



Proposals Selected for Negotiation of Contracts

Expand All

- **A1 Aviation Safety (23)**

Anasphere, Inc.

106 Pronghorn Trail

Bozeman, MT 59718

John Bognar (406) 994-9354

10-1-A1.04-8409 GRC

[Cloud Liquid Water Content Sensor for Radiosondes](#) [1]

Aptima, Inc.

12 Gill Street, Suite 1400

Woburn, MA 01801

Thomas McKenna (781) 496-2443

10-1-A1.05-8423 LaRC

[TBO-AID: Trajectory-Based Operations Adaptive Information Display](#) [2]

Aurora Flight Sciences Corporation

9950 Wakeman Drive

Manassas, VA 20110

Scott Hart (617) 500-0536

10-1-A1.08-9658 GRC

[Incremental Sampling Algorithms for Robust Propulsion Control](#) [3]

Emerald Sky Technologies, LLC

9250 Bendix Road North

Columbia, MD 21045

Steven Fritz (443) 542-9516

10-1-A1.05-8346 LaRC

[Auditory Presentation of H/OZ Critical Flight Data](#) [4]

Global Engineering and Materials, Inc

11 Alscot Drive

East Lyme, CT 06333

Jim Lua (860) 398-5620

10-1-A1.03-9338 LaRC

[Mesh Independent Probabilistic Residual Life Prediction of Metallic Airframe Structures](#) [5]

Global Engineering and Materials, Inc

11 Alscot Drive

East Lyme, CT 06333

Jim Lua (860) 398-5620

10-1-A1.12-8884 ARC

[Probabilistic Remaining Useful Life Prediction of Composite Aircraft Components](#) [6]

GammaTech, Inc.

531 Esty Street

Ithaca, NY 14850

Paul Anderson (607) 273-7340

10-1-A1.14-8778 ARC

[Continuous Integrated Invariant Inference](#) [7]

Impact Technologies, LLC

200 Canal View Boulevard

Rochester, NY 14623

Carol Marquardt (585) 424-1990

10-1-A1.07-9371 AFRC

[Adaptive Aeroservoelastic Suppression for Aircraft Upset and Damage Conditions](#) [8]

Impact Technologies, LLC

200 Canal View Boulevard

Rochester, NY 14623

Carol Marquardt (585) 424-1990

10-1-A1.10-9237 ARC

[Online Sensing Techniques for Detection of Aircraft Electrical System Anomalies](#) [9]

Krystal Engineering LLC

1429 Chaffee Drive, Suite 1

Titusville, FL 32780

Rauchfuss Mark (480) 239-7914

10-1-A1.02-9326 LaRC

[New Wireless Sensors for Diagnostics Under Harsh Environments](#) [10]

Lambda Research

5521 Fair Lane

Cincinnati, OH 45227

Karen Buffington (513) 561-0883

10-1-A1.01-9476 GRC

[Characterization and Modeling of Residual Stress and Cold Work Evolution in PM Nickel Base Disk Superalloy](#) [11]

Microvision, Inc.

6222 185th Avenue North East

Redmond, WA 98052

Gary Peterson (425) 882-6677

10-1-A1.05-9370 LaRC

[Flight Deck I-Glasses](#) [12]

Mitek Analytics LLC

281 El Verano Avenue

Palo Alto, CA 94306

Dimitry Gorinevsky (650) 400-3172

10-1-A1.15-8747 ARC

[Distributed Data Mining for Aircraft Health Management](#) [13]

MUSYN Inc

P.O. Box 13377

Minneapolis, MN 55414

Gary Balas (651) 602-9732

10-1-A1.07-8520 AFRC

[Adaptive Linear Parameter Varying Control for Aeroservoelastic Suppression](#) [14]

N&R Engineering

6659 Pearl Road, #201

Parma Heights, OH 44130

Vinod Nagpal (440) 845-7020

10-1-A1.01-9367 GRC

[Modelling the Effects of Surface Residual Stresses on Fatigue Behavior of PM Disk Alloys](#) [15]

Nanotrons

12A Cabot Road

Woburn, MA 01801

Jeanne Hladky (781) 935-6500

10-1-A1.13-8359 LaRC

[Non-Catalytic Nanocomposite Based Self-Healing Material for Multifunctional Composite](#) [16]

NDE TECHNOLOGIES, INC.

1785 Sourwood Place

Charlottesville, VA 22911

Irving Gray (434) 973-0299

10-1-A1.02-8073 LaRC

[Development of a Computed Tomography Simulator: SimCT. Application to Health Monitoring and Remaining Life Assessment](#) [17]

Ophir Corp

10184 West Belleview Avenue, Suite 200

Littleton, CO 80127

Lisa Spaeth (303) 933-2200

10-1-A1.04-9528 LaRC

[Multifunction Lidar for Air Data and Kinetic Air Hazard Measurement](#) [18]

Physical Optics Corporation

20600 Gramercy Place, Building 100

Torrance, CA 90501

Gordon Drew (310) 320-3088

10-1-A1.11-9543 LaRC

[Active Fault Diagnosis and Assessment for Aircraft Health Management](#) [19]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 01810

B. David Green (978) 689-0003

10-1-A1.04-8648 LaRC

[Solid State Multiwavelength LIDAR for Volcanic Ash Monitoring](#) [20]

Scientific Monitoring, Inc.

8777 East Via de Ventura Drive, Suite 120

Scottsdale, AZ 85258

Walter Merrill (440) 328-5832

10-1-A1.08-8467 GRC

[Robust Propulsion Control for Improved Aircraft Safety](#) [21]

ZONA Technology, Inc.

9489 East Ironwood Square Drive

Scottsdale, AZ 85258

Jennifer Scherr (480) 945-9988

10-1-A1.07-9064 AFRC

[Experimental Model Based Feedback Control for Flutter Suppression and Gust Load Alleviation](#) [22]

ZONA Technology, Inc.

9489 East Ironwood Square Drive

Scottsdale, AZ 85258

Jennifer Scherr (480) 945-9988

10-1-A1.09-9063 AFRC

[Pilot Induced Oscillation Suppression Under Off-Nominal Conditions Using L1 Adaptive Control](#) [23]

- **A2 Fundamental Aeronautics (48)**

Advanced Dynamics, Inc.

1500 Bull Lea Road, Suite 203

Lexington, KY 40511

Patrick Hu (859) 699-0441

10-1-A2.04-9273 LaRC

[Towards Better Modeling and Simulation of Nonlinear Aeroelasticity On and Beyond Transonic Regimes](#) [24]

Advanced Dynamics, Inc.

1500 Bull Lea Road, Suite 203

Lexington, KY 40511

Patrick Hu (859) 699-0441

10-1-A2.04-8137 LaRC

[High Fidelity Computational and Wind Tunnel Models in Support of Certification Airworthiness of Control Surfaces with Freeplay and Other Nonlinear Features](#) [25]

Advanced Powder Solutions

14102 Halprin Creek Drive

Cypress, TX 77429

Dean Baker (661) 373-1729

10-1-A2.01-8170 GRC

[Engineered Materials for Advanced Gas Turbine Engine](#) [26]

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 01821

Cameron Martin (978) 932-0207

10-1-A2.02-8821 GRC

[An Instrument to Measure Aircraft Sulfate Particle Emissions](#) [27]

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 01821

Cameron Martin (978) 932-0207

10-1-A2.02-9629 GRC

[Non-Thermal Soot Denuder](#) [28]

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 01821

Cameron Martin (978) 932-0207

10-1-A2.02-9607 GRC

[New Combustion CFD Algorithms Designed for Rapid GPU Computations](#) [29]

ATA Engineering, Inc.

11995 El Camino Real

San Diego, CA 92130

Ronan Cunningham (858) 480-2015

10-1-A2.10-8263 GRC

[Development of Axial Compressor Heat-Extraction Capability for Thermal Management Applications](#) [30]

Atair Aerospace, Inc

63 Flushing Avenue, Unit 262

Brooklyn , NY 11205

Rick Zaccari (718) 923-1709

10-1-A2.07-9215 ARC

[Aero-Effected Distributed Adaptive Control of Flexible Aircraft Using Active Bleed](#) [31]

Aurora Flight Sciences Corporation

9950 Wakeman Drive

Manassas, VA 20110

Scott Hart (617) 500-0536

10-1-A2.02-9653 LaRC

[Thermally Stable Catalytic Combustors for Very High Altitude Airbreathing Propulsion](#) [32]

AVID LLC

120 Newsome Drive Suite A

Yorktown, VA 23692

Paul Gelhausen (757) 886-2611

10-1-A2.08-8819 LaRC

[Coupled Viscous/Inviscid Analysis of Powered-Lift Airfoils and Wings](#) [33]

AYCN LLC

1644 Clay Drive

Los Altos, CA 94024

David Nixon (650) 964-9956

10-1-A2.04-9797 LaRC

[Prediction of Unsteady Transonic Aerodynamics](#) [34]

CADNexus Inc.

101 Cambridge Street, Suite 370

Burlington, MA 01803

Ali Merchant (781) 229-0200

10-1-A2.08-9390 LaRC

[Integrated Variable Fidelity Conceptual Design](#) [35]

CFD Research Corporation

215 Wynn Drive, 5th Floor

Huntsville, AL 35805

Silvia Harvey (256) 726-4858

10-1-A2.03-9097 LaRC

[Implicit Higher Order Temporal Differencing for Aeroacoustic and CFD Applications](#) [36]

CFD Research Corporation

215 Wynn Drive, 5th Floor

Huntsville, AL 35805

Silvia Harvey (256) 726-4858

10-1-A2.02-9091 LaRC

[Hybrid Approach for Modeling Chemical Kinetics and Turbulence Effects on Combustion-Instability](#) [37]

Clear Science Corporation

663 Owego Hill Road

Harford, NY 13784

Henry Carlson (607) 844-9171

10-1-A2.05-9982 LaRC

[Aerodynamic Modeling with Heterogeneous Data Assimilation and Uncertainty Quantification](#) [38]

Collier Research & Development Corporation

45 Diamond Hill Road

Hampton, VA 23666

Ivonne Collier (757) 825-0000

10-1-A2.08-8332 GRC

[Aircraft Structural Analysis, Design Optimization, and Manufacturing Tool Integration](#) [39]

Combustion Research and Flow Technology

6210 Keller's Church Road

Pipersville, PA 18947

Katherine Young (215) 766-1520

10-1-A2.02-9922 GRC

[A Generalized Software Toolkit for Portable GPU-Enabled Chemistry Acceleration in CFD Applications](#) [40]

Combustion Research and Flow Technology

6210 Keller's Church Road

Pipersville, PA 18947

katherine Young (215) 766-1520

10-1-A2.03-9826 LaRC

[High Fidelity Simulation of Jet Noise Emissions from Rectangular Nozzles](#) [41]

Comet Technology Corporation

3830 Packard, Suite 110

Ann Arbor, MI 48108

S. Raveendra (734) 239-5757

10-1-A2.03-8233 LaRC

[Hybrid Element Method for Composite Structures Subjected to Boundary Layer Loading](#) [42]

Continuum Dynamics, Inc.

34 Lexington Avenue

Ewing, NJ 08618

Barbara Agans (609) 538-0444

10-1-A2.09-9439 LaRC

[Real-Time, Maneuvering Flight Noise Prediction for Rotorcraft Flight Simulations](#) [43]

D&P, LLC

3409 North 42nd Place

Phoenix, AZ 85018

Lei Tang (602) 957-2868

10-1-A2.09-9309 LaRC

[A Computational Tool for Helicopter Rotor Noise Prediction](#) [44]

Eltron Research & Development, Inc.

4600 Nautilus Court South

Boulder, CO 80301

James Beck (303) 530-0263

10-1-A2.01-9709 LaRC

[First Principles Identification of New Aircraft Materials](#) [45]

Firehole Technologies, Inc.

210 South 3rd Street, Suite 202

Laramie, WY 82070

Jerad Stack (307) 460-4763

10-1-A2.01-8684 GRC

[Physics-based Modeling of Foreign Object Damage in Ceramic Matrix Composites](#) [46]

Free Form Fibers LLC

26 F Congress Street, No. 312

Saratoga Springs, NY 12866

Joseph Pegna (518) 690-0396

10-1-A2.01-9409 GRC

[Silicon Carbide/Boron Nitride Dual In-Line Coating of Silicon Carbide Fiber Tows](#) [47]

Frendi Research Corporation

7561 Wall Triana Highway

Madison, AL 35757

Kader Frendi (256) 679-2662

10-1-A2.06-8769 ARC

[A High Order Accuracy Computational Tool for Unsteady Turbulent Flows and Acoustics](#) [48]

Frendi Research Corporation

7561 Wall Triana Highway

Madison, AL 35757

Kader Frendi (256) 679-2662

10-1-A2.06-8550 LaRC

[Computations of Separated High-Enthalpy Hypersonic Flows: Development of RANS and Variable-Resolution PANS Approaches](#) [49]

General Nano, LLC

1776 Mentor Avenue, Suite 170

Cincinnati, OH 45212

Joseph Sprengard (513) 309-5947

10-1-A2.01-8987 GRC

[Multifunctional Carbon Electromagnetic Materials, Motors, and Actuators](#) [50]

Hyper-Therm High-Temperature Composites

18411 Gothard Street, Units B and C

Huntington Beach, CA 92648

Robert Shinavski (714) 375-4085

10-1-A2.01-9345 LaRC

[Novel Fabrication Approach for SiC/SiC Thermal Protection System Elements](#) [51]

Impact Technologies, LLC

200 Canal View Boulevard

Rochester, NY 14623

Carol Marquardt (585) 424-1990

10-1-A2.07-9372 GRC

[Distributed Engine Control Empirical/Analytical Verification Tools](#) [52]

Innovative Technology Applications Co.

P.O. Box 6971

Chesterfield, MO 63006

Alan Cain (314) 373-3311

10-1-A2.05-8711 GRC

[Shock Generation and Control Using DBD Plasma Actuators](#) [53]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Anthony OKeefe (808) 826-7031

10-1-A2.06-8849 ARC

[In Situ Laser Diagnostics for Arc-Jet Facilities](#) [54]

MetroLaser, Inc.

8 Chrysler

Irvine, CA 92618

Christina Arnold (949) 553-0688

10-1-A2.02-9573 GRC

[Simultaneous Temperature and Velocity Diagnostic for Reacting Flows](#) [55]

Michigan Aerospace Corporation

1777 Highland Drive, Suite B

Ann Arbor, MI 48108

John Dodds (734) 975-8777

10-1-A2.07-9532 AFRC

[SR-CATS: A Short-Range Clear Air Turbulence Sensor](#) [56]

Michigan Engineering Services, LLC

2890 Carpenter Road, Suite 1900

Ann Arbor, MI 48108

Nickolas Vlahopoulos (734) 358-0792

10-1-A2.03-8991 LaRC

[Interior Acoustic Analysis for Early Use in Design](#) [57]

Micro Cooling Concepts, Inc.

7522 Slater Avenue, #122

Huntington Beach, CA 92647

Jack Fryer (714) 847-9945

10-1-A2.10-8672 GRC

[Advanced Turbine Blade Cooling Techniques](#) [58]

Nielsen Engineering & Research, Inc.

2700 Augustine Drive, Suite 200

Santa Clara, CA 95054

Patrick Reisenhel (408) 727-9457

10-1-A2.04-9207 LaRC

[Multifidelity Robust Aeroelastic Design](#) [59]

Numerical Technology Company, LLC

120 Annie Cook Way

Roswell, GA 30076

Andrew Makeev (404) 840-2378

10-1-A2.09-9076 LaRC

[Innovative Tools for Structural Diagnostics of Rotorcraft Fatigue Critical Composite Parts](#) [60]

Orbital Research, Inc.

4415 Euclid Avenue, Suite 500

Cleveland, OH 44103

Joseph Snyder (216) 649-0399

10-1-A2.07-8712 GRC

[Data Concentrator for Modular and Distributed Control of Propulsion Systems](#) [61]

Phoenix Integration

1715 Pratt Drive, Suite 2000

Blacksburg, VA 24060

Scott Ragon (540) 961-7215

10-1-A2.08-8708 LaRC

[Analysis and Design Environment for Large Scale System Models and Collaborative Model Development](#) [62]

Propulsive Wing, LLC

321 Route 5

Elbridge, NY 13060

Joseph Kummer (315) 252-2559

10-1-A2.10-9497 GRC

[Hybrid Axial and Cross-Flow Fan Propulsion for Transonic Blended Wing Body Aircraft](#) [63]

Reaction Systems, LLC

17301 West Colfax Avenue #405

Golden, CO 80401

Todd Leeson (303) 881-7992

10-1-A2.02-8674 GRC

[Self-Organizing Maps for Fast LES Combustion Modeling](#) [64]

Spectral Energies, LLC

5100 Springfield Street, Suite 301

Dayton, OH 45431

Sivaram Gogineni (937) 266-9570

10-1-A2.03-9030 LaRC

[Development of Wavelet Stochastic Estimation for Identifying the Contribution of Turbulent Structures to the Sound Field of Shear Flows](#) [65]

Spectral Energies, LLC

5100 Springfield Street, Suite 301

Dayton, OH 45431

Sivaram Gogineni (937) 266-9570

10-1-A2.10-8854 GRC

[Coupled Transpired and Discretely Injected Films](#) [66]

Spectral Energies, LLC

5100 Springfield Street, Suite 301

Dayton, OH 45431

Sivaram Gogineni (937) 266-9570

10-1-A2.06-8842 LaRC

[Plasma Sensor for High Bandwidth Mass-Flow Measurements at High Mach Numbers with RF Link](#) [67]

Sukra Helitek, Inc.

3146 Greenwood Road

Ames, IA 50014

Ramanujam Nappinnai (515) 292-9646

10-1-A2.09-8157 ARC

[RotCFD: A Viscous Design Tool for Advanced Configurations](#) [68]

Tao of Systems Integration, Inc.

144 Research Drive

Hampton, VA 23666

Arun Mangalam (757) 220-5040

10-1-A2.06-8327 JSC

[High Frequency Measurements in Shock-Wave/Turbulent Boundary-Layer Interaction at Duplicated Flight Conditions](#) [69]

Translume, Inc.

655 Phoenix Drive

Ann Arbor, MI 48108

Eric Jacobson (734) 528-6371

10-1-A2.09-9697 GRC

[Inexpensive Reliable Oil-Debris Optical Sensor for Rotorcraft Health Monitoring](#) [70]

ZONA Technology, Inc.

9489 East Ironwood Square Drive

Scottsdale, AZ 85258

Jennifer Scherr (480) 945-9988

10-1-A2.05-9062 LaRC

[A Unified Gaskinetic Methodology for Full-Knudsen-Range Flows with Chemically Reacting Effects](#) [71]

- **A3 Airspace Systems (16)**

- **Aptima, Inc.**

- 12 Gill Street, Suite 1400

- Woburn, MA 01801

- Thomas McKenna (781) 496-2443

- 10-1-A3.01-8117 ARC

- [User-Augmented Visualizations for Targeted Evaluation of Systems and Technologies](#) [72]

- **Aptima, Inc.**

- 12 Gill Street, Suite 1400

- Woburn, MA 01801

- Thomas McKenna (781) 496-2443

- 10-1-A3.01-8092 ARC

- [Artificial Intelligence for Refining Multi-Aircraft Testbed Environments](#) [73]

- **Cognitive Systems Engineering, Inc.**

- 7197 Calhoun Road

- Ostrander, OH 43061

- Philip Smith (614) 292-4120

- 10-1-A3.01-9165 ARC

- [Human-Centered Design of Adaptive Planning Tools for Airport Surface Management](#) [74]

- **Intelligent Automation, Inc.**

- 15400 Calhoun Drive, Suite 400

- Rockville, MD 20855

- Mark James (301) 294-5221

- 10-1-A3.02-8594 LaRC

- [A Robust Separation Assurance \(SA\) Architecture Using Integrated Airborne and Ground SA Concepts](#) [75]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 400

Rockville, MD 20855

Mark James (301) 294-5221

10-1-A3.01-8386 ARC

[The Design and Optimization of an Integrated Arrival/Departure Scheduler](#) [76]

Lightning Ridge Technologies

4106 Aikins Avenue Southwest

Seattle, WA 98116

Chad Jennings (650) 430-0458

10-1-A3.01-8377 LaRC

[Security and Hyper-accurate Positioning Monitoring with Automatic Dependent Surveillance-Broadcast \(ADS-B\)](#) [77]

Mosaic ATM, Inc.

801 Sycolin Road, Suite 212

Leesburg, VA 20175

Chris Stevenson (540) 454-7458

10-1-A3.01-9175 ARC

[Relative Position Indicator Concept for Managing Mixed RNAV and Vectored Arrival Traffic](#) [78]

Mosaic ATM, Inc.

801 Sycolin Road, Suite 212

Leesburg, VA 20175

Chris Stevenson (540) 454-7458

10-1-A3.01-9072 ARC

[Operational Assessment of Controller Complexity](#) [79]

Mosaic ATM, Inc.

801 Sycolin Road, Suite 212

Leesburg, VA 20175

Chris Stevenson (540) 454-7458

10-1-A3.01-8528 ARC

[Massively Parallel Processing for Dynamic Airspace Configuration](#) [80]

Mosaic ATM, Inc.

801 Sycolin Road, Suite 212

Leesburg, VA 20175

Chris Stevenson (540) 454-7458

10-1-A3.01-8526 ARC

[A Human-Relatable Course of Action Planner for Air Traffic Coordinators](#) [81]

Mosaic ATM, Inc.

801 Sycolin Road, Suite 212

Leesburg, VA 20175

Chris Stevenson (540) 454-7458

10-1-A3.01-8432 ARC

[Trajectory Option Set Generation to Support NAS Users during CTOP Events](#) [82]

Neerim Corporation

2551 Casey Avenue, #B

Mountain View, CA 94043

Peter Gage (650) 269-9328

10-1-A3.01-8521 ARC

[Airspace Simulation Through Indoor Operation of Subscale Flight Vehicles](#) [83]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

P. K. Menon (650) 559-8585

10-1-A3.01-8032 ARC

[Accelerating ATM Optimization Algorithms Using High Performance Computing Hardware](#) [84]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

P. K. Menon (650) 559-8585

10-1-A3.01-8004 ARC

[Design and Analysis Tools for 4D Green Trajectories in Terminal and Transition Airspaces](#) [85]

SibellOptics

1855 South 57th Court

Boulder, CO 80301

Russ Sibell (303) 913-1772

10-1-A3.02-8168 LaRC

[Next Generation Fiber Coherent Lidar System for Wake Vortex Detection](#) [86]

SibellOptics

1855 South 57th Court

Boulder, CO 80301

Russ Sibell (303) 913-1772

10-1-A3.02-8135 LaRC

[Novel Hemispherical Scanner for a Coherent Fiber LIDAR System](#) [87]

• **A4 Aeronautics Test Technologies (8)**

Boston Applied Technologies, Inc.

6F Gill Street

Woburn, MA 01801

Yingyin Zou (781) 935-2800

10-1-A4.01-8044 LaRC

[A Novel Surface Thermometry Approach for use in Aerothermodynamic Wind Tunnel Testing](#) [88]

Interdisciplinary Consulting Corporation

5004 Northwest 60th Terrace

Gainesville, FL 32652

Louis Cattafesta (352) 846-3017

10-1-A4.01-8522 LaRC

[MEMS Skin Friction Sensor](#) [89]

Interdisciplinary Consulting Corporation

5004 Northwest 60th Terrace

Gainesville, FL 32652

Louis Cattafesta (352) 846-3017

10-1-A4.01-8104 LaRC

[Micromachined Sensors for Hypersonic Flows](#) [90]

Luna Innovations Incorporated

1 Riverside Circle, Suite 400

Roanoke, VA 24016

Shirley Evans (540) 961-6724

10-1-A4.01-9561 LaRC

[Distributed Force and Moment Measurement System](#) [91]

Makel Engineering, Inc.

1585 Marauder Street

Chico, CA 95973

Benjamin Ward (216) 587-4750

10-1-A4.02-9308 AFRC

[Combustion/Emission Species Monitoring Ground and Flight Aeronautical Research Using a Gas Microsensor Array](#) [92]

MetroLaser, Inc.

8 Chrysler

Irvine, CA 92618

Christina Arnold (949) 553-0688

10-1-A4.02-9579 AFRC

[Long-Range Nondestructive Testing System](#) [93]

Rolling Hills Research Corporation

420 North Nash Street

El Segundo, CA 90245

Brian Kramer (310) 640-8781

10-1-A4.02-8405 AFRC

[Robust, Self-Contained and Bio-Inspired Shear Sensor Array](#) [94]

Tao of Systems Integration, Inc.

144 Research Drive

Hampton, VA 23666

Arun Mangalam (757) 220-5040

10-1-A4.02-8909 AFRC

[Biomimetic Approach for Accurate, Real-Time Aerodynamic Coefficients](#) [95]

• **O1 Space Communications (15)**

ADVR, Inc.

2310 University Way, Building 1-1

Bozeman, MT 59715

Betsy Heckel (406) 522-0388

10-1-O1.03-8268 GRC

[Fast, Low Loss, Electro-Optic Switch for Quantum Information Processing](#) [96]

AlphaSense, Inc.

470 Century Boulevard

Wilmington, DE 19808

Xin Zhang (302) 998-1116

10-1-O1.03-9130 JSC

[High Performance Ka Band Power Amplifiers for Future EVA Radio Applications](#) [97]

Beam Power Technology, Inc.

142 North Rd. Ste F130

Sudbury, MA 01776

Michael Lawrence (978) 376-0143

10-1-O1.05-9226 JPL

[High-Efficiency, High-Power Ka-Band Elliptic-Beam Traveling-Wave-Tube Amplifier for Long-Range Space RF Telecommunications](#) [98]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

10-1-O1.04-9435 JPL

[Multi-kW Uplink Fiber-Laser Beacon with Agile Signal Format](#) [99]

Freeform Wave Technologies, LLC

10414 East Star of the Desert Drive

Scottsdale, AZ 85255

Abbas Abbaspour-Tamijani (480) 302-0326

10-1-O1.01-9815 GRC

[Electronically Steerable Antennas with Panoramic Scan Field of View](#) [100]

ICs

PO Box 2236

McCall, ID 83638

Joseph Feeley (208) 315-0029

10-1-O1.02-9491 GRC

[Radiation Hard Electronics for Advanced Communication Systems](#) [101]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 400

Rockville, MD 20855

Mark James (301) 294-5221

10-1-O1.06-8084 GRC

[Security-Enhanced Autonomous Network Management for Space Networking](#) [102]

MaXentric Technologies

2071 Lemoine Avenue, Suite 302

Fort Lee, NJ 07024

Houman Ghajari (858) 272-8800

10-1-O1.05-9045 JPL

[DD-Amp for Deep Space Communications](#) [103]

Microelectronics Research Development Corporation

4775 Centennial Boulevard, Suite 130

Colorado Springs, CO 80919

Karen VanCura (719) 531-0805

10-1-O1.03-8210 GRC

[High Performance Ultra Low-Power ADCs and DACs](#) [104]

Nuvotronics, LLC

7586 Old Peppers Ferry Road

Radford, VA 24141

Scott Meller (800) 341-2333

10-1-O1.05-9321 JPL

[SWaP Optimized Space Transceivers](#) [105]

ODIS, Inc.

22 Quail Run Road

Mansfield, CT 06268

Geoff Taylor (860) 450-8407

10-1-O1.01-9727 GRC

[Optoelectronic Infrastructure for RF/Optical Phased Arrays](#) [106]

Space Photonics, Inc.

700 West Research Center Boulevard

Fayetteville, AR 72701

Matthew Leftwich (479) 856-6367

10-1-O1.02-8255 GRC

[Development of a Novel, Ultra-Low SWAP, RAD-Tolerant, Multi-Channel, Reprogrammable Photonic Integrated Circuit Optical Transceiver Module](#) [107]

Stottler Henke Associates, Inc.

951 Mariner's Island Boulevard, Suite 360

San Mateo, CA 94404

Nathaniel Henke (650) 931-2700

10-1-O1.06-9580 GRC

[Adaptive autonomous Communications Routing Optimizer for Network Efficiency Management](#) [108]

Virtual EM Inc.

3055 Plymouth Road, Suite 200

Ann Arbor, MI 48105

Tayfun Ozdemir (734) 222-4558

10-1-O1.03-9483 JSC

[High-Q Tunable Filters and High Efficiency Charge Pumps](#) [109]

Voxtel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

10-1-O1.04-9119 JPL

[Hole-Initiated-Avalanche, Linear-Mode, Single-Photon-Sensitive Avalanche Photodetector with Reduced Excess Noise and Low Dark Count Rate](#) [110]

• **O2 Space Transportation (13)**

Applied Analytic Research

929 South High Street, Suite 188

West Chester, PA 19382

Rita Funchion (610) 388-1264

10-1-O2.04-8037 GRC

[Damage-Tolerant Integration of Dissimilar Materials Using Microcrack-Resistant Isolating Adhesive](#) [111]

Design_Net Engineering LLC

16080 Table Mountain Parkway, Suite 500

Golden, CO 80403

Tom Adams (303) 462-0096

10-1-O2.01-8824 KSC

[Standard Electric Interface for Payload and Launch Vehicle Enabling Secondary Rideshare](#) [112]

Florida Turbine Technologies, Inc.

1701 Military Trail, Suite 110

Jupiter, FL 33458

Lloyd Mazer (561) 427-6337

10-1-O2.02-9681 AFRC

[Hydrocarbon Leak Detection Sensor](#) [113]

Florida Turbine Technologies, Inc.

1701 Military Trail, Suite 110

Jupiter, FL 33458

Lloyd Mazer (561) 427-6337

10-1-O2.02-9680 AFRC

[Electromagnetic Rotor Torque Check](#) [114]

Gloyer-Taylor Laboratories LLC

2212 Harton Boulevard

Tullahoma, TN 37388

Paul Gloyer (931) 581-6134

10-1-O2.04-9856 MSFC

[Reliable, Reusable Cryotank](#) [115]

HKM Enterprises Inc.

1660 South Albion Street

Denver, CO 80222

Jack Rubidoux (619) 920-4300

10-1-O2.01-8190 KSC

[A-DECK](#) [116]

K T Engineering Corporation

238 Business Park Boulevard, Building 23B Suite J

Madison, AL 35758

David Sisk (256) 461-8522

10-1-O2.02-8034 GRC

[Dual Use Catalytically Initiated Combustor \(CIC\) for Rocket Engine Ignition and Thruster Applications](#) [117]

Materials Research and Design

300 East Swedesford Road

Wayne, PA 19087

Brian Sullivan (610) 964-6131

10-1-O2.05-8918 ARC

[CMC Control Surface Designs](#) [118]

Micro-Space, Inc.

800 West Ninth Avenue

Denver, CO 80204

Richard Speck (303) 595-9696

10-1-O2.01-9005 KSC

[Non-Radiated Field Link to Recharge, Reprogram, Test and Co-ordinate Aux. Payload Systems](#) [119]

Special Aerospace Services

1630 A 30th, Suite 593

Boulder, CO 80301

Heather Bulk (303) 625-1010

10-1-O2.01-9180 KSC

[Expandable External Payload Carrier for Existing Launch Vehicles](#) [120]

TDA Research, Inc.

12345 West 52nd Avenue

Wheat Ridge, CO 80033

John Wright (303) 940-2300

10-1-O2.04-9093 GRC

[Low-Temperature Joining of SiC-Matrix Composites](#) [121]

Transition45 Technologies, Inc.

1739 North Case Street

Orange, CA 92865

Edward Chen (714) 283-2118

10-1-O2.02-8307 MSFC

[Flexible Production of Geometrically Complex Superalloy Components](#) [122]

XCOR Aerospace

1314 Flight Line

Mojave, CA 93501

Khaki McKee (661) 824-4714

10-1-O2.04-8581 MSFC

[Cryogenic Composite Tank Fabrication for Reusable Launch Vehicles](#) [123]

• **O3 Processing and Operations (18)**

Advanced Medical Electronics Corporation

6901 East Fish Lake Road, Suite #190

Maple Grove, MN 55369

Tom Hendrickson (762) 463-4814

10-1-O3.06-9114 JSC

[Acoustic Monitoring for Spaceflight Vehicle Applications](#) [124]

Aligned Concepts, LLC

2103 Alaqua Lakes Boulevard

Longwood, FL 32779

Don Asumu (407) 733-4929

10-1-O3.01-9853 ARC

[Tube Map Interface for a Coupled Scheduling and Diagnostics System](#) [125]

Aurora Flight Sciences Corporation

9950 Wakeman Drive

Manassas, VA 20110

Scott Hart (617) 500-0536

10-1-O3.02-9651 JSC

[SPHERES/Universal ISS Battery Charging Station](#) [126]

EM Photonics

51 East Main Street, Suite 203

Newark, DE 19711

Eric Kelmelis (302) 456-9003

10-1-O3.05-8338 JSC

[Compressed Sensing for Space-Based High-Definition Video Technologies](#) [127]

Entropy Engineering

7851-C Beechcraft Avenue

Gaithersburg, MD 20879

Steve Bress (301) 208-8373

10-1-O3.02-9334 JSC

[Nanorack Compatible Standardized Data Processing, Communication, and Control Module](#) [128]

Innovative Engineering Solutions

26200 Adams Avenue

Murrieta, CA 92562

David Kerner (951) 304-7600

10-1-O3.07-9160 MSFC

[Flexible Screen Propellant Management Device for Near Term In-Space Demonstration](#) [129]

Intelligent Fiber Optic Systems Corporation

2363 Calle Del Mundo

Santa Clara, CA 95054

Behzad Moslehi (408) 565-9004

10-1-O3.04-9416 KSC

[Composite Overwrapped Pressure Vessels \(COPV\) Monitoring System Using Fiber](#) [130]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

G. Hisaw (979) 393-9303

10-1-O3.02-9747 JSC

[Universal Sample Preparation Module for Molecular Analysis in Space](#) [131]

Materials Technologies Corporation

57 Maryanne Drive

Monroe, CT 06468

Yogesh Mehrotra (203) 874-3100

10-1-O3.04-8149 KSC

[DURACON-IR: Durable and Conductive IR witness coatings for High Accuracy IR Thermography](#) [132]

MaXentric Technologies

2071 Lemoine Avenue, Suite 302

Fort Lee, NJ 07024

Houman Ghajari (858) 272-8800

10-1-O3.05-9046 JSC

[Radiation Tolerant Software Defined Video Processor](#) [133]

Quest Product Development Corporation

6833 Joyce Street

Arvada, CO 80007

Alan Kopelove (303) 670-5088

10-1-O3.07-9381 KSC

[Integrated MLI: Advanced Thermal Insulation for Propellant Storage and Transfer Testbed](#) [134]

Sierra Lobo, Inc.

102 Pinnacle Dr.

Fremont, OH 43420

Mark Haberbusch (419) 499-9653

10-1-O3.07-8947 KSC

[A CubeSat-Scale Testbed for Cryogenic Fluid Management Technologies](#) [135]

Stottler Henke Associates, Inc.

951 Mariner's Island Boulevard, Suite 360

San Mateo, CA 94404

Nathaniel Henke (650) 931-2700

10-1-O3.01-8829 ARC

[Integrated Adaptive Analysis and Visualization of Satellite Network Data](#) [136]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

10-1-O3.02-9569 JSC

[Multi-Specimen Variable-G Facility for Life and Microgravity Sciences Research](#) [137]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

10-1-O3.02-9460 JSC

[Life Science Research Sample Transfer Technology for On Orbit Analysis](#) [138]

Tietronix Software, Inc.

1331 Gemini Avenue, Suite 300

Houston, TX 77058

Michel Izygon (281) 404-7256

10-1-O3.03-8460 JSC

[Mobile Platform Augmented Reality for Enhanced Operations on the International Space Station](#) [139]

Voxel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

10-1-O3.05-9110 MSFC

[Radiation-Hardened HDTV Sensors](#) [140]

WEVOICE, Inc.

1065 Route 22 West, Suite 2E

Bridgewater, NJ 08807

Yiteng (Arden) Huang (908) 393-6101

10-1-O3.06-9150 JSC

[A ZigBee-Based Wireless Sensor Network for Continuous Sound and Noise Level Monitoring on the ISS](#) [141]

- **O4 Navigation (8)**

CrossTrac Engineering, inc.

2730 St. Giles Lane

Mountain View, CA 94040

John Hanson (408) 898-0376

10-1-O4.03-9516 JPL

[Innovative X-ray Star Scanner for Spin Stabilized Microsatellites](#) [142]

Emergent Space Technologies, Inc.

6301 Ivy Lane, Suite 720

Greenbelt, MD 20770

Everett Cary (301) 345-1535

10-1-O4.03-8473 GRC

[Second-Order Kalman Filter Using Multi-Complex Step Derivatives](#) [143]

Fine Structure Technology LLC

5114 Balcones Woods Drive, Suite 307 PMB 305

Austin, TX 78759

Matthew Ellis (425) 516-8442

10-1-O4.01-9036 KSC

[MEMS Gyroscope with Interferometric Detection](#) [144]

Microcosm, Inc.

4940 West 147th Street

Hawthorne, CA 90250

Lynn Shimohara (310) 219-2700

10-1-O4.02-8417 GSFC

[Celestial X-ray Source Modeling and Catalogues for Spacecraft Navigation and Timing](#) [145]

Odyssey Space Research

1120 NASA Parkway, Suite 505

Houston, TX 77058

Jana Rebmann (281) 488-7953

10-1-O4.03-8803 GRC

[Flexible Particle Filter Navigation System for Analysis and Operations](#) [146]

Physical Optics Corporation

20600 Gramercy Place, Building 100

Torrance, CA 90501

Gordon Drew (310) 320-3088

10-1-O4.03-9816 GSFC

[Space Mission Design in the Vicinity of Small Bodies and Libration Points](#) [147]

SySense, Inc.

1960 East Grand Avenue, Suite 1070

El Segundo, CA 90245

Sung q (310) 322-7973

10-1-O4.03-8654 GSFC

[Fault Detection and Isolation of Satellite Formations using a Ground Station](#) [148]

Tahoe RF Semiconductor, Inc.

12834 Earhart Avenue

Auburn, CA 95602

Irshad Rasheed (530) 823-9786

10-1-O4.02-9042 GSFC

[Miniaturized Radiation Hardened Beam-Steerable GPS Receiver Front End](#) [149]

• **S1 Sensors, Detectors and Instruments (60)**

AdValue Photonics, Inc.

4585 South Palo Verde Road, Suite 405

Tucson, AZ 85714

Shibin Jiang (520) 790-5468

10-1-S1.01-9346 LaRC

[Tunable Single Frequency 1.55 Micron Fiber Laser](#) [150]

AdValue Photonics, Inc.

4585 South Palo Verde Road, Suite 405

Tucson, AZ 85714

Shibin Jiang (520) 790-5468

10-1-S1.01-9336 LaRC

[Frequency-Locked Single-Frequency Fiber Laser at 2 Micron](#) [151]

Advanced Scientific Concepts, Inc.

135 East Ortega Street

Santa Barbara, CA 93101

JoAnn Stettner (805) 966-3331

10-1-S1.01-8570 LaRC

[3D Flash LIDAR Real-Time Embedded Processing](#) [152]

ADVR, Inc.

2310 University Way, Building 1-1

Bozeman, MT 59715

Betsy Heckel (406) 522-0388

10-1-S1.01-9369 GSFC

[Robust, Low Loss Approach for Fiber to Waveguide Coupling](#) [153]

Aerius Photonics, LLC

2223 Eastman Avenue, Suite B

Ventura, CA 93003

John Baumann (805) 642-4645

10-1-S1.04-8576 JPL

[Radiation-Tolerant Vertical-Cavity Amplifying Detectors for Time-of-Flight Laser Rangefinders](#) [154]

Aerius Photonics, LLC

2223 Eastman Avenue, Suite B

Ventura, CA 93003

John Baumann (805) 642-4645

10-1-S1.09-8558 LaRC

[High Resolution, Radiation Tolerant Focal Plane Array for Lunar And Deep Space Applications](#) [155]

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 01821

Andrew Freedman (978) 663-9500

10-1-S1.08-9374 ARC

[In Situ Particle Asymmetry Factor Monitor](#) [156]

Anasphere, Inc.

106 Pronghorn Trail

Bozeman, MT 59718

John Bognar (406) 994-9354

10-1-S1.08-8549 GSFC

[Advanced Tethersonde for High-Speed Flux Measurements](#) [157]

ArkLight

3210 North Bay Hill Drive

Center Valley, PA 18034

Yujie Ding (610) 867-9794

10-1-S1.01-9957 LaRC

[Cloud discrimination for ASCENDS Mission Based on Optical Phase Conjugation as a Novel Approach](#) [158]

Atlas Scientific

1367 Camino Robles Way

San Jose, CA 95120

Ali Kashani (408) 507-0906

10-1-S1.07-9014 GSFC

[A Cold Cycle Dilution Refrigerator for Space Applications](#) [159]

Black Forest Engineering, LLC

P.O. Box 8059

Colorado Springs, CO 80933

Stephen Van Duyne (719) 593-9501

10-1-S1.04-9017 JPL

[Radiation Hardened Bolometer Linear Array](#) [160]

Composite Technology Development, Inc.

2600 Campus Drive, Suite D

Lafayette, CO 80026

Lori Bass (303) 664-0394

10-1-S1.06-8129 GSFC

[Composite Rolled Magnetometer and Instrument Boom](#) [161]

Connecticut Analytical Corporation

696 Amity Road

Bethany, CT 06524

Joseph Bango (203) 393-9666

10-1-S1.09-9832 JPL

[Electrospray Vacuum Diffusion Pump for Analytical Instruments](#) [162]

CoolCAD Electronics

7101 Poplar Avenue

Takoma Park, MD 20912

Neil Goldsman (240) 432-6535

10-1-S1.05-8465 GSFC

[Novel Silicon Carbide Deep Ultraviolet Detectors: Device Modeling, Characterization, Design and Prototyping](#) [163]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

10-1-S1.07-9544 GSFC

[An Ultra Low Power Cryo-Refrigerator for Space](#) [164]

Crystal Research, Inc.

48501 Warm Springs Boulevard, Suite 103

Fremont, CA 94539

Suning Tang (510) 445-0833

10-1-S1.11-9635 ARC

[A Resonance-Enhanced Raman Sensor Using a Novel Solid State UV Laser](#) [165]

Daylight Solutions

15378 Avenue of Science, Suite 200

San Diego, CA 92128

Brandon Yee (858) 432-7530

10-1-S1.08-9765 JPL

[Miniaturized Sensors for Monitoring of Atmospheric Trace Gases using Multiple Deployment Platforms](#) [166]

DLA Instruments

6060 Guadalupe Mines Court

San Jose, CA 95120

David Adler (408) 230-7164

10-1-S1.09-9408 MSFC

[Backpack SEM](#) [167]

DxRay, Inc.

19355 Business Center Drive, Suite 10

Northridge, CA 91324

Peter Lee (818) 280-0177

10-1-S1.05-8049 GSFC

[Improved Stability of Mercuric Iodide Detectors for Anticoincidence Shields](#) [168]

EOS Photonics

44 Cogswell Avenue

Cambridge, MA 02140

Mark Witinski (607) 351-5548

10-1-S1.08-9440 ARC

[Frequency Modulated Integrated Cavity Output Spectroscopy: A General Technique for Trace Gas and Isotope Measurements with Unprecedented Sensitivity](#) [169]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

10-1-S1.01-9434 GSFC

[High Energy Fiber Laser Based Lidar Transmitter for Topographic Mapping](#) [170]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

10-1-S1.01-9433 LaRC

[Flexible High Energy Lidar Transmitter for Remote Gas and Wind Sensing](#) [171]

Flight Landata, Inc.

250 Clark Street

North Andover, MA 01845

Xiuhong Sun (978) 682-7767

10-1-S1.08-9153 GSFC

[Airborne Thematic Thermal InfraRed and Electro-Optical Imaging System](#) [172]

Free Space Research

8671 Wolff Ct, Suite 365

Westminster, CO 80031

Timothy Rink (303) 596-5294

10-1-S1.02-8008 GSFC

[Antenna System and Digital Acquisition System for Enabling Ice Sheet 3D Tomography](#) [173]

Honeybee Robotics Ltd.

460 West 34th Street

New York, NY 10001

Chris Chapman (212) 966-0661

10-1-S1.11-9590 MSFC

[Pneumatic Proboscis Heat Flow Probe](#) [174]

HYPRES, Inc.

175 Clearbrook Road

Elmsford, NY 10523

Paul Donofrio (914) 592-1190

10-1-S1.03-8774 GSFC

[Low-power Broadband Digitizer for Millimeter-Wave Sensor Array Readout](#) [175]

IntelliEPI IR, Inc.

1250 East Collins Boulevard

Richardson, TX 75081

Paul Pinsukanjana (972) 234-0068

10-1-S1.04-8997 JPL

[High Quantum Efficiency Type II SLS FPAs for Space-Based Applications](#) [176]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Anthony O'Keefe (650) 965-7772

10-1-S1.08-9102 ARC

[Mobile Greenhouse Gas Flux Analyzer for Unmanned Aerial Vehicles](#) [177]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Anthony O'Keefe (650) 965-7772

10-1-S1.08-8245 ARC

[NO2 Analyzer for Miniature Unmanned Aerial Vehicles](#) [178]

Los Gatos Research

67 East Evelyn Avenue, Suite 3

Mountain View, CA 94041

Anthony O'Keefe (808) 826-7031

10-1-S1.09-9778 JPL

[Compact High-Power Widely Tunable Mid-IR Light Source for Planetary Exploration](#) [179]

Luxel Corporation

515 Tucker Avenue

Friday Harbor, WA 98250

Dianne Hall (360) 378-4137

10-1-S1.05-9158 GSFC

[High Throughput Soft X-Ray Filters with Enhanced IR-Rejection](#) [180]

Makel Engineering, Inc.

1585 Marauder Street

Chico, CA 95973

Benjamin Ward (216) 587-4750

10-1-S1.11-9728 MSFC

[Microhollow Glow Discharge Instrument for In Situ Lunar Surface Measurements](#) [181]

Masstech, Inc.

6992 Columbia Gateway Drive, Suite 200

Columbia, MD 21046

Richard Lee (443) 539-1742

10-1-S1.08-8722 GSFC

[Formaldehyde Profiler Using Laser Induced Fluorescence Technique](#) [182]

MaXentric Technologies

2071 Lemoine Avenue, Suite 302

Fort Lee, NJ 07024

Houman Ghajari (858) 272-8800

10-1-S1.02-9047 JPL

[Active Microwave Technologies Using Ultra-High efficiency P-Band and L -Band Power Amplifiers](#) [183]

MEMtronics Corporation

3000 Custer Road, Suite 270-400

Plano, TX 75075

Charles Goldsmith (214) 552-7055

10-1-S1.03-9762 GSFC

[Cryogenic MEMS Technology for Sensing Applications](#) [184]

NP Photonics, Inc.

9030 South Rita Road

Tucson, AZ 85747

James Fountain (520) 799-7424

10-1-S1.01-8771 LaRC

[50 mJ Monolithic 2 um Pulsed Fiber Laser Transmitter in 200 ns Regime with Transform-Limited Linewidth Based on Highly Tm-Doped Germanate Fibers](#) [185]

Opto-Knowledge Systems, Inc. (OKSI)

19805 Hamilton Avenue

Torrance, CA 90502

Nahum Gat (310) 756-0520

10-1-S1.08-9791 SSC

[A Multi-Depth Underwater Spectroradiometer for Validation of Remotely-Sensed Ocean Color and Estimation of Seawater Biogeochemical Properties](#) [186]

Polaronyx, Inc.

2526 Qume Drive, Suites 17 and 18

San Jose, CA 95131

Jian Liu (408) 573-0930

10-1-S1.01-9861 LaRC

[High Energy Single Frequency Resonant Amplifier](#) [187]

Polatomic, Inc.

1810 North Glenville Drive, #116

Richardson, TX 75081

Jean Isham (972) 690-0099

10-1-S1.06-8666 GSFC

[Low-Fiend Vector Magnetometer \(V-400-LF\)](#) [188]

Princeton Optronics, Inc.

1 Electronics Drive

Mercerville, DE 08619

Narayan Bhatta (609) 584-9696

10-1-S1.01-9766 LaRC

[Single Frequency Narrow Linewidth 2 Micron Laser](#) [189]

Q-Peak, Inc.

135 South Road

Bedford, MA 01730

Peter Moulton (781) 275-9535

10-1-S1.11-8655 GSFC

[A LIBS System for Lunar Surface Measurements](#) [190]

Q-Peak, Inc.

135 South Road

Bedford, MA 01730

Peter Moulton (781) 275-9535

10-1-S1.01-8463 LaRC

[Novel Compact Solid-State UV Laser for Ozone DIAL](#) [191]

Redfern Integrated Optics, Inc.

3350 Scott Boulevard, Building #62

Santa Clara, CA 95054

Jeff Coburn (408) 970-3500

10-1-S1.01-8283 GSFC

[Development of a Single-Frequency Narrow Linewidth 1.5mm Semiconductor Laser Suitable for Spaceflight Operation](#) [192]

Remote Sensing Solutions, Inc.

3179 Main Street, Unit 3, P.O. Box 1092

Barnstable, MA 02630

James Canniff (508) 362-9400

10-1-S1.02-7981 GSFC

[Advanced Pulse Compression System and Testbed](#) [193]

Ridgetop Group, Inc.

3580 West Ina Road

Tucson, AZ 85741

Milena Thompson (520) 742-3300

10-1-S1.09-9350 JPL

[SiGe 130 nm-based Rad-Hard ADC for the JEO Mission](#) [194]

SeaLite Engineering

78 Scraggy Neck Road

Cataumet, MA 02534

George Seaver (508) 564-4404

10-1-S1.08-9737 GSFC

[Antibiofouling for Ocean Instruments and Floats Using Microchlorine Generation](#) [195]

Southwest Sciences, Inc.

1570 Pacheco Street, Suite E-11

Santa Fe, NM 87505

Alan Stanton (505) 984-1322

10-1-S1.08-9325 ARC

[High-Precision Instrumentation for CO2 Isotope Ratio Measurements](#) [196]

Space Environment Technologies, LLC

1676 Palisades Drive

Pacific Palisades, CA 90272

W. Kent Tobiska (310) 573-4185

10-1-S1.08-8680 LaRC

[Automated Radiation Measurements for Aviation Safety \(ARMAS\)](#) [197]

SVT Associates

7620 Executive Drive

Eden Prairie, MN 55344

Leslie Price (952) 934-2100

10-1-S1.05-8486 GSFC

[High-Efficiency GaN-Based UV Imaging Photocathodes for Application in Harsh Environments](#) [198]

SVT Associates

7620 Executive Drive

Eden Prairie, MN 55344

Leslie Price (952) 934-2100

10-1-S1.04-8251 GSFC

[Uncooled High-Performance InAsSb Focal Plane Arrays](#) [199]

TechnoScience Corporation

P.O. Box 60658

Palo Alto, CA 94306

Jam Farhoomand (650) 838-9833

10-1-S1.04-8656 ARC

[A 4k-Pixel CTIA Readout for Far IR Photodetector Arrays](#) [200]

Teraphysics Corporation

110 Alpha Park

Cleveland, OH 44143

Carole Ream (440) 573-0008

10-1-S1.02-9560 JPL

[Microfabricated, 94 GHz, 25 W, Helical Traveling Wave Tube](#) [201]

The IIIAN Company, LLC

2700 East 28th Street, Suite 120

Minneapolis, MN 55406

Jody Klaassen (612) 226-1249

10-1-S1.03-9492 JPL

[Group III-Nitride LNAs for Microwave Radiometry](#) [202]

Vescent Photonics, Inc.

4865 East 41st Avenue

Denver, CO 80216

Jennifer Kellogg (303) 296-6766

10-1-S1.09-8071 GSFC

[Absolute Wavelength Control of Lasers for Active Sensing in Space](#) [203]

Vista Photonics, Inc.

67 Condesa Road

Santa Fe, NM 87508

Jeffrey Pilgrim (505) 466-3830

10-1-S1.08-9301 JPL

[Inexpensive Compact Sensor for In Situ Sulfur Dioxide Measurement in Volcanic Gas Plumes](#) [204]

Vista Photonics, Inc.

67 Condesa Road

Santa Fe, NM 87508

Jeffrey Pilgrim (505) 466-3830

10-1-S1.08-9823 LaRC

[Inexpensive Instrument for In Situ Characterization of Particulate Matter in Volcanic Ash Plumes](#) [205]

Voxtel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

10-1-S1.05-9117 GSFC

[Large-Area, UV-Optimized, Back-Illuminated Silicon Photomultiplier Arrays](#) [206]

Voxtel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

10-1-S1.04-9109 JPL

[Radiation-Hardened, Substrate-Removed, Metamorphic InGaAs Detector Arrays](#) [207]

XCube Communication Inc

7 Cummings Road

Westfrod, MA 01886

Mikael Taveniku (978) 799-2024

10-1-S1.10-8003 GSFC

[An Open Architecture Scaleable Maintainable Software Defined Commodity Based Data Recorder And Correlator](#) [208]

Xiomas Technologies

1317 Skyway Drive

Ypsilanti, MI 48197

john green (734) 646-6535

10-1-S1.08-8204 ARC

[Small Airborne Hyperspectral Wide Area Imager for Disaster Response and Earth Science](#) [209]

• **S2 Advanced Telescope Systems (18)**

4 D Technology Corporation

3280 East Hemisphere Loop, Suite 146

Tucson, AZ 85706

Katherine Creath (520) 294-5600

10-1-S2.05-9256 MSFC

[In-Situ Extended Lateral Range Surface Metrology](#) [210]

AGILTRON Corporation

15 Cabot Road

Woburn, MA 01801

Sharon Tan (781) 935-1200

10-1-S2.05-8362 JPL

[Innovative Deterministic Optical Surface Finishing](#) [211]

BEAM Engineering for Advanced Measurements

686 Formosa Avenue

Winter Park, FL 32789

Nelson Tabirian (407) 629-1282

10-1-S2.02-8374 JPL

[Achromatic Vector Vortex Waveplates for Coronagraphy](#) [212]

Boston Micromachines Corporation

30 Spinelli Place

Cambridge, MA 02138

Paul Bierden (617) 868-4178

10-1-S2.02-8461 JPL

[Enhanced Reliability MEMS Deformable Mirrors for Space Imaging Applications](#) [213]

Bridger Photonics Inc.

112 East Lincoln

Bozeman, MT 59715

Randy Reibel (406) 920-1339

10-1-S2.03-8200 JPL

[Multi-Point Trilateration: A New Approach for Distributed Metrology](#) [214]

Espace Inc.

30 Lynn Avenue

Hull, MA 02045

Francois Martel (781) 925-3893

10-1-S2.01-8167 JPL

[Precision Electropray Thruster Assembly \(PETA\)](#) [215]

Flemming Tinker Inc.

23 Soobitsky Road

Higganum, CT 06441

Flemming Tinker (860) 316-2589

10-1-S2.05-8599 MSFC

[Fabrication Technology for X-Ray Optics and Mandrels](#) [216]

Flemming Tinker Inc.

23 Soobitsky Road

Higganum, CT 06441

Flemming Tinker (860) 316-2589

10-1-S2.05-8494 GSFC

[ELID Grinding of Large Aspheric Optics](#) [217]

Flexure Engineering

4423 Lehigh Road, Suite 235

College Park, MD 20770

Russell Cox (425) 269-4619

10-1-S2.05-9211 GSFC

[Cryogenic Optical Metrology Through a Chamber Window](#) [218]

Iris AO, Inc.

2680 Bancroft Way

Berkeley, CA 94704

Michael Helmbrecht (510) 849-2375

10-1-S2.02-9446 GSFC

[Picometer-Resolution MEMS Segmented DM](#) [219]

L'Garde, Inc.

15181 Woodlawn Avenue

Tustin, CA 92780

Roger Garrett (714) 259-0771

10-1-S2.03-9177 JPL

[Thermally-Stable High Strain Deployable Structures](#) [220]

Nanotrons

12A Cabot Road

Woburn, MA 01801

Amanda Contardo (781) 935-1200

10-1-S2.04-8337 MSFC

[Scale-up of Nano-Engineered Anti-Reflection Coating Process for Large Plastic Optics](#) [221]

Optimax Systems, Inc.

6367 Dean Parkway

Ontario, NY 14519

Tom Kelly (585) 217-0729

10-1-S2.05-8826 MSFC

[Removing Mid-Spatial Frequency Errors on Curved Surfaces with VIBE](#) [222]

Radiation Monitoring Devices, Inc.

44 Hunt Street

Watertown, MA 02472

Nancy Marshall (617) 668-6810

10-1-S2.05-8926 MSFC

[High-Resolution Detector for At-Wavelength Metrology of X-Ray Optics](#) [223]

TelAztec

15 A Street

Burlington, MA 01803

Douglas Hobbs (781) 229-9905

10-1-S2.04-9466 GSFC

[Enhanced ORCA and CLARREO Depolarizers Using AR Microstructures](#) [224]

Trex Enterprises Corporation

10455 Pacific Center Court

San Diego, CA 92121

Deborah Doyle (858) 646-5462

10-1-S2.04-9269 MSFC

[Silicon Carbide Corrugated Mirrors for Space Telescopes](#) [225]

United Materials and Systems

13750 Old Dock Road

Orlando, FL 32828

Mark Tellam (407) 617-1156

10-1-S2.04-8758 MSFC

[A Low Cost High Specific Stiffness Mirror Substrate](#) [226]

Vanguard Composites Group, Inc.

9431 Dowdy Drive

San Diego, CA 92126

Steven Sherman (858) 444-1826

10-1-S2.03-8698 JPL

[Carbon Fiber Reinforced, Zero CME Composites](#) [227]

• **S3 Spacecraft and Platform Subsystems (50)**

Advanced Cooling Technologies, Inc.

1046 New Holland Avenue

Lancaster, PA 17601

Jon Zuo (717) 295-6058

10-1-S3.07-8081 GSFC

[Low Cost Variable Conductance Heat Pipe for Balloon Payload](#) [228]

Advanced Cooling Technologies, Inc.

1046 New Holland Avenue

Lancaster, PA 17601

Jon Zuo (717) 295-6058

10-1-S3.02-8018 MSFC

[Hybrid Heat Pipes for High Heat Flux Spacecraft Thermal Control](#) [229]

Advanced Science and Novel Technology

27 Via Porto Grande

Rancho Palos Verdes , CA 90275

Vladimir Katzman (310) 528-2532

10-1-S3.01-9847 GSFC

[Multi-Gigabit Rate Radiation Hard Bus](#) [230]

Aerophysics, Inc.

2521 7 Mile Point Rd

Allouez, MI 49805

Lyon King (906) 370-2376

10-1-S3.04-8303 JPL

[Self-Healing Field-Emission Neutralizers for Electric Propulsion](#) [231]

Analytical Services, Inc. (ASI)

350 Voyager Way

Huntsville, AL 35806

Jared Austin (256) 562-2134

10-1-S3.08-9719 AFRC

[Low Power, Low Cost Igniter for Nonhypergolic Mars Ascent Vehicle](#) [232]

Anasphere, Inc.

106 Pronghorn Trail

Bozeman, MT 59718

John Bognar (406) 994-9354

10-1-S3.09-8199 GSFC

[The GlideSonde: A Lifting Body Guided Dropsonde](#) [233]

Applied Material Systems Engineering, Inc.(AMSENG)

2309 Pennsbury Court

Schaumburg, IL 60194

Mukund Deshpande (630) 372-9650

10-1-S3.05-9947 GRC

[Evaluation of Synthesis & Processing Routes for the High K- Boron Nitride Nano Tubes \(BNNTS\) for Thermal Management Applications](#) [234]

Applied Material Systems Engineering, Inc.(AMSENG)

2309 Pennsbury Court

Schaumburg, IL 60194

Mukund Deshpande (630) 372-9650

10-1-S3.02-9946 GSFC

[The Conductive Thermal Control Material Systems for Space Applications](#) [235]

Aspen Aerogels, Inc.

30 Forbes Road, Building B

Northborough, MA 01532

Kevin Schmidt (508) 691-1161

10-1-S3.02-8541 GSFC

[Aerogel-Based Multi-Layer Insulation with Micrometeoroid Protection](#) [236]

Astral Infiniti, LLC

3233 Canal Point Road

Hacienda Heights, CA 91745

Darwin Decker (626) 330-9963

10-1-S3.05-8525 GRC

[Efficient Lightweight AC-AC Power Control for Solar UAV](#) [237]

Busek Co., Inc.

11 Tech Circle

Natick, MA 01760

Judy Budny (508) 655-5565

10-1-S3.04-8878 GRC

[20mN, Variable Specific Impulse Colloid Thruster](#) [238]

Busek Co., Inc.

11 Tech Circle

Natick, MA 01760

Judy Budny (508) 655-5565

10-1-S3.04-8134 GRC

[Dual Mode Low Power Hall Thruster](#) [239]

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

10-1-S3.03-9394 GRC

[SOLAROSA \(Stretched Optical Lens Architecture on Roll-Out Solar Array\)](#) [240]

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

10-1-S3.03-8462 GRC

[Affordable Practical High-Efficiency Photovoltaic Concentrator Blanket Assembly for Ultra-Lightweight Solar Arrays](#) [241]

ePack, Inc.

333 Parkland Plaza, #100

Ann Arbor, MI 48103

Jay Mitchell (734) 846-7029

10-1-S3.06-8963 GSFC

[An Advanced Micromachined Package for the Quartz Disk Resonant Gyroscope](#) [242]

EPIR Technologies, Inc.

590 Territorial Drive

Bolingbrook, IL 60440

Sivalingam Sivananthan (630) 771-0201

10-1-S3.02-8827 GSFC

[High Coefficient of Performance HgCdTe And Metallic Superlattice-Based Thermoelectric Coolers](#) [243]

Exquadrum, Inc.

12130 Rancho Road

Adelanto, CA 92301

Glen Goede (760) 246-0279

10-1-S3.09-8272 LaRC

[NASA Guided Dropsonde](#) [244]

GeneSiC Semiconductor Inc.

43670 Trade Center Place, Suite 155

Dulles, VA 20166

Satish Lulla (703) 996-8200

10-1-S3.05-8686 GRC

[Integrated SiC Super Junction Transistor-Diode Devices for High-Power Motor Control Modules Operating](#)

[at 500 C](#) [245]

GSSL Inc

PO Box 909

Tillamook, OR 97141

Kristen Lachenmeier (503) 842-1990

10-1-S3.07-9205 JPL

[Titan Montgolfiere Terrestrial Test Bed](#) [246]

Honeybee Robotics Ltd.

460 West 34th Street

New York, NY 10001

Chris Chapman (212) 966-0661

10-1-S3.06-9597 GSFC

[Magnetic Bearings for Small Satellite CMG's and Other Miniature Spacecraft Mechanisms](#) [247]

Innoflight, Inc.

5850 Oberlin Drive, Suite 340

San Diego, CA 92121

Assi Friedman (858) 638-1580

10-1-S3.01-8533 LaRC

[Radiation Hardened Ethernet PHY and Switch Fabric](#) [248]

Innovative Dynamics, Inc.

2560 North Triphammer Road

Ithaca, NY 14850

Kumar Seetharam (607) 257-0533

10-1-S3.09-7960 JPL

[Nephelometric Dropsonde for Volcanic Ash](#) [249]

Latitude Engineering

340 South Convent Avenue

Tucson, AZ 85701

Jason Douglas (520) 792-2006

10-1-S3.09-8972 AFRC

[Expendable Guided Dropsonde](#) [250]

MaXentric Technologies

2071 Lemoine Avenue, Suite 302

Fort Lee, NJ 07024

Houman Ghajari (858) 272-8800

10-1-S3.01-9043 JPL

[RUSH: A Rad-Hard Unified Scalable Heterogeneous Processing Architecture](#) [251]

MER Corporation

7960 South Kolb Road

Tucson, AZ 85756

Raouf Loutfy (520) 574-1980

10-1-S3.07-9379 JPL

[High Temperature Acid Resistant Balloon](#) [252]

Microelectronics Research Development Corporation

4775 Centennial Boulevard, Suite 130

Colorado Springs, CO 80919

Karen VanCura (719) 531-0805

10-1-S3.01-8682 GSFC

[Technologies Enabling Custom Radiation-Hardened Component Development](#) [253]

MicroLink Devices

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 588-3001

10-1-S3.03-8955 GRC

[Solar-Powered, Micron-Gap Thermophotovoltaics for MEO Applications](#) [254]

MMA Design LLC

PO Box 7804

Loveland, CO 80537

Mitchell Wiens (970) 290-6426

10-1-S3.03-9462 GRC

[FDM-HAWK, A High Performance Compact Modular Solar Array](#) [255]

MSNW, LLC

8551 154th Avenue North East

Redmond, WA 98052

John Slough (425) 867-8900

10-1-S3.04-8645 JPL

[A Modular Electric Propulsion System with On-Demand Power Scaling](#) [256]

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Lisa Lawson (540) 626-6266

10-1-S3.07-9191 GSFC

[Low-Weight, Durable, and Low-Cost Metal Rubber Sensor System for Ultra Long Duration Scientific Balloons](#) [257]

Noqsi Aerospace ltd

2822 S Nova Road

Pine, CO 80470

John Doty (303) 816-2756

10-1-S3.06-9833 GSFC

[A Reaction Sphere for High Performance Attitude Control](#) [258]

Pacific Design Technologies, Inc.

6300 Lindmar Drive

Goleta, CA 93117

Lou Izzo (805) 961-9110

10-1-S3.02-8591 JPL

[High Performance Space Pump](#) [259]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 01810

B. David Green (978) 689-0003

10-1-S3.04-8888 GRC

[Green Liquid Monopropellant Thruster for In-space Propulsion](#) [260]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 01810

B. David Green (978) 689-0003

10-1-S3.08-8886 GRC

[High Performance Monopropellants for Future Planetary Ascent Vehicles](#) [261]

Pioneer Astronautics

11111 West 8th Avenue, Unit A

Lakewood, CO 80215

Robert Zubrin (303) 980-0890

10-1-S3.04-8182 GRC

[Nitrous Oxide Micro Engines](#) [262]

Plasma Processes, LLC

4914 Moores Mill Road

Huntsville, AL 35811

Timothy McKechnie (256) 851-7653

10-1-S3.04-9213 GRC

[Improved Rhenium Thrust Chambers for In-Space Propulsion](#) [263]

QuickFlex, Inc.

8401 North New Braunfels, Suite 324

San Antonio, TX 78209

Sally Draper (210) 824-2348

10-1-S3.01-9509 ARC

[Q-Deploy-Processor and FPGA Rapid-Deployment Platform](#) [264]

Radiation Monitoring Devices, Inc.

44 Hunt Street

Watertown, MA 02472

Nancy Marshall (617) 668-6810

10-1-S3.03-8924 GRC

[Efficient, Long-Lived Radioisotope Power Generator](#) [265]

Sienna Technologies, Inc.

19501 144th Avenue North East, Suite F-500

Woodinville, WA 98072

Karen Valdastri (425) 485-7272

10-1-S3.04-9415 GRC

[Joining Silicon Carbide Components for Space Propulsion](#) [266]

Space Micro, Inc.

10237 Flanders Court

San Diego, CA 92121

David Strobel (858) 332-0700

10-1-S3.05-8876 GRC

[All Digital Switch-Mode DC/DC Converters with BIST Functionality for Harsh Space Environments](#) [267]

Space Photonics, Inc.

700 West Research Center Boulevard

Fayetteville, AR 72701

Matthew Leftwich (479) 856-6367

10-1-S3.01-8258 GSFC

[Development of a Low-SWAP, RAD-Tolerant, Thermally Stable, 10Gbps per Channel Fiber Optic Transceiver for Harsh Environment Networking Applications](#) [268]

Spire Semiconductor, LLC

25 Sagamore Park Road

Hudson, NH 03051

Edward Gagnon (603) 689-1226

10-1-S3.03-8316 GRC

[Inverted 3J Tandem Thermophotovoltaic Modules](#) [269]

Starfire Industries LLC

2109 South Oak Street

Champaign, IL 61820

Brian Jurczyk (708) 955-6691

10-1-S3.04-8822 JPL

[Hall-Effect Thruster Modifications for Dual-Mode Electric Propulsion](#) [270]

Streamline Automation, LLC

3100 Fresh Way Southwest

Huntsville, AL 35805

Alton Reich (256) 713-1220

10-1-S3.04-9478 GRC

[High Duty Cycle, Extended Operation Constant Volume Combustion Engine](#) [271]

Structured Materials Industries, Inc.

201 Circle Drive North, Suite 102/103

Piscataway, NJ 08854

Gary Tompa (732) 302-9274

10-1-S3.03-9087 GRC

[High-Efficiency, Nanowire Based Thermoelectric Devices for Radioisotope Power Conversion](#) [272]

Tech-X Corporation

5621 Arapahoe Avenue, Suite A

Boulder, CO 80303

Leslie Rosczyk (720) 974-1855

10-1-S3.04-9270 GRC

[Predicting Hall Thruster Operational Lifetime Using a Kinetic Plasma Model and a Molecular Dynamics Simulation Method](#) [273]

Toyon Research Corporation

6800 Cortona Drive

Goleta, CA 93117

Marcella Lindbery (805) 968-6787

10-1-S3.09-9430 AFRC

[A Low-Cost, High-Precision Navigator for Unmanned Aircraft](#) [274]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

10-1-S3.04-8786 GRC

[Ultrahigh Yield Strength Rhenium for High-Performance Combustion Chambers](#) [275]

Vanilla Aircraft, LLC

2822 Mary Street

Falls Church, VA 22042

Jeremy Novara (703) 849-9070

10-1-S3.09-8623 ARC

[Robust Electric Aerial Instrument Platform for Volcanic Environments](#) [276]

Ventions, LLC

1142 Howard Street

San Francisco, CA 94103

Amit Mehra (202) 213-2846

10-1-S3.04-9328 GRC

[Low-Cost and Light-Weight Transpiration-Cooled Thrust Chambers](#) [277]

• **S4 Low-Cost Small Spacecraft and Technologies (6)**

Composite Technology Development, Inc.

2600 Campus Drive, Suite D

Lafayette, CO 80026

Lori Bass (303) 664-0394

10-1-S4.01-8691 ARC

[Roll-Out De-Orbiting Device](#) [278]

Innoflight, Inc.

5850 Oberlin Drive, Suite 340

San Diego, CA 92121

Assi Friedman (858) 638-1580

10-1-S4.02-8530 ARC

[CubeSat Power Management Controller and Solar Array Articulation System](#) [279]

nScript, Inc.

12151 Research Parkway, Suite 150

Orlando, FL 32826

Kenneth Church (407) 275-4720

10-1-S4.02-8566 ARC

[3D Print and Play Payload \(P3\) Systems](#) [280]

Opto-Knowledge Systems, Inc. (OKSI)

19805 Hamilton Avenue

Torrance, CA 90502

Nahum Gat (310) 756-0520

10-1-S4.02-8957 ARC

[Ultra-Precision Manufacturing Technology for Miniature & Complex-Form Integrated Opto-Mechanical Structures for Sensors Payloads](#) [281]

Tethers Unlimited

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

10-1-S4.01-9541 ARC

[Scalable, Lightweight, Low-Cost Aero/Electrodynamic Drag Deorbit Module](#) [282]

Tethers Unlimited

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

10-1-S4.02-8448 ARC

[PowerCube: Integrated Power, Propulsion, and Pointing for CubeSats](#) [283]

- **S5 Robotic Exploration Technologies (10)**

- Advanced Science and Novel Technology**

- 27 Via Porto Grande

- Rancho Palos Verdes , CA 90275

- Vladimir Katzman (310) 528-2532

- 10-1-S5.05-9555 JPL

- [Radiation Hard Wide Temperature Range Mixed-Signal Components](#) [284]

- Advanced Scientific Concepts, Inc.**

- 135 East Ortega Street

- Santa Barbara, CA 93101

- JoAnn Stettner (805) 966-3331

- 10-1-S5.01-8618 LaRC

- [3D-FPA Hybridization Improvements](#) [285]

- Altius Space Machines, Inc.**

- P.O. Box 270610

- Louisville, CO 80027

- Jonathan Goff (801) 362-2310

- 10-1-S5.04-9001 JPL

- [An ElectroAdhesive "Stick Boom" for Mars Sample Return Orbiting Sample Capture](#) [286]

- Aurora Flight Sciences Corporation**

- 9950 Wakeman Drive

- Manassas, VA 20110

- Scott Hart (617) 500-0536

- 10-1-S5.04-9650 JPL

- [SPHERES Mars Orbiting Sample Return External Orbiting Capture](#) [287]

- B&A Engineering Systems Inc.**

- 440 S. Cataract Avenue, Suite #H

San Dimas, CA 91773

Alireza Bakhshi (909) 524-1432

10-1-S5.05-9975 JPL

[Data Acquisition Controllers and Computers that can Endure, Operate and Survive Cryogenic Temperatures](#) [288]

Cadtrak Engineering, LLC

31 Santa Barbara Avenue

San Anselmo, CA 94960

David Levitt (415) 259-4929

10-1-S5.02-9624 JPL

[Sample Encapsulation Device](#) [289]

Honeybee Robotics Ltd.

460 West 34th Street

New York, NY 10001

Chris Chapman (212) 966-0661

10-1-S5.02-9592 JPL

[5 in 1 Drill For Mars Sample Return Mission](#) [290]

Mainstream Engineering Corporation

200 Yellow Place

Rockledge, FL 32955

Michael Rizzo (321) 631-3550

10-1-S5.05-9132 JPL

[Demonstration of a Passive Thermal Management System for Cooling Electronics in Extreme Environments](#) [291]

Rocketstar Robotics Inc

2510G Las Posas Road, Suite 112

Camarillo, CA 93010

Douglas Petercsak (877) 423-7795

10-1-S5.03-8443 JPL

[Modular Actuators for Space Applications](#) [292]

Ultra Communications

990 Park Center Drive, Suite H

Vista, CA 92081

Charlie Kuznia (760) 652-0007

10-1-S5.05-9343 JPL

[Radiation Hardened High Speed Fiber Optic Transceivers for Extreme Environments](#) [293]

• **S6 Information Technologies (13)**

Accelogic, LLC

1830 Main Street, Suite 204

Weston, FL 33326

Juan Gonzalez (954) 888-4711

10-1-S6.01-8665 ARC

[Accelerating HPC Applications through Specialized Linear Algebra Clouds](#) [294]

Applied Geosolutions, LLC

403 Kent Place

NEWMARKET, NH 03857

William Salas (603) 292-5747

10-1-S6.02-9710 SSC

[Mobile Water Quality Information Tool](#) [295]

Argo Navis Technologies LLC

1609 Golden Aspen Drive

Ames, IA 50010

Tom Brennan (515) 956-3696

10-1-S6.01-8344 ARC

[Open|SpeedShop Graphical User Interface Technology](#) [296]

COMPUTATIONAL PHYSICS, INC. (CPI)

8001 Braddock Road, Suite 210

Springfield, VA 22151

Jerry Lumpe (303) 442-3992

10-1-S6.03-9407 LaRC

[Generalized Geophysical Retrieval and Analysis Tool for Planetary Atmospheres](#) [297]

DQSI, LLC

19218 North 5th Street

Covington, LA 70433

Shelly Stubbs (985) 871-7472

10-1-S6.02-9639 JPL

[Distributed GIS Computing for High Performance Simulation and Visualization](#) [298]

EM Photonics

51 East Main Street, Suite 203

Newark, DE 19711

Eric Kelmelis (302) 456-9003

10-1-S6.04-8165 GSFC

[Linear Algebra Libraries for Massive GPU Clusters](#) [299]

Harmonia Holdings Group LLC

2020 Kraft Drive, Suite 1000

Blacksburg, VA 24060

Michael Bame (540) 951-5900

10-1-S6.05-8913 GSFC

[Software Engineering Tools for Scientific Models](#) [300]

Kitware, Inc.

28 Corporate Drive

Clifton Park, NY 12065

William Schroeder (518) 371-3971

10-1-S6.04-9019 GSFC

[Scalable ParaView for Extreme Scale Visualization](#) [301]

SciberQuest, Inc.

2130 Via Mar Valle

Del Mar, CA 92014

Homa Karimabadi (858) 793-7063

10-1-S6.04-9776 JPL

[New Approach to Science Data Discovery in Petascale Systems](#) [302]

Spectral Sciences, Inc.

4 Fourth Avenue

Burlington, MA 01803

Fritz Bien (781) 273-4770

10-1-S6.03-9444 GSFC

[High-Speed Atmospheric Correction Algorithm for Spectral Image Processing](#) [303]

StormCenter Communications, Inc.

1450 South Rolling Road, Studio 4029

Baltimore, MD 21227

Dave Jones (410) 203-1316

10-1-S6.02-9572 SSC

[Real-Time COAST Visualization and Collaboration](#) [304]

Tech-X Corporation

5621 Arapahoe Avenue, Suite A

Boulder, CO 80303

Leslie Rosczyk (720) 974-1855

10-1-S6.03-9468 LaRC

[A Rapid Model Fitting Tool Suite](#) [305]

WxAnalyst, LTD

4458 Oakdale Crescent Court, #1226

Fairfax, VA 22030

Scott Shipley (571) 309-6024

10-1-S6.03-9634 GSFC

[COLLADA Computing for Geophysical Applications](#) [306]

- **X1 In Situ Resource Utilization (12)**

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 01821

Cameron Martin (978) 932-0207

10-1-X1.02-8598 GRC

[Flash Cracking Reactor for Waste Plastic Processing](#) [307]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

10-1-X1.01-9449 JSC

[An Efficient Heat Exchanger for In Situ Resource Utilization](#) [308]

Eltron Research & Development, Inc.

4600 Nautilus Court South

Boulder, CO 80301

James Beck (303) 530-0263

10-1-X1.01-9363 JSC

[Novel High-Temperature Pressure Sensors for Extreme Service Applications](#) [309]

Grainflow Dynamics, Inc.

1141 Catalina Drive, PMB 270

Livermore, CA 94550

Otis Walton (925) 447-4293

10-1-X1.01-8956 GRC

[Enhanced Mesh-Free Simulation of Regolith Flow](#) [310]

Grainflow Dynamics, Inc.

1141 Catalina Drive, PMB 270

Livermore, CA 94550

Otis Walton (925) 447-4293

10-1-X1.01-8556 GRC

[Centrifugal Sieve for Size-Segregation/ Beneficiation of Regolith](#) [311]

Materials and Systems Research, Inc.

5395 West 700 South

Salt Lake City, UT 84104

Anthony Decheek (801) 530-4987

10-1-X1.02-8882 GRC

[Development of a Robust, Highly Efficient Oxygen-Carbon Monoxide Cogeneration System](#) [312]

Pioneer Astronautics

11111 West 8th Avenue, Unit A

Lakewood, CO 80215

Robert Zubrin (303) 980-0890

10-1-X1.01-8174 JSC

[Mars Regolith Water Extractor](#) [313]

Pioneer Astronautics

11111 West 8th Avenue, Unit A

Lakewood, CO 80215

Robert Zubrin (303) 980-0890

10-1-X1.02-9311 KSC

[Regenerable Contaminant Removal System](#) [314]

Precision Combustion, Inc.

410 Sackett Point Road

North Haven, CT 06473

John Scanlon (203) 287-3700

10-1-X1.02-9266 JSC

[Novel CO₂ Separation and Methanation for Oxygen and Fuel Production](#) [315]

Sustainable Innovations, LLC

160 Oak Street

Glastonbury, CT 06033

Trent Molter (860) 652-9690

10-1-X1.02-8694 JSC

[6 CFM Electrochemical Hydrogen Pump and Compressor](#) [316]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

10-1-X1.02-9836 JSC

[Plasma Catalytic Extraction of Oxygen from the Martian Atmosphere](#) [317]

Yardney Technical Products, Inc.

82 Mechanic Street

Pawcatuck, CT 06379

John Dufurat (860) 599-1100

10-1-X1.02-8425 JSC

[A Martian Air Battery](#) [318]

• **X2 Advanced Propulsion (15)**

Advanced Cooling Technologies, Inc.

1046 New Holland Avenue

Lancaster, PA 17601

Jon Zuo (717) 295-6058

10-1-X2.04-9362 MSFC

[High Temperature Radiators for Electric Propulsion Systems](#) [319]

Arkansas Power Electronics International, Inc.

535 West Research Center Boulevard, Suite 135

Fayetteville, AR 72701

Sharmila Mounce (479) 443-5759

10-1-X2.03-9748 GRC

[Extreme Environment SiC Wireless Sensor Suite for Nuclear Thermal Propulsion Engines](#) [320]

ATA Engineering, Inc.

11995 El Camino Real

San Diego, CA 92130

Ronan Cunningham (858) 480-2015

10-1-X2.01-8877 MSFC

[Development of Engine Loads Methodology](#) [321]

CFD Research Corporation

215 Wynn Drive, 5th Floor

Huntsville, AL 35805

Silvia Harvey (256) 726-4858

10-1-X2.01-9105 MSFC

[Free-Surface Modeling of Cryogenic Fluids Using a Higher-Order, Unstructured Grid Volume-of-Fluid \(VOF\) Method](#) [322]

Combustion Research and Flow Technology

6210 Keller's Church Road

Pipersville, PA 18947

Katherine Young (215) 766-1520

10-1-X2.01-9934 JSC

[Design Support and Analysis Tool for Pyrotechnically Actuated Valves](#) [323]

e-beam, Inc.

21070 Southwest Tile Flat Road

Beaverton, OR 97007

Bernard Vancil (503) 628-0703

10-1-X2.04-9863 JPL

[Reservoir Cathode for Electric Space Propulsion](#) [324]

Eltron Research & Development, Inc.

4600 Nautilus Court South

Boulder, CO 80301

James Beck (303) 530-0263

10-1-X2.04-9626 JPL

[Inorganic Nanostructured High-Temperature Magnet Wires](#) [325]

Firestar Engineering, LLC

1122 Flightline Street, #76

Mojave, CA 93501

Gregory Peters (661) 860-1088

10-1-X2.02-8099 JSC

[Low Cost Carbon-Carbon Rocket Nozzle Development](#) [326]

Materials Research and Design

300 East Swedesford Road

Wayne, PA 19087

Brian Sullivan (610) 964-6131

10-1-X2.01-8919 MSFC

[Design and Analysis of Metal-to-Composite Nozzle Extension Joints](#) [327]

Micro Cooling Concepts, Inc.

7522 Slater Avenue, #122

Huntington Beach, CA 92647

Jack Fryer (714) 847-9945

10-1-X2.02-8561 JSC

[Low Mass, Aluminum NOFBX Combustion Chamber Development](#) [328]

Plasma Processes, LLC

4914 Moores Mill Road

Huntsville, AL 35811

Timothy McKechnie (256) 851-7653

10-1-X2.02-9554 GRC

[Non-Toxic HAN Monopropellant Propulsion](#) [329]

Spire Corporation

One Patriots Park

Bedford, MA 01730

Mark Little (781) 275-6000

10-1-X2.02-9724 GRC

[High Temperature Resistant Zirconia Coating for In-space Propulsion](#) [330]

Technology Assessment & Transfer, Inc.

133 Defense Highway, Suite 212

Annapolis, MD 21401

Larry Fehrenbacher (410) 224-3710

10-1-X2.03-8631 GRC

[Improved CVD Coatings for Carbide Based Nuclear Thermal Propulsion Fuel Elements](#) [331]

Tethers Unlimited

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

10-1-X2.04-9542 JPL

[High Thrust Efficiency MPD Thruster](#) [332]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

10-1-X2.03-8779 JPL

[Ductile Tungsten-Rhenium Coating for Long-Term Protection of Nuclear-Thermal Rocket Fuel](#) [333]

• **X3 Life Support and Habitation Systems (20)**

Ashwin-Ushas Corp, Inc.

9 Red Coach Lane

Holmdel, NJ 07733

Prasanna Chandrasekhar (732) 739-1122

10-1-X3.04-8984 JSC

[High Turndown Ratio, High Delta-Emittance, Variable Emissivity Electrochromics](#) [334]

Connecticut Analytical Corporation

696 Amity Road

Bethany, CT 06524

Joseph Bango (203) 393-9666

10-1-X3.04-9830 JSC

[Variable Surface Area Thermal Radiator](#) [335]

Cornerstone Research Group, Inc.

2750 Indian Ripple Road

Dayton, OH 45440

Stephen Vining (937) 320-1877

10-1-X3.02-9925 JSC

[Quiet, High-Efficiency Vaneaxial Fans](#) [336]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

10-1-X3.04-8863 JSC

[Long-Life, Hydrophilic, Antimicrobial Coating for Condensing Heat Exchangers](#) [337]

ElectroDynamic Applications, Inc.

P.O. Box 131460

Ann Arbor, MI 48113

Jonathan Zagel (734) 786-1434

10-1-X3.03-7997 JPL

[Plasma Induced Micro Flame Ionization Detector for Environmental Monitoring](#) [338]

Giner, Inc.

89 Rumford Avenue

Newton, MA 02466

Anthony LaConti (781) 529-0501

10-1-X3.03-9702 JPL

[Portable Sensor for Rapid In Situ Measurement of Trace Toxic Metals in Water](#) [339]

Innosense, LLC

2531 West 237th Street, Suite 127

Torrance, CA 90505

Kisholoy Goswami (310) 530-2011

10-1-X3.03-9691 JSC

[Optical Sensors for Hydrogen and Oxygen for Unambiguous Detection in Their Mutual Presence](#) [340]

Intact Labs

21 South Street

Somerville, MA 02143

Matthew Silver (617) 307-1755

10-1-X3.01-8989 JSC

[A Variable-Output Bio-Electrochemical System for Wastewater Treatment and Increased Loop Closure in Exploration Life Support Systems](#) [341]

Integrated Micro Sensors, Inc.

10814 Atwell Drive

Houston, TX 77096

David Starikov (713) 748-7926

10-1-X3.03-9825 GRC

[Miniature Intelligent Wireless Fire Detector System](#) [342]

KWJ Engineering Incorporated

8440 Central Avenue Suite 2D

Newark, CA 94560

Melvin Findlay (510) 405-5911

10-1-X3.01-8064 MSFC

[Novel Process Technologies for Disinfection of Potable Water](#) [343]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

G. Hisaw (979) 393-9303

10-1-X3.01-9805 MSFC

[Advanced Oxidation Technology for Potable Water Disinfection](#) [344]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

G. Hisaw (979) 393-9303

10-1-X3.01-9475 GRC

[Self-Cleaning Particulate Air Filter](#) [345]

Orbital Technologies Corporation

Space Center, 1212 Fourier Drive

Madison, WI 53717

Thomas Crabb (608) 827-5000

10-1-X3.01-9527 MSFC

[Hydrogen Generator by Methane Pyrolysis with Carbon Capture](#) [346]

Paragon Space Development Corporation

3481 East Michigan Street

Tucson, AZ 85714

Carole Hammond (520) 382-4814

10-1-X3.01-9280 ARC

[Employing Ionomer Membrane Technology to Extract Water from Brine](#) [347]

PH Matter, LLC

54 E. Como Avenue

Columbus, OH 43202

Paul Matter (614) 657-4683

10-1-X3.01-8790 MSFC

[Novel Catalysts for Continuous Operation Bosch Reactor](#) [348]

Precision Combustion, Inc.

410 Sackett Point Road

North Haven, CT 06473

John Scanlon (203) 287-3700

10-1-X3.01-8146 MSFC

[Novel, Regenerable Microlith Catalytic Reactor for CO2 Reduction via Bosch Process](#) [349]

Synkera Technologies, Inc.

2605 Trade Centre Ave, Suite C

Longmont, CO 80503

Stephen Williams (720) 494-8401

10-1-X3.03-8236 JPL

[Nanostructured Humidity Sensor for Spacecraft Life Support Systems](#) [350]

Thermacore, Inc.

780 Eden Road

Lancaster, PA 17601

Nelson Gernert (717) 519-5817

10-1-X3.04-7975 JSC

[Novel Wick Structures for Improved Heat Pipe Performance](#) [351]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

10-1-X3.01-9786 JSC

[Advanced Air Evaporation System with Reusable Wicks for Water Recovery](#) [352]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

10-1-X3.01-9783 MSFC

[Regenerative Bosch Reactor](#) [353]

- **X4 Extra-Vehicular Activity Technology (6)**

Advanced Fuel Research, Inc.

87 Church Street

East Hartford, CT 06108

Michael Serio (860) 528-9806

10-1-X4.02-9195 KSC

[Regenerable Trace-Contaminant Sorbent for the Primary Life Support System \(PLSS\)](#) [354]

Air-Lock, Inc.

Wampus Lane

Milford, CT 06460

Michael McCarthy (203) 878-4691

10-1-X4.01-8507 JSC

[Design of a Self Don/Doffing Rear Entry Planetary Suit to Interface with a Suit Port/Lock](#) [355]

Final Frontier Design

313 7th Avenue, Suite 3L

Brooklyn, NY 11215

Ted Southern (347) 512-0082

10-1-X4.01-9498 JSC

[Space Suit Glove Pressure Garment Metacarpal Joint and Robotic Hand Analysis](#) [356]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 400

Rockville, MD 20855

Mark James (301) 294-5221

10-1-X4.03-8491 JSC

[Reconfigurable Power-Aware EVA Radio](#) [357]

Intelligent Optical Systems, Inc.

2520 West 237th Street

Torrance, CA 90505

Reuben Sandler (424) 263-6305

10-1-X4.03-9452 GRC

[Miniature Flexible Humidity Sensitive Patches for Space Suits](#) [358]

Reaction Systems, LLC

17301 West Colfax Avenue #405

Golden, CO 80401

Todd Leeson (303) 881-7992

10-1-X4.02-8917 JSC

[Advanced Supported Liquid Membranes for CO2 Control in EVA Applications](#) [359]

• **X5 Lightweight Spacecraft Materials and Structures (20)**

Applied Sciences Inc

141 West Xenia Avenue

Cedarville, OH 45314

Marty Rochon (937) 766-2020

10-1-X5.03-9272 KSC

[Multi-functional Nano-Reinforced Self-Healing Polymer Matrix Composites](#) [360]

AZ Technology Inc

7047 Old Madison Pike, Suite 300

Huntsville, AL 35806

Lynn Leeper (256) 837-9877

10-1-X5.03-8221 MSFC

[Ionic Liquid Epoxy Composite Cryotanks](#) [361]

Black Laboratories, L.L.C.

12050 Jefferson Avenue, Suite 240

Newport News, VA 23606

Tracy Crooks (757) 269-0230

10-1-X5.02-9152 LaRC

[Modeling-Based Processing of Al-Li Alloys for Delamination Resistance](#) [362]

Ceralink, Inc.

105 Jordan Road

Troy, NY 12180

Patricia Strickland (518) 283-7733

10-1-X5.03-9227 MSFC

[Microwave Processed Multifunctional Polymer Matrix Composites](#) [363]

Composite Technology Development, Inc.

2600 Campus Drive, Suite D

Lafayette, CO 80026

Lori Bass (303) 664-0394

10-1-X5.01-8692 LaRC

[Deployable Composite Structures](#) [364]

Cornerstone Research Group, Inc.

2750 Indian Ripple Road

Dayton, OH 45440

Stephen Vining (937) 320-1877

10-1-X5.03-9924 GRC

[No-Oven, No-Autoclave, Composite Processing](#) [365]

Gloyer-Taylor Laboratories LLC

2212 Harton Boulevard

Tullahoma, TN 37388

Paul Gloyer (931) 581-6134

10-1-X5.03-9857 GRC

[BHL Cryotank for Long Term Use](#) [366]

JENTEK Sensors, Inc.

110-1 Clematis Avenue

Waltham, MA 02453

Joni Hatem (781) 642-9666

10-1-X5.04-9070 KSC

[NDE and Stress Monitoring on Composite Overwrapped Pressure Vessels](#) [367]

Materials Modification, Inc.

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

10-1-X5.02-8426 LaRC

[Nanotube MMC for Structural Applications](#) [368]

MaXentric Technologies

2071 Lemoine Avenue, Suite 302

Fort Lee, NJ 07024

Houman Ghajari (858) 272-8800

10-1-X5.04-9048 JSC

[ViFiLite](#) [369]

Mnemonics, Inc.

3900 Dow Road, Suite J

Melbourne, FL 32394

Al Calderone (321) 254-7300

10-1-X5.04-9610 LaRC

[Wireless SAW Interrogator and Sensor System](#) [370]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 01810

B. David Green (978) 689-0003

10-1-X5.05-9236 GSFC

[High Performing PFPE Nanofluid Lubricants](#) [371]

Picometrix, LLC

2925 Boardwalk Drive

Ann Arbor, MI 48104

Marsha Gilbert (734) 864-5611

10-1-X5.04-8154 LaRC

[Miniaturized Time Domain Terahertz Non Destructive Evaluation for In-Orbit Inspection of Inflatable Habitats and Thermal Protection Systems](#) [372]

Radiation Monitoring Devices, Inc.

44 Hunt Street

Watertown, MA 02472

Nancy Marshall (617) 668-6810

10-1-X5.04-8950 LaRC

[Wireless, Low Mass, High Sensitivity Sensing Sheet for Structural Sensing and Long Term Analysis](#) [373]

Rocketstar Robotics Inc

2510G Las Posas Road, Suite 112

Camarillo, CA 93010

Douglas Petercsak (877) 423-7795

10-1-X5.05-8445 JPL

[Extreme Environment Hybrid Gearbox Technology](#) [374]

Structured Materials Industries, Inc.

201 Circle Drive North, Suite 102/103

Piscataway, NJ 08854

Bruce Willner (732) 302-9274

10-1-X5.01-8380 GRC

[Graphene for Expandable Space Structures](#) [375]

Technology Applications, Inc.

5710 Flatiron Parkway, Suite A

Boulder, CO 80301

Gregory Fickbohm (303) 443-2262

10-1-X5.03-8613 LaRC

[Lightweight Inflatable Cryogenic Tank](#) [376]

Touchstone Research Laboratory, Ltd.

The Millennium Centre, 1142 Middle Creek Road

Triadelphia, WV 26059

Elizabeth Kraftician (304) 547-5800

10-1-X5.02-8392 LaRC

[Aluminum-Lithium Alloy 2050 for Reduced-Weight, Increased-Stiffness Space Structures](#) [377]

Xigen, LLC

11001 Sugarbush Terrace

Rockville, MD 20852

Jason Geng (301) 910-9788

10-1-X5.04-9915 JSC

[Novel Ultra-Miniature Flexible Videoscope for On-Orbit NDE](#) [378]

ZIN Technologies Inc.

6745 Engle Road

Middleburg Hts, OH 44130

Gradmon Boling (440) 625-2279

10-1-X5.01-9808 MSFC

[Reconfigurable Secondary Composite Building Blocks for Expandable Habitable Structure](#) [379]

• **X6 Autonomous Systems and Avionics (12)**

Arkansas Power Electronics International, Inc.

535 West Research Center Boulevard, Suite 135

Fayetteville, AR 72701

Sharmila Mounce (479) 443-5759

10-1-X6.02-9746 GSFC

[Low-Power Radiation Hardened Delay-Insensitive Asynchronous Microcontroller Technology Capable of Operating on Extreme Temperature Environments](#) [380]

Galois, Inc.

421 Southwest Sixth Avenue, Suite 300

Portland, OR 97204

Anne Marie McClaran (503) 808-7203

10-1-X6.01-9065 ARC

[Formal Verification of Programming by Demonstration Systems](#) [381]

PrivaTran

1250 Capital of Texas Highway South, Building 3, Suite 400

Austin, TX 78746

Glenn Mortland (512) 633-3476

10-1-X6.02-8056 MSFC

[Embedded 3D Nonvolatile Memory](#) [382]

Qualtech Systems, Inc.

99 East River Drive

East Hartford, CT 06108

Deepak Haste (860) 913-7012

10-1-X6.01-8871 ARC

[Automation for Vehicle and Crew Operations](#) [383]

ReMetAI LLC

132 Bartlett Avenue, Suite 1

Belmont, MA 02478

Maxim Seleznev (617) 818-8031

10-1-X6.02-8908 JPL

[Wide Temperature Cycling Tolerant Electronic Packaging Substrates](#) [384]

Ridgetop Group, Inc.

3580 West Ina Road

Tucson, AZ 85741

Milena Thompson (520) 742-3300

10-1-X6.02-9897 JPL

[Innovative Columnar Type of Grid Array SJ BIST HALT Method](#) [385]

RNET Technologies, Inc.

240 W Elmwood Drive, Suite 2010

Dayton, OH 45459

V Nagarajan (937) 433-2886

10-1-X6.02-8085 MSFC

[Rad-Hard and ULP FPGA with "Full" Functionality](#) [386]

S&K Aerospace

63066 Old Highway 93

St Ignatius, MT 59865

Arthur Molin (281) 636-5592

10-1-X6.01-8912 ARC

[Predictive Situational Awareness Tool](#) [387]

Scientific, Inc.

555 Sparkman Drive, Suite 214

Huntsville, AL 35816

Gary Grant (256) 319-0858

10-1-X6.02-8218 LaRC

[1 Gb Radiation Hardened Nonvolatile Memory Development](#) [388]

SJT Micropower

16411 North Skyridge Lane

Fountain Hills, AZ 85268

Trevor Thornton (480) 510-0229

10-1-X6.02-9627 GSFC

[CMOS Compatible SOI MESFETs for Radiation Hardened DC-to-DC Converters](#) [389]

Stottler Henke Associates, Inc.

951 Mariner's Island Boulevard, Suite 360

San Mateo, CA 94404

Nathaniel Henke (650) 931-2700

10-1-X6.01-9429 ARC

[Incorporating High-Speed, Optimizing, Interleaving, Configurable/Composable Scheduling into NASA's EUROPA Planning Architecture](#) [390]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7884

10-1-X6.01-8593 ARC

[Ontological Models to Support Planning Operations](#) [391]

- **X7 Human-Robotic Systems (7)**

- **Eltron Research & Development, Inc.**

- 4600 Nautilus Court South

- Boulder, CO 80301

- James Beck (303) 530-0263

- 10-1-X7.01-9276 JSC

- [Wide Temperature Range Hybrid Energy Storage Device](#) [392]

- **Innosense, LLC**

- 2531 West 237th Street, Suite 127

- Torrance, CA 90505

- Kisholoy Goswami (310) 530-2011

- 10-1-X7.01-9690 JSC

- [Modified Ionic Liquid-Based High-Performance Lubricants for Robotic Operations](#) [393]

- **Masten Space Systems, Inc.**

- 1570 Sabovich Street

- Mojave, CA 93501

- Michael Mealling (888) 488-8455

- 10-1-X7.01-8742 KSC

- [Terrestrial Plume Impingement Testbed](#) [394]

- **Plasma Processes, LLC**

- 4914 Moores Mill Road

- Huntsville, AL 35811

- Timothy McKechnie (256) 851-7653

10-1-X7.01-9631 MSFC

[Production of Mature Highland Lunar Regolith Simulant](#) [395]

Poly Adaptive, LLC

11719 Hinson Road, Suite 130

Little Rock, AR 72212

Michael Miller (501) 907-7117

10-1-X7.01-9537 KSC

[Transparent and Flexible Electrodynamic Coating for Particulate Removal](#) [396]

Yardney Technical Products, Inc.

82 Mechanic Street

Pawcatuck, CT 06379

John Dufurat (860) 599-1100

10-1-X7.01-8127 JSC

[Hybrid Battery Ultracapacitor System For Human Robotic Systems](#) [397]

Zybek Advanced Products, Inc.

2845 29th Street

Boulder, CO 80301

Sheryl Genco (303) 530-2727

10-1-X7.01-8098 MSFC

[Low-cost, High Titanium Mare Simulant: Bulk, Dust and "Orange Spheres"](#) [398]

• **X8 High-Efficiency Space Power Systems (20)**

ADA Technologies, Inc.

8100 Shaffer Parkway, Suite 130

Littleton, CO 80127

Sheryl Suhr (303) 874-8262

10-1-X8.02-8640 GRC

[Advanced Materials for Safe, High Performance Space-Rated Lithium-Ion Batteries](#) [399]

American Energy Technologies Company

220 W Campus Ct, Unit D

Arlington Heights, IL 60004

Mayya Barsukov (847) 559-1408

10-1-X8.02-8801 GRC

[New and Improved Lithium-Ion Battery](#) [400]

Applied Sciences Inc

141 West Xenia Avenue

Cedarville, OH 45314

Marty Rochon (937) 766-2020

10-1-X8.02-8710 GRC

[Robust, High Capacity, High Power Lithium Ion Batteries for Space Systems](#) [401]

Arkansas Power Electronics International, Inc.

535 West Research Center Boulevard, Suite 135

Fayetteville, AR 72701

Sharmila Mounce (479) 443-5759

10-1-X8.03-9743 GRC

[Silicon Carbide Based Power Mangement and Distribution for Space Nuclear Power Systems](#) [402]

Beck Engineering, Inc.

1490 Lumsden Road

Port Orchard, WA 98637

Douglas Beck (360) 876-9710

10-1-X8.05-9883 GRC

[High-Efficiency Reliable Stirling Generator for Space Exploration Missions](#) [403]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

10-1-X8.03-8690 GRC

[Intercooled Turbo-Brayton Power Converter for Spaceflight Applications](#) [404]

Deployable Space Systems, Inc.

75 Robin Hill, Building B2

Goleta, CA 93117

Brian Spence (805) 722-8090

10-1-X8.04-9339 GRC

[Modular Ultra-High Power Solar Array Architecture](#) [405]

DR Technologies, Inc.

9431 Dowdy Drive

San Diego, CA 92126

Steven Sherman (858) 444-1826

10-1-X8.04-9431 GRC

[Thin Flexible IMM Solar Array](#) [406]

EIC Laboratories, Inc.

111 Downey Street

Norwood, MA 02062

David Rauh (781) 769-9450

10-1-X8.01-9217 JPL

[Novel Membrane for Highly Efficient Fuel Cells](#) [407]

ElectroChem, Inc.

400 West Cummings Park

Woburn, MA 01801

Radha Jalan (781) 938-5300

10-1-X8.01-8859 GRC

[Develop High Efficiency Liquid-Feed PEM Electrolyzer Based on Integrated Flow Field \(IFF\) Structure](#) [408]

ElectroChem, Inc.

400 West Cummings Park

Woburn, MA 01801

Radha Jalan (781) 938-5300

10-1-X8.01-8858 GRC

[Develop Hydrophilic Conductive Coating Technology with High Oxidation Resistance for Non-Flow-Through](#)

[PEM Fuel Cells and Electrolyzers](#) [409]

Giner Electrochemical Systems, LLC

89 Rumford Avenue

Newton, MA 02466

Anthony Vaccaro (781) 529-0504

10-1-X8.01-9704 JPL

[Electrically Conductive, Hydrophilic Porous Membrane for Fuel Cell Applications](#) [410]

Giner, Inc.

89 Rumford Avenue

Newton, MA 02466

Anthony LaConti (781) 529-0501

10-1-X8.05-9570 GRC

[Advanced Capacitors for High-Power Applications](#) [411]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

G. Hisaw (979) 393-9303

10-1-X8.01-9810 JPL

[Stable and Efficient Advanced Oxygen Reduction Alloy Catalysts for PEM Fuel Cells](#) [412]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

G. Hisaw (979) 393-9303

10-1-X8.01-9806 JSC

[A Direct Methane Solid Oxide Fuel Cell \(DMSOFC\)](#) [413]

Magnolia Solar, Inc.

54 Cummings Park, Suite 316

Woburn, MA 01801

Roger Welser (781) 767-7042

10-1-X8.04-8927 GRC

[High Efficiency Quantum Well Waveguide Solar Cells](#) [414]

OptiCOMP Networks

60 Phillips Street, 3-2

Attleboro, MA 02703

John Farah (401) 616-4176

10-1-X8.04-9077 GRC

[Dry Epitaxial Lift-Off for High Efficiency Solar Cells](#) [415]

Powdermet, Inc.

24112 Rockwell Drive

Euclid, OH 44117

Andrew Sherman (216) 404-0053

10-1-X8.03-8136 GRC

[Aluminum-CNF Lightweight Radiator Components](#) [416]

Quallion, LLC

12744 San Fernando Road

Sylmar, CA 91342

Bryan McKinney (818) 833-4276

10-1-X8.02-9752 GRC

[Development of an All Solid High Energy Density Space Rated Battery](#) [417]

Sustainable Innovations, LLC

160 Oak Street

Glastonbury, CT 06033

Trent Molter (860) 652-9690

10-1-X8.01-8730 GRC

[Advanced Passive Liquid Feed PEM Electrolyzer](#) [418]

• **X9 Entry, Descent, and Landing (EDL) Technology (7)**

Andrews Space, Inc.

3415 South 116th Street, Suite 123

Tukwila, WA 98168

Denise Masters (206) 438-0607

10-1-X9.02-8810 ARC

[Petal Brake Hypersonic Entry System](#) [419]

Aspen Aerogels, Inc.

30 Forbes Road, Building B

Northborough, MA 01532

Kevin Schmidt (508) 691-1161

10-1-X9.01-8464 ARC

[Ablative Flexible Aerogel TPS Materials for Mars Aerocapture and Entry](#) [420]

Fiber Materials, Inc.

5 Morin St

Biddeford, ME 04005

David Audie (207) 282-5911

10-1-X9.01-9880 ARC

[Flexible Phenolic Impregnated Felt](#) [421]

Fiber Materials, Inc.

5 Morin St

Biddeford, ME 04005

David Audie (207) 282-5911

10-1-X9.01-9879 ARC

[Graded Density Carbon Bonded Carbon Fiber \(CBCF\) Preforms for Lightweight Ablative Thermal Protection Systems \(TPS\)](#) [422]

Fiber Materials, Inc.

5 Morin St

Biddeford, ME 04005

David Audie (207) 282-5911

10-1-X9.02-9877 ARC

[Integrated Composite Structure for EDL Application](#) [423]

MesoScribe Technologies, Inc.

7 Flowerfield, Suite 28

St. James, NY 11780

Jeffrey Brogan (631) 686-5710

10-1-X9.01-8155 ARC

[In Situ Diagnostic Sensors for Thermal Protection Systems](#) [424]

Powdermet, Inc.

24112 Rockwell Drive

Euclid, OH 44117

Andrew Sherman (216) 404-0053

10-1-X9.02-8616 GRC

[Aerogel Modified Structural Thermal Protection System](#) [425]

• **X10 Cryogenic Propellant Storage and Transfer (7)**

Advanced Materials Technology, Inc.

9324 Mandrake Court

Tampa, FL 33647

Akbar Ghaneh-Fard (813) 994-6199

10-1-X10.01-8763 KSC

[Advanced Sprayable Composite Coating for Cryogenic Insulation](#) [426]

Atlas Scientific

1367 Camino Robles Way

San Jose, CA 95120

Ali Kashani (408) 507-0906

10-1-X10.01-9012 JSC

[A Flight-like Integrated Circulator for Broad Area Cooling](#) [427]

Barber-Nichols, Inc.

6325 West 55th

Arvada, CO 80002

Jeff Shull (303) 421-8111

10-1-X10.01-9356 GSFC

[High Seed Compressor for Propellant Densification](#) [428]

Creare, Inc.

P.O. Box 71

Hanover, NH 03755

James Barry (603) 643-3800

10-1-X10.01-8855 KSC

[An Advanced Wet Expansion Turbine for Hydrogen Liquefaction](#) [429]

KWJ Engineering Incorporated

8440 Central Avenue Suite 2D

Newark, CA 94560

Melvin Findlay (510) 405-5911

10-1-X10.01-9782 GRC

[Ultra-Low-Power MEMS Selective Gas Sensors](#) [430]

Quest Product Development Corporation

6833 Joyce Street

Arvada, CO 80007

Alan Kopelove (303) 670-5088

10-1-X10.01-9383 KSC

[MMOD-IMLI: Integrated Thermal Insulation and Micrometeoroid/Orbital Debris Protection](#) [431]

Quest Product Development Corporation

6833 Joyce Street

Arvada, CO 80007

Alan Kopelove (303) 670-5088

10-1-X10.01-9382 JSC

[LV-IMLI: Integrated MLI/Aeroshell for Cryogenic Launch Vehicles](#) [432]

- **X11 Exploration Crew Health Capabilities (1)**

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 400

Rockville, MD 20855

Mark James (301) 294-5221

10-1-X11.01-8378 GRC

[ESPRIT: Exercise Sensing and Pose Recovery Inference Tool](#) [433]

- **X12 Exploration Medical Capability (8)**

Advanced Fuel Research, Inc.

87 Church Street

East Hartford, CT 06108

James Markham (860) 528-9806

10-1-X12.01-8856 ARC

[Laser Stethoscope for Use in Noisy Spacecraft Environments](#) [434]

Bettergy Corp.

46 Bari Manor

Croton on Hudson, NY 10520

Lin-Feng Li (914) 290-6293

10-1-X12.04-8499 GRC

[High Energy Density Lithium Air Batteries for Oxygen Concentrators](#) [435]

Ionova Technologies, Inc.

182 Thomas Johnson Drive Suite 204L

Frederick, MD 21702

Fraser Seymour (301) 560-4474

10-1-X12.04-9567 GRC

[3-D Nanofilm Primary Li Air Battery](#) [436]

Physical Optics Corporation

20600 Gramercy Place, Building 100

Torrance, CA 90501

Gordon Drew (310) 320-3088

10-1-X12.01-9251 ARC

[Hybrid High-Fidelity Auscultation Scope](#) [437]

Signal Processing, Inc.

13619 Valley Oak Circle

Rockville, MD 20850

Chiman Kwan (301) 315-2322

10-1-X12.01-9479 ARC

[A High Performance Approach to Improving Auscultation Capability in Noisy Environments](#) [438]

TRS Ceramics, Inc.

2820 East College Avenue

State College, PA 16801

Wesley Hackenberger (814) 238-7485

10-1-X12.02-9668 GRC

[Wideband Single Crystal Transducer for Bone Characterization](#) [439]

Virtual Incubation Company, LLC

535 West Research Center Boulevard, Suite 135

Fayetteville, AR 72701

Calvin Goforth (479) 571-2592

10-1-X12.03-9623 JSC

[A New Approach to Commercialization of NASA's Human Research Program Technologies](#) [440]

Yardney Technical Products, Inc.

82 Mechanic Street

Pawcatuck, CT 06379

John Dufrat (860) 599-1100

10-1-X12.04-8663 GRC

[A Lithium-Air Battery with a High Energy Air Cathode](#) [441]

- **X13 Behavioral Health and Performance (3)**

Aptima, Inc.

12 Gill Street, Suite 1400

Woburn, MA 01801

Tom McKenna (781) 496-2443

10-1-X13.01-8478 JSC

[Behavioral Monitoring and Evaluation for the Delivery of Interactive Cognitive Behavioral Therapy \(B-MEDIC\)](#) [442]

Linea Research Corporation

1020 Corporation Way, Suite 216

Palo Alto, CA 94303

Soenkyung Pak (650) 325-9000

10-1-X13.01-9606 JSC

[Multi-Modal Neurodiagnostic Tool for Stress Monitoring](#) [443]

Pulsar Informatics, Inc.

3401 Market Street, Suite 318

Philadelphia, PA 19104

Daniel Mollicone (215) 520-2630

10-1-X13.01-8364 JSC

[Individualized Stress Detection System](#) [444]

- **X14 Space Human Factors and Food Systems (2)**

Orbital Technologies Corporation

Space Center, 1212 Fourier Drive

Madison, WI 53717

Thomas Crabb (608) 827-5000

10-1-X14.02-9524 JSC

[Non-Thermal Sanitation By Atmospheric Pressure Plasma](#) [445]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7884

10-1-X14.01-9081 ARC

[Assessing Human Task Performance When Performing Electronic Procedures](#) [446]

• **X15 Space Radiation (1)**

Invocon, Inc.

19221 IH 45 South, Suite 530

Conroe, TX 77385

Karl Kiefer (281) 292-9903

10-1-X15.01-8670 JSC

[Radiation Alert Immediate Disclosure](#) [447]

• **X16 Inflight Biological Sample Preservation and Analysis (3)**

Advanced Diagnostic Technologies

536 East Arrellaga Street, Suite 203

Santa Barbara, CA 93103

Jonathon Barton (805) 680-2176

10-1-X16.01-8540 JSC

[In-Flight Non-Invasive Sensing of Blood Analytes](#) [448]

Connecticut Analytical Corporation

696 Amity Road

Bethany, CT 06524

Joseph Bango (203) 393-9666

10-1-X16.01-9831 JSC

[Ambient Preservation of Clinical Analytes](#) [449]

RST Bioscience

1685 South Colorado Boulevard

Denver, CO 80222

Robert Harding (832) 892-0702

10-1-X16.01-8340 JSC

[In-Situ Monitoring of Immune Function](#) [450]

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