structures for Large Rocket Engine Nozzles and Nozzle Extensions](#) [74]

Ventions, LLC

1142 Howard Street

San Francisco, CA 94103

Amit Mehra (202) 213-2846

11-1-O2.01-9712 KSC

[A High-Payload Fraction, Pump-Fed, 2-Stage Nano Launch Vehicle](#) [75]

• **O3 Processing and Operations (11)**

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

11-1-O3.03-8466 JSC

[Cost-Effective ISS Space-Environment Technology Validation of Advanced Roll-Out Solar Array \(ROSA\)](#) [76]

Genova Engineering, LLC.

3430 Otis Street

Wheat Ridge, CO 80033

Jon Genova (303) 883-1473

11-1-O3.02-9885 JSC

[On-Orbit DNA, RNA, and Protein Extraction](#) [77]

Giner, Inc.

89 Rumford Avenue

Newton, MA 02466

Anthony Vaccaro (781) 529-0504

11-1-O3.03-9856 JSC

[Dead-Ended Passive Electrolyzer with Elimination of Vapor/Liquid Separation for Life Support Oxygen](#) [78]

International Scientific Technologies, Inc.

P.O. Box 757

Dublin, VA 24084

Wanda Gibson (540) 633-1424

11-1-O3.04-8031 SSC

[Polyoxometalate and Zirconium-Phosphate Conversion Coating for Steel Piping](#) [79]

Made in Space, Inc.

427 North Tatnall Street, #56666

Wilmington, DE 19801

Aaron Kemmer (727) 403-9763

11-1-O3.02-9753 JSC

[ISS Additive Manufacturing Facility for On-Demand Fabrication in Space](#) [80]

Mainstream Engineering Corporation

200 Yellow Place

Rockledge, FL 32955

Michael Rizzo (321) 631-3550

11-1-O3.06-8148 ARC

[Demonstration of a Thermally-Controlled Shipping Container for NanoRack and CubeSat Payloads](#) [81]

Microsonics Systems, Inc.

76 Bonaventura Drive

San Jose, CA 95134

Daniel Holley (408) 499-3149

11-1-O3.02-8295 JSC

[Robotic, MEMS-based Multi Utility Sample Preparation Instrument for ISS Biological Workstation](#) [82]

Signal Processing, Inc.

13619 Valley Oak Circle

Rockville, MD 20850

Chiman Kwan (240) 505-2641

11-1-O3.04-9765 KSC

[Unpowered Wireless Ultrasound Generation and Sensing for Structural Health Monitoring of Composites](#) [83]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

11-1-O3.02-9621 JSC

[Remotely Controlled Mixers for LMM Colloid Samples](#) [84]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

11-1-O3.01-8173 ARC

[Stereo Vision for SPHERES-based Navigation and Monitoring](#) [85]

X-wave Innovations

407 Upshire Circle

Gaithersburg, MD 20878

Jennifer Duan (301) 948-8351

11-1-O3.04-8261 KSC

[A Portable, Linear-Array Ultrasonic Imaging System for Rapid Inspection of Large-Area Composite Structures](#) [86]

• **O4 Navigation (6)**

Analytical Mechanics Associates, Inc.

303 Butler Farm Road, Suite 104A

Hampton, VA 23666

Kathleen Drummond (757) 865-0000

11-1-O4.03-8534 GRC

[Parallelization of Sigma Point and Particle Filters](#) [87]

ASTER Labs, Inc.

155 East Owasso Lane

Shoreview, MN 55126

Suneel Sheikh (651) 484-2084

11-1-O4.02-9730 GSFC

[Advanced Spacecraft Navigation and Timing Using Celestial Gamma-Ray Sources](#) [88]

Decisive Analytics Corporation

1235 South Clark Street, Suite 400

Arlington, VA 22202

April Lesho (703) 414-5004

11-1-O4.03-9507 GSFC

[Enhanced Path Planning, Guidance, and Estimation Algorithms for NASA's GMAT](#) [89]

Emergent Space Technologies, Inc.

6411 Ivy Lane, Suite 303

Greenbelt, MD 20770

Erin Bull (301) 345-1535

11-1-O4.02-8761 GSFC

[TASS-Enhanced Near Earth Navigation System](#) [90]

Keystone Aerospace

P.O. Box 143881

Austin, TX 78714

George Hindman (512) 835-6238

11-1-O4.02-9385 GSFC

[Advanced Exoplanet Star Tracker for Orbit Self Determination](#) [91]

MagiQ Technologies, Inc.

11 Ward Street

Somerville, MA 02143

Anton Zavriyev (781) 661-8300

11-1-O4.01-8702 KSC

[Compact Optical Inertial Tracking for Launch Vehicles](#) [92]

- **S1 Sensors, Detectors and Instruments (41)**

- **AdValue Photonics, Inc.**

- 3708 East Columbia Street, Suite 100

- Tucson, AZ 85714

- Shibin Jiang (520) 790-5468

- 11-1-S1.01-9200 LaRC

- [Tunable Single Frequency 2.054 Micron Fiber Laser Using New Ho-Doped Fiber](#) [93]

- **AdValue Photonics, Inc.**

- 3708 East Columbia Street, Suite 100

- Tucson, AZ 85714

- Shibin Jiang (520) 790-5468

- 11-1-S1.01-9199 LaRC

- [1.55 Micron High Peak Power Fiber Amplifier](#) [94]

- **Agiltron Corporation**

- 15 Presidential Way

- Woburn, MA 01801

- Sharon Tan (781) 935-1200

- 11-1-S1.04-8736 GSFC

- [High Performance Spatial Filter Array Based on Signal Mode Fiber Bundle](#) [95]

- **AOSense, Inc.**

- 767 North Mary Avenue

- Sunnyvale, CA 94085

- Brenton Young (408) 735-9500

- 11-1-S1.10-8477 GSFC

[Accelerometer for Space Applications Based on Light-Pulse Atom Interferometry](#) [96]

Atlas Scientific

1367 Camino Robles Way

San Jose, CA 95120

Ali Kashani (408) 507-0906

11-1-S1.07-8676 GSFC

[A Low Input Power Cryocooler for Space Applications](#) [97]

Biospherical Instruments Inc.

5340 Riley Street

San Diego, CA 92110

John Morrow (619) 686-1888

11-1-S1.08-9153 GSFC

[HybridSpectral Radiometer Systems to Support Ocean Color Cal/Val](#) [98]

ColdQuanta, Inc.

1600 Range Street, Suite 103

Boulder, CO 80301

Rainer Kunz (303) 440-1284

11-1-S1.10-9683 JPL

[High-Flux Ultracold-Atom Chip Interferometers](#) [99]

Eensors Inc.

4240 Ridge Lea

Amherst, NY 14266

Darold Wobschall (716) 837-8719

11-1-S1.04-9435 JPL

[Hot-Electron Nanobolometers Based on Disordered GaN Heterostructures](#) [100]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Larry Johns (703) 471-7671

11-1-S1.01-9806 LaRC

[Laser Sources for Methane and Ozone Sensing for Earth Observation Science](#) [101]

HJ Science & Technology, Inc.

187 Saratoga Avenue

Santa Clara, CA 95050

Hong Jiao (408) 464-3873

11-1-S1.09-9657 GSFC

[Novel High Pressure Pump-on-a-Chip Technology](#) [102]

HYPRES, Inc.

175 Clearbrook Road

Elmsford, NY 10965

Steve Damon (914) 592-1190

11-1-S1.07-8753 GSFC

[Low Heat-Leak YBCO Leads for Satellite-Borne ADR Magnets](#) [103]

Integrated Micro Sensors, Inc.

10814 Atwell Drive

Houston, TX 77096

David Starikov (713) 748-7926

11-1-S1.04-8396 JPL

[High-Speed Radiation Tolerant Avalanche Photodiodes Based on InGaN for Space Altimeter Systems](#) [104]

KALSCOTT Engineering, Inc.

PO Box 3426

Lawrence, KS 66046

Suman Saripalli (785) 979-1116

11-1-S1.08-8963 ARC

[AirCore Reusable InSitu Sampler for CO₂ and Trace Gas Measurements](#) [105]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Manish Gupta (650) 965-7772

11-1-S1.09-9077 ARC

[Triple Isotope Water Analyzer for Extraplanetary Studies](#) [106]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Manish Gupta (650) 965-7772

11-1-S1.09-8495 ARC

[Methane Origin Instrument \(MOI\): Methane Isotope and Hydrocarbon Analyzer for Mars Exploration](#) [107]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Manish Gupta (650) 965-7772

11-1-S1.08-8138 ARC

[Ultrasensitive Analyzer for Realtime, In-Situ Airborne and Terrestrial Measurements of OCS, CO2, and CO](#) [108]

Makel Engineering, Inc.

1585 Marauder Street

Chico, CA 95973

Darby Makel (530) 895-2771

11-1-S1.09-8483 GRC

[Harsh Environment Gas Sensor Array for Venus Atmospheric Measurements](#) [109]

Michigan Aerospace Corporation

1777 Highland Drive, Suite B

Ann Arbor, MI 48108

John Dodds (734) 975-8777

11-1-S1.09-9258 MSFC

[Planetary-Whigs: Optical MEMS-Based Seismometer](#) [110]

Nu Waves Ltd.

122 Edison Drive

Middletown, OH 45044

Jeff Wells (513) 360-0800

11-1-S1.02-9791 GSFC

[High Efficiency Switching Power amplifier for Earth Radar Observation System \(HESPEROS\)](#) [111]

Nuvotronics, LLC

7586 Old Peppers Ferry Road

Radford, VA 24141

Scott Meller (800) 341-2333

11-1-S1.02-9987 JPL

[An Integration Platform for Dual-Polarized W-Band Antenna Arrays](#) [112]

NxGen Electronics, Inc.

9771 Clairemont Mesa Boulevard, Suite C

San Diego, CA 92124

Stephanie Althouse (858) 430-1130

11-1-S1.02-9217 JPL

[Low-Cost Beamforming SiGe MMIC Receivers at mm-Wave](#) [113]

Pacific Microchip Corporation

3916 Sepulveda Boulevard #108

Culver City, CA 90230

Dalius Baranauskas (310) 683-2628

11-1-S1.03-8314 JPL

[Low-power Cross-Correlator ASIC](#) [114]

Photon Systems, Inc.

1512 Industrial Park Street

Covina, CA 91722

William Hug (626) 967-6431

11-1-S1.09-9466 JPL

[Ultra-Compact Optical Spectrometer for Organic Mapping, uCOSOM \(microcosm\)](#) [115]

Polaronyx, Inc.

2526 Qume Drive, Suites 17 and 18

San Jose, CA 95131

Jian Liu (408) 573-0930

11-1-S1.01-9834 LaRC

[1570 nm High Energy Fiber Laser](#) [116]

Predictive Science Incorporated

9990 Mesa Rim Road, Suite 170

San Diego, CA 92121

Irene Caguiguin (858) 450-6494

11-1-S1.06-9103 GSFC

[Anticipating the Geoeffectiveness of Coronal Mass Ejections](#) [117]

Prime Photonics, LC

1116 South Main Street

Blacksburg, VA 24060

Steve Poland (540) 961-2200

11-1-S1.06-8828 GSFC

[Bulk metallic glass for low noise fluxgate](#) [118]

Princeton Lightwave, Inc.

2555 Route 130 South, Suite 1

Cranbury, NJ 08512

Mark Itzler (609) 495-2551

11-1-S1.01-8389 GSFC

[Efficient in-band diode-pumped Q-switched solid state laser for methane detection](#) [119]

Princeton Lightwave, Inc.

2555 Route 130 South, Suite 1

Cranbury, NJ 08512

Mark Itzler (609) 495-2551

11-1-S1.01-8246 GSFC

[Low-Noise Analog APDs with Impact Ionization Engineering and Negative Feedback](#) [120]

QmagiQ, LLC

22 Cotton Road, Unit H, Suite 180

Nashua, NH 03063

Mani Sundaram (603) 821-3092

11-1-S1.04-8604 GSFC

[High Temperature and High QE Broadband Longwave Infrared SLS FPA for LANDSAT](#) [121]

Radiation Monitoring Devices, Inc.

44 Hunt Street

Watertown, MA 02472

Nancy Marshall (617) 668-6810

11-1-S1.01-9291 GSFC

[Modified High Gain APDs for Multi-beam Ladar Instrumentation](#) [122]

Radiation Monitoring Devices, Inc.

44 Hunt Street

Watertown, MA 02472

Nancy Marshall (617) 668-6810

11-1-S1.09-9261 MSFC

[Next Generation Gamma/Neutron Detectors for Planetary Science.](#) [123]

Southwest Sciences, Inc.

1570 Pacheco Street, Suite E-11

Santa Fe, NM 87505

Alan Stanton (505) 984-1322

11-1-S1.08-9779 ARC

[Fast Flow Cavity Enhanced Ozone Monitor](#) [124]

Southwest Sciences, Inc.

1570 Pacheco Street, Suite E-11

Santa Fe, NM 87505

Alan Stanton (505) 984-1322

11-1-S1.08-9245 GSFC

[Robust optical carbon dioxide isotope analyzer](#) [125]

Southwest Sciences, Inc.

1570 Pacheco Street, Suite E-11

Santa Fe, NM 87505

Alan Stanton (505) 984-1322

11-1-S1.08-8830 KSC

[Magnetometer for Balloons and UAVs](#) [126]

SPEC, Inc.

3022 Sterling Circle, Suite 200

Boulder, CO 80301

June Turnbull (303) 449-1105

11-1-S1.08-9350 JPL

[A Novel UAS-Borne Miniature Sensor System to Measure the Size and Composition of Volcanic Ash](#) [127]

SVT Associates

7620 Executive Drive

Eden Prairie, MN 55344

Leslie Price (952) 934-2100

11-1-S1.04-8492 JPL

[High-Detectivity Type-II Superlattice Detectors for 6-14 um Infrared Applications](#) [128]

TechnoScience Corporation

P.O. Box 60658

Palo Alto, CA 94306

Jam Farhoomand (650) 838-9833

11-1-S1.04-9763 JPL

[A Low Noise 64x64 Germanium Array for Far IR Astronomy](#) [129]

Translume, Inc.

655 Phoenix Drive

Ann Arbor, MI 48108

Eric Jacobson (734) 528-6371

11-1-S1.08-9696 GSFC

[Quantitative Nutrient Analyzer for Autonomous Ocean Deployment](#) [130]

United Silicon Carbide, Inc.

7 Deer Park Drive, Suite East

Monmouth Junction, NJ 08852

Scott Kelly (732) 355-0550

11-1-S1.05-8704 GSFC

[The First Monolithic Silicon Carbide Active Pixel Sensor Array for Solar Blind UV Detection](#) [131]

Vescent Photonics, Inc.

4865 East 41st Avenue

Denver, CO 80216

Scott Rommel (303) 296-6766

11-1-S1.01-8353 LaRC

[Compact precision wavelength reference for O2 sensing at 1.27 um for ASCENDS](#) [132]

Xiomas Technologies, LLC

1317 Skyway Drive

Ypsilanti, MI 48197

john green (734) 646-6535

11-1-S1.08-8082 ARC

[Thermal Mapping Airborne Simulator for Small Satellite Sensor](#) [133]

• **S2 Advanced Telescope Systems (12)**

Arizona Optical Metrology LLC

8943 North Veridian Drive

Tucson, AZ 85743

Chunyu Zhao (520) 248-4453

11-1-S2.05-9090 MSFC

[Very large computer generated holograms for precision metrology of aspheric optical surfaces](#) [134]

Boston Micromachines Corporation

30 Spinelli Place

Cambridge, MA 02138

Paul Bierden (617) 868-4178

11-1-S2.02-8592 JPL

[Topography improvements in MEMS DMs for high-contrast, high-resolution imaging](#) [135]

Dallas Optical Systems, Inc.

1790 Connie Lane

Rockwall, TX 75032

John Casstevens (972) 564-1156

11-1-S2.04-9735 GSFC

[Diamond Turned Super Alloy Mandrel for Slump Forming X-Ray Observatory \(IXO\) Mirrors](#) [136]

Flexure Engineering

4423 Lehigh Road, Suite 235

College Park, MD 20740

Russell Cox (425) 269-4619

11-1-S2.05-8878 GSFC

[Cryogenic and Vacuum Compatible Metrology Systems](#) [137]

M Cubed Technologies, Inc.

1 Tralee Industrial Park

Newark, DE 19711

Prashant Karandikar (302) 454-8600

11-1-S2.04-8762 MSFC

[Carbon Nanotube \(CNT\) and Carbon Fiber Reinforced SiC Optical Components](#) [138]

Materials Modification, Inc.

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

11-1-S2.04-8273 MSFC

[Lightweight composite mirrors for telescopes](#) [139]

Nanolab, Inc.

179 Bear Hill Road

Waltham, MA 02451

David Carnahan (781) 609-2722

11-1-S2.02-8177 JPL

[Nanostructured Super-Black Optical Materials](#) [140]

OptiPro Systems LLC

6368 Dean Parkway

Ontario, NY 14519

Tim Ansaldi (585) 265-0160

11-1-S2.05-8333 MSFC

[Optical Fabrication and Metrology of Aspheric and Freeform Mirrors](#) [141]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 01810

B. David Green (978) 689-0003

11-1-S2.03-8728 LaRC

[Rip-Stop Reinforced Thin Film Sun Shield Structure](#) [142]

Reflective X-ray Optics, LLC

1361 Amsterdam Avenue, Suite 3B

New York, NY 10027

David Windt (347) 850-2212

11-1-S2.04-9684 MSFC

[Dual-Band EUV Multilayer Coatings for Solar Physics](#) [143]

Scientific Systems Company, Inc.

500 West Cummings Park, Suite 3000

Woburn, MA 01801

Michael MCCOMAS (781) 933-5355

11-1-S2.01-8366 JPL

[Femto-satellite Swarm State and Density Estimation](#) [144]

Vanguard Space Technologies, Inc.

9431 Dowdy Drive

San Diego, CA 92126

Steven Sherman (858) 587-4200

11-1-S2.03-9736 JPL

[Fabrication and Measurement of Precision Structures for External Occulter Optical Edges](#) [145]

• **S3 Spacecraft and Platform Subsystems (18)**

American Semiconductor, Inc.

3100 South Vista Avenue, Suite 230

Boise, ID 83705

Lorelli Hackler (208) 336-2773

11-1-S3.01-9099 GSFC

[A 45 nm Low Cost, Radiation Hardened, Platform Based Structured ASIC](#) [146]

Barron Associates, Inc.

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

11-1-S3.08-8542 KSC

[A Dropsonde Glider with Adaptive Trajectory Planning](#) [147]

Busek Company, Inc.

11 Tech Circle

Natick, MA 01760

Judy Budny (508) 655-5565

11-1-S3.04-8501 JPL

[Wide Throttling, High Throughput Hall Thruster for Science and Exploration Missions](#) [148]

CrossTrac Engineering, Inc.

2730 Street Giles Lane

Mountain View, CA 94040

John Hanson (408) 898-0376

11-1-S3.06-8076 GSFC

[Millisecond X-ray Star Tracker](#) [149]

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

11-1-S3.03-8231 GRC

[Affordable IMM Multi-Junction Photovoltaic Modular Flexible Blanket Assembly for Lightweight Solar Arrays](#) [150]

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

11-1-S3.03-8837 GRC

[Affordable Maximum Performance Solar Array System with IMM PV for NASA Space Science & Exploration Missions](#) [151]

Eltron Research & Development, Inc.

4600 Nautilus Court South

Boulder, CO 80301

James Beck (303) 530-0263

11-1-S3.04-9151 GRC

[Highly Durable Catalysts for Ignition of Advanced Monopropellants](#) [152]

Giner, Inc.

89 Rumford Avenue

Newton, MA 02466

Anthony Vaccaro (781) 529-0504

11-1-S3.05-9853 GRC

[A Three-Dimensional Nanoporous Silicon Anode for High-Energy Density Lithium-ion Batteries](#) [153]

Luminit, LLC

1850 West 205 Street

Torrance, CA 90501

Marie Todd (310) 320-1066

11-1-S3.07-9733 GSFC

[Carbon Nanotube-based Supercapacitor](#) [154]

Maryland Aerospace, Inc.

2138 Priest Bridge Court, Suite 3

Crofton, MD 21114

Steve Fujikawa (410) 451-2505

11-1-S3.06-9905 GSFC

[Integrated CubeSat ADACS with Reaction Wheels and Star Tracker](#) [155]

MesoScribe Technologies, Inc.

7 Flowerfield, Suite 28

St. James, NY 11790

Jeffrey Brogan (631) 686-5710

11-1-S3.08-8559 AFRC

[A Structurally-Integrated Ice Detection and De-Icing System for Unmanned Air Vehicles](#) [156]

MicroLink Devices

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 588-3001

11-1-S3.03-8529 GRC

[Lightweight, Flexible Photovoltaic Module](#) [157]

PC Krause and Associates, Inc.

3000 Kent Avenue, Suite C1-100

West Lafayette, IN 47906

Dauida Parks (765) 464-8997

11-1-S3.05-8573 GRC

[Simulation Environment for Power Management and Distribution Development](#) [158]

QorTek Inc

1965 Lycoming Creek Road, Suite 205

Williamsport, PA 17701

Cathy Brooke (570) 322-2700

11-1-S3.05-8867 GRC

[Space Electronics Operating at High Temperatures and Radiation Levels](#) [159]

Santa Fe Science and Technology, Inc.

3216 Richards Lane

Santa Fe, NM 87507

Benjamin Mattes (505) 670-0499

11-1-S3.03-8593 GRC

[Electroactive Polymers for Free Piston Stirling Engine Power Generation](#) [160]

Streamline Automation, LLC

3100 Fresh Way Southwest

Huntsville, AL 35805

Aijalon Putzier (256) 713-1220

11-1-S3.04-8539 GRC

[Ionic Liquid, Nontoxic Monopropellants for Power-Limited Spacecraft](#) [161]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

11-1-S3.04-8897 GRC

[Thermal-Catalytic Ignition Source for Ionic Liquid Monopropellants](#) [162]

Yankee Environment Systems, Inc.

101 Industrial Boulevard

Turners Falls, MA 01376

Nancy Turgeon (413) 863-0200

11-1-S3.08-8025 ARC

[Glidersonde, a Meteorological Optical Profiling Sensor](#) [163]

- **S4 Low-Cost Small Spacecraft and Technologies (4)**

- **American Academy of Aeronautics**

- 505 Brookfield Drive

- Dover, DE 10991

- Jacob Elsonbati (650) 275-3820

- 11-1-S4.01-8193 ARC

- [Echo Time Distance Measurements for Nanosatellite Arrays](#) [164]

- **Emergent Space Technologies, Inc.**

- 6411 Ivy Lane, Suite 303

- Greenbelt, MD 20770

- Erin Bull (301) 345-1535

- 11-1-S4.01-9628 ARC

- [Improved CDGPS FDIR Using Comm-based Relative Measurements](#) [165]

- **Honeybee Robotics Ltd.**

- 460 West 34th Street

- New York, NY 10001

- Chris Chapman (646) 459-7802

- 11-1-S4.01-8172 ARC

- [Lasercom for Intra-Nanosat Communication \(LINC\)](#) [166]

- **Microcosm, Inc.**

- 4940 West 147th Street

- Hawthorne, CA 90250

- Chris Maruyama (310) 219-2700

- 11-1-S4.01-8504 ARC

- [Hummingbird - A Very Low Cost, High Delta V Spacecraft for Solar System Exploration](#) [167]

- **S5 Robotic Exploration Technologies (9)**

- **Advanced Scientific Concepts, Inc.**

- 135 East Ortega Street

- Santa Barbara, CA 93101

- JoAnn Stettner (805) 966-3331

- 11-1-S5.01-8780 JPL

- [3D Flash LIDAR Space Laser](#) [168]

- **Analytical Services, Inc. (ASI)**

- 350 Voyager Way

- Huntsville, AL 35806

- Jared Austin (256) 562-2134

- 11-1-S5.04-9605 AFRC

- [Low Cost Refractory Matrix Composite Thruster for Mars Ascent Vehicles](#) [169]

- **ATI Industrial Automation, Inc.**

- 1031 Goodworth Drive

- Apex, NC 27539

- Dwayne Perry (919) 772-0115

- 11-1-S5.02-9814 JPL

- [Six-Axis Force-Torque Transducer for Mars 2018 Mission](#) [170]

- **Cadtrak Engineering, LLC**

- 31 Santa Barbara Avenue

- San Anselmo, CA 94960

- David Levitt (415) 259-4929

- 11-1-S5.04-8674 GRC

- [Low Gravity Anchoring System](#) [171]

- **Space Micro, Inc.**

- 10237 Flanders Court

San Diego, CA 92121

David Strobel (858) 332-0700

11-1-S5.05-9055 JPL

[Digitally intensive DC-DC converter for extreme space environments](#) [172]

Sqaure One Systems Design, Inc

PO Box 10520

Jackson, WY 83002

Robert Viola (307) 734-0211

11-1-S5.03-9535 JPL

[Active Ankle for Use with Microspine Gripper](#) [173]

SVT Associates

7620 Executive Drive

Eden Prairie, MN 55344

Leslie Price (952) 934-2100

11-1-S5.05-8438 JPL

[Monolithically integrated AlN/GaN electronics for harsh environments](#) [174]

Tetravue

663 South Rancho Santa Fe Road, #316

San Marcos, CA 92078

Paul Banks (858) 243-0700

11-1-S5.01-8899 JPL

[Three Dimensional Situational Awareness Sensor to Assist Descent and Landing of the Mars Lander Spacecraft](#) [175]

Ventions, LLC

1142 Howard Street

San Francisco, CA 94103

Amit Mehra (202) 213-2846

11-1-S5.04-8453 JPL

[A LOX-Cooled, Pump-Fed Rocket Engine for Sample Return Applications](#) [176]

- **S6 Information Technologies (10)**

Daniel H. Wagner Associates, Inc.

559 West Uwchlan Avenue, Suite 140

Exton, PA 19341

W. Reynolds Monach (757) 727-7700

11-1-S6.01-9256 ARC

[High-Quality Random Number Generation Software for High-Performance Computing](#) [177]

EM Photonics, Inc.

51 East Main Street, Suite 203

Newark, DE 19711

Eric Kelmelis (302) 456-9003

11-1-S6.01-8843 GSFC

[OpenCL-Based Linear Algebra Libraries for High-Performance Computing](#) [178]

GeoVisual Technologies, Inc.

1525 Spruce Street, Suite 200

Boulder, CO 80304

Jeffrey Orrey (720) 323-3399

11-1-S6.02-8836 SSC

[Automated Semantic Enrichment for Data Discovery and Decision Support](#) [179]

InterCAX, LLC

2402 Lively Trail

Atlanta, GA 30345

Dirk Zwemer (404) 592-6897

11-1-S6.04-8591 GSFC

[SLIM for Agile Mission Lifecycle Management](#) [180]

Open Research, Inc.

9 Greentree Court

Bethesda, MD 20817

Qiming He (301) 525-6612

11-1-S6.03-9757 GSFC

[Towards Rapid Application Provisioning in the Cloud](#) [181]

Qualtech Systems, Inc.

99 East River Drive

East Hartford, CT 06108

Sudipto Ghoshal (860) 761-9341

11-1-S6.05-8416 MSFC

[Software Tools for Fault Management Technologies](#) [182]

S&K Aerospace

63066 Old Highway 93

St Ignatius, MT 59865

Arthur Molin (281) 709-1079

11-1-S6.05-8699 JPL

[Fault Management Assistant \(FMA\)](#) [183]

Signal Processing, Inc.

13619 Valley Oak Circle

Rockville, MD 20850

Chiman Kwan (240) 505-2641

11-1-S6.03-9760 GSFC

[High Performance and Accurate Change Detection System for HypIRI Missions](#) [184]

Tellus Applied Sciences, Inc.

1769 Jamestown Road

Williamsburg, VA 23188

Henry Pierce (757) 272-7851

11-1-S6.01-9155 ARC

[Enhancing the efficiency of Climate and Weather Simulation in High Performance Computing Environments](#) [185]

Vcrsoft, LLC

2310 Bamboo Drive, Suite J303

Arlington, TX 76006

VC Ramesh (817) 213-6184

11-1-S6.02-9526 SSC

[Cloud-Based Crowdsourced Semantic Social Mobile App for Disaster Response](#) [186]

- **X1 In Situ Resource Utilization (5)**

- **Creare, Inc.**

- P.O. Box 71

- Hanover, NH 03755

- James Barry (603) 643-3800

- 11-1-X1.01-9003 KSC

- [Miniature Gas Chromatograph Mass Spectrometer for In-Situ Resource Utilization](#) [187]

- **Grainflow Dynamics, Inc.**

- 1141 Catalina Drive, PMB 270

- Livermore, CA 94550

- Otis Walton (925) 447-4293

- 11-1-X1.01-9593 GRC

- [Flexible Transfer of Regolith in Micro-Gravity and Vacuum](#) [188]

- **Honeybee Robotics Ltd.**

- 460 West 34th Street

- New York, NY 10001

- Jack Craft (646) 459-7835

- 11-1-X1.01-8468 JSC

- [Mobile In-Situ Mars Water Extractor \(MISME\)](#) [189]

- **Reactive Innovations, LLC**

- 2 Park Drive, Unit 4

- Westford, MA 01886

- Michael Kimble (978) 692-4664

11-1-X1.01-8102 KSC

[Reactive Capture of Carbon Dioxide](#) [190]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

11-1-X1.01-9062 JSC

[High Efficiency Microchannel Sabatier Reactor System for In Situ Resource Utilization](#) [191]

• **X2 Propulsion (8)**

Busek Company, Inc.

11 Tech Circle

Natick, MA 01760

Judy Budny (508) 655-5565

11-1-X2.03-8838 GRC

[Iodine Hall Thruster for Space Exploration](#) [192]

Colorado Power Electronics, Inc.

120 Commerce Drive, Unit 1

Fort Collins, CO 80524

Bryce Hesterman (970) 482-0191

11-1-X2.03-9028 GRC

[Hybrid Direct Drive PPU with Extended Operating Range](#) [193]

Florida Turbine Technologies, Inc.

1701 Military Trail, Suite 110

Jupiter, FL 33458

Lloyd Mazer (561) 427-6337

11-1-X2.02-9675 MSFC

[Rotating Cavitation Suppression](#) [194]

Leaping Catch, LLC

379 Cheney Highway, #223

Titusville, FL 32780

Sandra Clements (321) 698-2593

11-1-X2.01-8250 MSFC

[Seeing Sound - Image Analysis of the Lift-off Acoustic Field](#) [195]

Materials Research and Design

300 East Swedesford Road

Wayne, PA 19087

Brian Sullivan (610) 964-6131

11-1-X2.01-8532 MSFC

[Alternative Fabrication Designs for Carbon-Carbon \(C-C\) Nozzle Extensions](#) [196]

Orbital Technologies Corporation

Space Center, 1212 Fourier Drive

Madison, WI 53717

Eric Rice (608) 229-2730

11-1-X2.02-9698 GRC

[Lattice Regenerative Cooling Methods \(LRCM\)](#) [197]

Particle in Cell Consulting

1918 Miracle Lane

Falls Church, VA 22043

Lubos Brieda (661) 202-9812

11-1-X2.03-8323 GRC

[Multiscale Modeling of Hall Thrusters](#) [198]

Systema Technologies, Inc.

1832 180th Street South East

Bothell, WA 98012

Gerald` Berg (425) 487-4020

11-1-X2.02-8624 GRC

[Advanced High Efficiency Durable DACS Thruster](#) [199]

- **X3 Life Support and Habitation Systems (10)**

Cambrian Innovation, Inc.

27 Drydock Avenue Floor 2

Boston, MA 02210

Matthew Silver (617) 307-1755

11-1-X3.01-8150 ARC

[Bio-Electrochemical Carbon Dioxide Removal for Air Revitalization in Exploration Life Support Systems](#) [200]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

11-1-X3.04-9990 JSC

[A Multi-Environment Thermal Control System With Freeze-Tolerant Radiator](#) [201]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

11-1-X3.04-9372 JSC

[Water Recovery for Regenerative Life Support Systems](#) [202]

HJ Science & Technology, Inc.

187 Saratoga Avenue

Santa Clara, CA 95050

Hong Jiao (408) 464-3873

11-1-X3.03-9658 JPL

[Novel Microfluidic Instrument for Spacecraft Environmental Monitoring](#) [203]

Mezzo Technologies

7167 Florida Boulevard

Baton Rouge, LA 70806

Kevin Kelly (225) 706-0191

11-1-X3.04-9673 JSC

[Micro tube heat exchangers for Space](#) [204]

Orbital Technologies Corporation

Space Center, 1212 Fourier Drive

Madison, WI 53717

Thomas Crabb (608) 827-5000

11-1-X3.03-9108 JPL

[A Rapid Coliform Detector](#) [205]

Porifera Inc.

3507 Breakwater Avenue

Hayward, CA 94545

Olgica Bakajin (510) 695-2777

11-1-X3.02-9079 ARC

[High Performance Forward Osmosis Membrane Element](#) [206]

Southwest Sciences, Inc.

1570 Pacheco Street, Suite E-11

Santa Fe, NM 87505

Alan Stanton (505) 984-1322

11-1-X3.03-9754 GRC

[Improved Combustion Products Monitor for the ISS](#) [207]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

11-1-X3.02-9012 ARC

[Advanced Microgravity Compatible, Integrated Laundry System](#) [208]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

11-1-X3.02-8996 ARC

[Highly Efficient Fecal Waste Incinerator](#) [209]

- **X4 Extra-Vehicular Activity Technology (5)**

- **Aspen Aerogels, Inc.**

- 30 Forbes Road, Building B

- Northborough, MA 01532

- Kevin Schmidt (508) 691-1161

- 11-1-X4.01-9175 JSC

- [Organic Aerogels with Improved Resilience and Flexibility for Multifunctional Protection in Spacesuits](#) [210]

- **Intelligent Optical Systems, Inc.**

- 2520 West 237th Street

- Torrance, CA 90505

- Reuben Sandler (424) 263-6305

- 11-1-X4.02-9958 JSC

- [Miniature Sensor Probe for O2, CO2, and H2O Monitoring in Space Suits](#) [211]

- **Nanohmics, Inc.**

- 6201 East Oltorf Street, Suite 400

- Austin, TX 78741

- Michael Mayo (512) 389-9990

- 11-1-X4.03-8373 JSC

- [Secure Nano Electromechanical Systems-based Software-Defined Radio](#) [212]

- **NEI Corporation**

- 201 Circle Drive North, Suite 102/103

- Piscataway, NJ 08873

- Ganesh Skandan (732) 868-3141

11-1-X4.01-8789 JSC

[A Novel Approach to Highly Damage Tolerant and Abrasion Resistant EVA Gloves](#) [213]

Xigen, LLC

11001 Sugarbush Terrace

Rockville, MD 20852

Jason Geng (301) 637-6828

11-1-X4.03-9880 GRC

[A Novel Hemispherical and Dynamic Camera for EVAs](#) [214]

• **X5 Lightweight Spacecraft Materials and Structures (6)**

Adherent Technologies, Inc.

5505 Foothills Canyon Road Northeast

Albuquerque, NM 87111

Susan Switzer (505) 346-1685

11-1-X5.01-8909 JSC

[Load-Bearing Inflatables Using Light-Curing Rigidization Technology](#) [215]

ATI, Inc.

1500 Bull Lea Road

Lexington, KY 40511

Alex Cho (304) 541-1825

11-1-X5.02-8059 LaRC

[Computational Modeling aided Near Net Shape Manufacturing for Aluminum Alloys](#) [216]

Invocon, Inc.

19221 IH 45 South, Suite 530

Conroe, TX 77385

Mary Delahunty (281) 292-9903

11-1-X5.03-8692 LaRC

[HVI Damage Assessment](#) [217]

Material Answers LLC

66 Buckskin Drive

Weston, MA 02493

Chris Scott (617) 378-1976

11-1-X5.02-9189 MSFC

[Polybenzoxazine Manufacturing Technology for Lightweight Large Scale Structures](#) [218]

NEI Corporation

201 Circle Drive North, Suite 102/103

Piscataway, NJ 08873

Ganesh Skandan (732) 868-3141

11-1-X5.02-9752 MSFC

[CNT-based Reinforcing Polymer Matrix Composites for Lightweight Structures](#) [219]

Physical Optics Corporation

20600 Gramercy Place, Building 100

Torrance, CA 90501

Gordon Drew (310) 320-3088

11-1-X5.03-9596 LaRC

[Structural Integrity Inspection and Visualization System](#) [220]

• **X6 Autonomous Systems and Avionics (5)**

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Lisa Lawson (540) 626-6266

11-1-X6.02-8262 MSFC

[Radiation Hardened Nanobridge based Non-volatile Memory for Space Applications](#) [221]

Nokomis, Inc.

310 5th Street

Charleroi, PA 15022

Gena DiSimoni (724) 483-3946

11-1-X6.03-8527 ARC

[Electronic Health Monitoring for Space Systems](#) [222]

Ozark Integrated Circuits, Inc.

PO Box 332

Fayetteville, AR 72702

Matt Francis (479) 409-5201

11-1-X6.02-9582 MSFC

[Wide-Temperature Radiation-Hardened Interface Chipsets Utilizing Delay-Insensitive Asynchronous Logic](#) [223]

Qualtech Systems, Inc.

99 East River Drive

East Hartford, CT 06108

Sudipto Ghoshal (860) 761-9341

11-1-X6.03-8772 ARC

[Integrated System Health Management for Flexible Exploration](#) [224]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

11-1-X6.01-8829 ARC

[Adaptive Automation for Anomaly Resolution](#) [225]

• **X7 Human-Robotic Systems (4)**

Advanced Medical Electronics Corporation

6901 East Fish Lake Road, Suite #190

Maple Grove, MN 55369

Tom Hendrickson (763) 515-5353

11-1-X7.01-9164 ARC

[Brain Machine Interfaces for Robotic Control in Space Applications](#) [226]

CU Aerospace, LLC

301 North Neil Street, Suite 400

Champaign, IL 61820

David Carroll (217) 239-1703

11-1-X7.02-9839 JSC

[Adaptive Bioassistive and Telerobotic Devices for Human-Robotic Systems](#) [227]

Stottler Henke Associates, Inc.

1670 South Amphlett Boulevard, Suite 310

San Mateo, CA 94402

Nathaniel Henke (650) 931-2700

11-1-X7.01-9172 ARC

[Visual Intelligent Robot Performance Monitor](#) [228]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

11-1-X7.02-8186 JSC

[A Planning and Control Toolkit for Dual Arm Manipulation](#) [229]

• **X8 High-Efficiency Space Power Systems (11)**

Advanced Cooling Technologies, Inc.

1046 New Holland Avenue

Lancaster, PA 17601

Jon Zuo (717) 295-6058

11-1-X8.03-9866 GRC

[Innovative High Temperature Heat Pipes for Spacecraft Nuclear Fission Systems](#) [230]

Angstrom Designs, Inc.

PO Box 2032

Santa Barbara, CA 93120

Casey Hare (805) 876-4138

11-1-X8.04-9203 GRC

[MegaFlex Solar Array Scale-Up, up to 175kW per Wing](#) [231]

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

11-1-X8.04-8602 GRC

[Enhanced Mission-Enabling Ultra-High Power Solar Array \(Mega-ROSA EX\)](#) [232]

Giner, Inc.

89 Rumford Avenue

Newton, MA 02466

Anthony Vaccaro (781) 529-0504

11-1-X8.01-9857 GRC

[Metallic Fiber Papers for Gas Diffusion Layers](#) [233]

Giner, Inc.

89 Rumford Avenue

Newton, MA 02466

Anthony Vaccaro (781) 529-0504

11-1-X8.01-9855 JPL

[Long-Life MEAs and Catalysts for PEM Electrolyzers/Fuel Cells](#) [234]

Infinia Technology Corporation

6811 West Okanogan Place

Kennewick, WA 99336

Peter Brehm (509) 737-2199

11-1-X8.03-9887 GRC

[Modular Stirling Power System \(MSPS\)](#) [235]

Luna Innovations Incorporated

1 Riverside Circle, Suite 400

Roanoke, VA 24016

Maggie Hudson (434) 483-4254

11-1-X8.02-9169 JPL

[Graphene Nanocomposite Cathode for Advanced Space Battery](#) [236]

MicroLink Devices

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 588-3001

11-1-X8.04-9001 GRC

[High-Volume Production of Lightweight, Multi-Junction Solar Cells Using 6-inch GaAs](#) [237]

Nano EnerTex

4131 Grennoch

Houston, TX 77025

Laura Ignatiev (713) 667-9558

11-1-X8.01-8255 GRC

[Low Temperature, High Energy Density Micro Thin Film Solid Oxide Fuel Cell](#) [238]

Nanohmics, Inc.

6201 East Oltorf Street, Suite 400

Austin, TX 78741

Michael Mayo (512) 389-9990

11-1-X8.04-8351 GRC

[High specific power flexible integrated IMM photovoltaic blanket](#) [239]

Nohms Technologies

1032 Hanshaw Road

Ithaca, NY 14850

Shivaun Archer (607) 227-5464

11-1-X8.02-9244 GRC

[High Energy Battery Materials with Novel Separator and Electrolytes for Space Applications](#) [240]

- **X9 Entry, Descent, and Landing (EDL) Technology (3)**

- **Fiber Materials, Inc.**

- 5 Morin Street

- Biddeford, ME 04005

- Matthew Levesque (207) 590-9281

- 11-1-X9.01-9948 ARC

- [Aerospace Grade Carbon Felt Preform](#) [241]

- **Industrial Measurement Systems**

- 2760 Beverly Drive, Unit 4

- Aurora, IL 60502

- Donald Yuhas (630) 236-5901

- 11-1-X9.01-9863 ARC

- [Temperature, Heat Flux and Recession Sensing for Ablative Thermal Protection Systems](#) [242]

- **Nanosonic, Inc.**

- 158 Wheatland Drive

- Pembroke, VA 24136

- Lisa Lawson (540) 626-6266

- 11-1-X9.02-9432 ARC

- [Advanced Metal Rubber Sensors for Hypersonic Decelerator Entry Systems](#) [243]

- **X10 Cryogenic Propellant Storage and Transfer (3)**

- **Aspen Aerogels, Inc.**

- 30 Forbes Road, Building B

- Northborough, MA 01532

- Kevin Schmidt (508) 691-1161

- 11-1-X10.01-9295 GRC

- [Thin Aerogel as a Spacer in Multi-Layer Insulation for Cryogenic Space Applications](#) [244]

Dynamic Structures and Materials, LLC

114 SE Parkway Court Suite 160

Franklin, TN 37064

Jennifer Sturgis (615) 595-6665

11-1-X10.01-8575 JSC

[Reliable Actuator for Cryo Propellant Fluid Control](#) [245]

En'Urga Inc

1291-A Cumberland Avenue

West Lafayette, IN 47906

Ye Mi (765) 497-3269

11-1-X10.01-8524 GRC

[A Novel Flow Measurement System for Cryogenic Two-Phase Flow](#) [246]

• **X11 Radiation Protection (3)**

International Scientific Technologies, Inc.

P.O. Box 757

Dublin, VA 24084

Wanda Gibson (540) 633-1424

11-1-X11.01-8144 LaRC

[Space Station Validation of Advanced Radiation-Shielding Polymeric Materials](#) [247]

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Lisa Lawson (540) 626-6266

11-1-X11.01-9141 LaRC

[Innovative, Lightweight Thoraeus Rubber™ for MMOD and Space Radiation Shielding](#) [248]

Predictive Science Incorporated

9990 Mesa Rim Road, Suite 170

San Diego, CA 92121

Irene Caguin (858) 450-6494

11-1-X11.02-9101 JSC

[A Coupled System for Assessing the Threat of Solar Energetic Particle Events](#) [249]

- **X12 Exploration Crew Health Capabilities (2)**

- **Materials Technologies Corporation**

- 57 Maryanne Drive

- Monroe, CT 06468

- Yogesh Mehrotra (203) 874-3100

- 11-1-X12.02-8627 GRC

- [Exercise Load Measurement Insole \(ELMI\)](#) [250]

- **TDA Research, Inc.**

- 12345 West 52nd Avenue

- Wheat Ridge, CO 80033

- John Wright (303) 940-2300

- 11-1-X12.01-8964 GRC

- [Computer-Controlled Force Generator](#) [251]

- **X13 Exploration Medical Capability (3)**

- **Cognionics**

- 8445 Camino Santa Fe, Suite 204

- San Diego, CA 92111

- Yu Chi (469) 951-2227

- 11-1-X13.02-9881 ARC

- [Practical Non-contact ECG Electrodes for Prep-free Monitoring](#) [252]

- **Intelligent Optical Systems, Inc.**

- 2520 West 237th Street

- Torrance, CA 90505

Reuben Sandler (424) 263-6305

11-1-X13.01-9228 ARC

[Cell Phone-based Lateral Flow Assay for Blood Biomarker Detection](#) [253]

Ionu Biosystems

97 Electric Avenue, #3

Somerville, MA 02144

John Dubach (617) 460-4003

11-1-X13.01-9659 ARC

[Smart Phone Fluorescent Chem8](#) [254]

• **X14 Behavioral Health and Performance (2)**

GameSim Technologies Inc.

12124 High Tech Avenue Suite 160

Orlando, FL 32817

Andrew Tosh (407) 688-0587

11-1-X14.01-9771 JSC

[Virtual Team Training Engine and Evaluation Framework](#) [255]

Stottler Henke Associates, Inc.

1670 South Amphlett Boulevard, Suite 310

San Mateo, CA 94402

Nathaniel Henke (650) 931-2700

11-1-X14.01-9176 JSC

[Serious Games for Team Training](#) [256]

• **X15 Space Human Factors and Food Systems (3)**

Innosense LLC

2531 West 237th Street, Suite 127

Torrance, CA 90505

Kisholoy Goswami (310) 530-2011

11-1-X15.02-9574 JSC

[Liposome Encapsulation of Vitamins to Enhance Storage Properties of Space-Bound Food](#) [257]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

11-1-X15.01-8981 ARC

[Perception Engine for Activity Recognition and Logging](#) [258]

Vecna Technologies, Inc.

6404 Ivy Lane, Suite 500

Greenbelt, MD 20770

Michael Bearman (240) 465-4500

11-1-X15.01-8695 ARC

[Automatic Video-based Motion Analysis](#) [259]

• **X17 Inflight Biological Sample Preservation and Analysis (1)**

ChromoLogic, LLC

180 North Vinedo Avenue

Pasadena, CA 91107

Naresh Menon (626) 381-9974

11-1-X17.01-9088 ARC

[Biological Sample Ambient Preservation \(BioSAP\) Device](#) [260]

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