



Proposals Selected for Negotiation of Contracts

Expand All

- **A1 Air Vehicle Technology (23)**

Advanced Systems & Technologies, Inc.

12 Mauchly, Building H

Irvine, CA 92618

Vladimir Markov (949) 733-3355

15-1-A1.04-9214 LaRC

[Interferometric Correlator for Acoustic Radiation & Underlying Structural Vibration \(ICARUSV\)](#) [1]

AeroMancer Technologies Corporation

1375 Kenyon St NW Apt 408

Washington, DC 20010

Anand Radhakrishnan (202) 556-0625

15-1-A1.08-9770 LaRC

[3D Flow Field Measurements using Aerosol Correlation Velocimetry](#) [2]

Aurora Flight Sciences Corporation

90 Broadway, 11th Floor

Cambridge, MA 2142

Scott Hart (617) 500-4892

15-1-A1.01-9853 LaRC

[Benefit Analysis of Hybrid CNT/CFRP Composites in Future Aircraft Structures](#) [3]

Aurora Flight Sciences Corporation

90 Broadway, 11th Floor

Cambridge, MA 2142

Scott Hart (617) 500-4892

15-1-A1.06-9851 ARC

[Vertical Lift by Series Hybrid Power](#) [4]

CFD Research Corporation

701 McMillian Way Northwest, Suite D

Huntsville, AL 35806

Silvia Harvey (256) 726-4858

15-1-A1.07-9813 GRC

[Variable Fidelity AeroPropulsoServoElasticity Analysis Tool](#) [5]

Continuum Dynamics, Inc.

34 Lexington Avenue

Ewing, NJ 8618

Barbara Agans (609) 538-0444

15-1-A1.05-9104 GRC

[Physics-Based Aeroanalysis Methods for Open Rotor Conceptual Design](#) [6]

Cornerstone Research Group, Inc.

2750 Indian Ripple Road

Dayton, OH 45440

Stephen Vining (937) 320-1877

15-1-A1.01-9678 LaRC

[Hybrid Nanocomposites for Efficient Aerospace Structures](#) [7]

Cornerstone Research Group, Inc.

2750 Indian Ripple Road

Dayton, OH 45440

Stephen Vining (937) 320-1877

15-1-A1.02-9677 LaRC

[Microblowing Technique for Drag Reduction](#) [8]

Creare, LLC

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

15-1-A1.03-9346 GRC

[A New Cryocooler for MgB₂ Superconducting Systems in Turboelectric Aircraft](#) [9]

Creative Aero Engineering Solutions

6285 East Spring Street, #304N

Long Beach, CA 90808

Alan Arslan (562) 443-7566

15-1-A1.04-9178 LaRC

[Adjoint Techniques and Acoustic Three Zone Method for the Accurate Design of Low Boom Maneuvers \(ATAZM-DLBM\)](#) [10]

Empirical Systems Aerospace, Inc.

P.O. Box 595

Pismo Beach, CA 93448

Andrew Gibson (805) 275-1053

15-1-A1.03-9122 GRC

[Cryogenic and Non-Cryogenic Hybrid Electric Distributed Propulsion with Integration of Airframe and Thermal Systems to Analyze Technology Influence](#) [11]

Hyper Tech Research, Inc.

539 Industrial Mile Road

Columbus, OH 43228

Sheryl Cantu (740) 517-1938

15-1-A1.03-9200 GRC

[High Performance Carbon Nanotube Based Conductors](#) [12]

Innovative Scientific Solutions, Inc.

7610 McEwen Road

Dayton, OH 45459

Larry Goss (937) 630-3012

15-1-A1.08-9052 LaRC

[Fast Pressure-Sensitive Paint System for Production Wind Tunnel Testing](#) [13]

Innovative Technology Applications, Co.

P.O. Box 6971

Chesterfield, MO 63006

Alan Cain (314) 373-3311

15-1-A1.02-9373 LaRC

[Plasma Flow Control for Drag Reduction](#) [14]

Interdisciplinary Consulting Corporation

5745 Southwest 75th, 364

Gainesville, FL 32608

Leonard Kubik (256) 960-9520

15-1-A1.08-8885 LaRC

[Miniaturized Dynamic Pressure Sensor Arrays with Sub-Millimeter \(mm\) Spacing for Cross-Flow Transition Measurements](#) [15]

LaunchPoint Technologies, Inc.

5735 Hollister Avenue, Suite B

Goleta, CA 93117

Vicki Young (805) 683-9659

15-1-A1.06-9338 ARC

[Non-Contact Magnetic Transmission For Hybrid/Electric Rotorcraft](#) [16]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

Darla Hisaw (979) 764-2200

15-1-A1.02-9438 LaRC

[Drag Reduction through Pulsed Plasma Actuators](#) [17]

N&R Engineering

6659 Pearl Road, #201

Parma Heights, OH 44130

Vinod Nagpal (440) 845-7020

15-1-A1.05-9471 GRC

[Physics-based MDAO tool for CMC blades and vanes conceptual design](#) [18]

Nanohmics, Inc.

6201 East Oltorf Street, Suite 400

Austin, TX 78741

Steve Savoy (512) 389-9990

15-1-A1.08-9032 LaRC

[Plenoptic Flow Imaging for Ground Testing](#) [19]

New Electricity Transmission Software Solutions (NETSS)

22 Weir Hill Road

Sudbury, MA 1776

Sanja Cvijic (215) 272-7969

15-1-A1.03-8884 GRC

[Toward Autonomous Stable Energy Management of Hybrid Electric Aircraft Propulsion Systems](#) [20]

Research in Flight

1919 N Ash Court

Auburn, AL 36830

Roy Hartfield (334) 444-8523

15-1-A1.05-8776 GRC

[Advanced Aerodynamic Analysis For Propulsion Airframe Integration](#) [21]

Sporian Microsystems, Inc.

515 Courtney Way, Suite B

Lafayette, CO 80026

Mike Usrey (303) 516-9075

15-1-A1.07-9387 GRC

[High Temperature "Smart" P3 Sensors and Electronics for Distributed Engine Control](#) [22]

Transition45 Technologies, Inc.

1739 North Case Street

Orange, CA 92865

Edward Chen (714) 283-2118

15-1-A1.04-9175 LaRC

[Shape Memory Alloy Adaptive Structures](#) [23]

- **A2 Integrated Flight Systems (19)**

AlphaSense, Inc.

510 Philadelphia Pike

Wilmington, DE 19809

Xin Zhang (302) 998-1116

15-1-A2.01-9961 AFRC

[A Novel Laser Ultrasound Visualization Tool for Non-destructive Evaluation of Composite Aircraft Structures](#) [24]

Area-I, Inc.

1590 North Roberts Road, Suite 102

Kennesaw, GA 30144

Hilary Beeston (678) 594-5227

15-1-A2.02-9634 AFRC

[Flight Testing of Resource allocation for Multi-Agent Planning \(ReMAP\) System for Unmanned Vehicles](#) [25]

Barron Associates, Inc.

1410 Sachem Place, Suite 202

Charlottesville, VA 22901

Connie Hoover (434) 973-1215

15-1-A2.02-9086 AFRC

[Development and Flight Testing of an Automated Upset Recovery System](#) [26]

Continuum Dynamics, Inc.

34 Lexington Avenue

Ewing, NJ 8618

Barbara Agans (609) 538-0444

15-1-A2.02-9479 AFRC

[Fully-Automated, Agricultural Application using Unmanned Aircraft](#) [27]

Cycronix

21 Surrey Lane

Laconia, NH 3246

Matthew Miller (603) 556-9181

15-1-A2.01-9858 AFRC

[CloudTurbine: Streaming Data via Cloud File Sharing](#) [28]

Freedom Photonics, LLC

41 Aero Camino

Santa Barbara, CA 93117

Milan Mashanovitch (805) 967-4900

15-1-A2.01-8933 AFRC

[Integrated Optical Engine for Rugged, Compact, Inexpensive Airborne Fiber Sensor Interrogators](#) [29]

Freedom Photonics, LLC

41 Aero Camino

Santa Barbara, CA 93117

Milan Mashanovitch (805) 967-4900

15-1-A2.01-8787 AFRC

[Rugged, Compact, and Inexpensive Airborne Fiber Sensor Interrogator Based on a Monolithic Tunable Laser](#) [30]

Heron Systems, Inc.

20945 Great Mills Road

Lexington Park, MD 20653

Brett Darcey (571) 257-8403

15-1-A2.02-9727 AFRC

[A Modular Swarm Optimization Framework Enabling Multi-Vehicle Coordinated Path Planning](#) [31]

Human Automation Teaming Solutions, Inc.

18645 Sherman Way, Suite 215

RESEDA, CA 91335

Vicky Ho (818) 697-5283

15-1-A2.02-9371 AFRC

[Human Automation Teaming Testbed for Multi-UAS Management \(M-HATT\)](#) [32]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

15-1-A2.02-9001 AFRC

[Verification and Validation of Adaptive Learning Control System Towards Safety Assurance and Trusted Autonomy](#) [33]

Invocon, Inc.

19221 I-45 South, Suite 530

Conroe, TX 77385

Mary Delahunty (281) 292-9903

15-1-A2.01-9411 AFRC

[Wireless Sensor Network for Flight Test](#) [34]

Mosaic ATM, Inc.

540 Fort Evans Road, Suite 300

Leesburg, VA 20176

Chris Stevenson (540) 454-7458

15-1-A2.02-9594 AFRC

[Mission Planner for Dynamic Precision Based Navigation of Unmanned Aircraft Teams](#) [35]

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Melissa Campbell (540) 626-6266

15-1-A2.01-8865 AFRC

[High Sensitivity Semiconductor Sensor Skins for Multi-Axis Surface Pressure Characterization](#) [36]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

P. K. Menon (650) 559-8585

15-1-A2.02-8604 AFRC

[Onboard Model Checking for Small Scale Unmanned Aerial Vehicle Autopilots](#) [37]

Opto-Knowledge Systems, Inc. (OKSI)

19805 Hamilton Avenue

Torrance, CA 90502

Nahum Gat (310) 756-0520

15-1-A2.02-9786 AFRC

[Command and Control Software for Single-Operator Multiple UAS Missions](#) [38]

sci_zone

17133 Inavale

Holland, MI 49424

Andrew Santangelo (505) 205-8315

15-1-A2.02-9071 AFRC

[A low cost, secure radio communications system for UAVs](#) [39]

Spectabit Optics, LLC

22941 Mill Creek Drive

Laguna Hills, CA 92653

Benjamin Buckner (714) 757-4187

15-1-A2.01-8721 AFRC

[Self-Nulling Schlieren Imaging for Aircraft in Flight](#) [40]

Tao of Systems Integration, Inc.

1100 Exploration Way

Hampton, VA 23666

Arun Mangalam (757) 220-5040

15-1-A2.01-9132 AFRC

[Robust Sensor for In-Flight Flow Characterization](#) [41]

UAVradars, LLC

2029 Becker Drive

Lawrence, KS 66047

Lei Shi (316) 461-1181

15-1-A2.02-9059 AFRC

[Collision-avoidance radar for small UAS](#) [42]

- **A3 Airspace Operations and Safety (22)**

- **Advanced Scientific Concepts, LLC**

- 135 East Ortega Street

- Santa Barbara, CA 93101

- JoAnn Stettner (805) 966-3331

- 15-1-A3.02-8745 ARC

- [3D Flash LIDAR All Weather Safety](#) [43]

- **Aerospace Innovations, LLC**

- 4822 George Washington Memorial Highway, Suite 200

- Yorktown, VA 23692

- Dung Nguyen (757) 875-5144

- 15-1-A3.02-8996 ARC

- [Application of Imaging Sensors for UAS Command and Control for Evolving Towards Autonomous Operations of UAS](#) [44]

- **ATAC**

- 2770 De La Cruz Boulevard

- Santa Clara, CA 95050

- Charles Winkleman (408) 736-2822

- 15-1-A3.03-8942 ARC

- [Big Data Driven Architecture for Real Time Systemwide Safety Assurance](#) [45]

- **Crown Consulting, Inc.**

- 1400 Key Boulevard, Suite 1100

- Arlington, VA 22209

- Robert Ramseth (703) 593-0663

- 15-1-A3.02-9153 ARC

[Verification & Validation of Complex Autonomy Concepts Using the Cloud](#) [46]

DANIEL H. WAGNER ASSOCIATES, INC.

559 West Uwchlan Avenue, Suite 140

Exton, PA 19341

Lori Leiby (610) 280-3830

15-1-A3.02-9466 ARC

[Weather Aware Route Planning \(WARP\)](#) [47]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

15-1-A3.01-9007 ARC

[360-Degree Analysis Engine for Autonomous NAS Operations and Control](#) [48]

Metron, Inc

1818 Library Street

Reston, VA 20190

Seth Blackwell (703) 787-8700

15-1-A3.02-9414 ARC

[Anomaly Detection to Improve Airspace Safety and Efficiency](#) [49]

Mosaic ATM, Inc.

540 Fort Evans Road, Suite 300

Leesburg, VA 20176

Chris Stevenson (540) 454-7458

15-1-A3.01-9583 ARC

[TFM Performance Monitoring and Review System](#) [50]

Mosaic ATM, Inc.

540 Fort Evans Road, Suite 300

Leesburg, VA 20176

Chris Stevenson (540) 454-7458

15-1-A3.02-9598 ARC

[Advanced Modeling of Ramp Operations including Departure Status at Secondary Airports](#) [51]

Mosaic ATM, Inc.

540 Fort Evans Road, Suite 300

Leesburg, VA 20176

Chris Stevenson (540) 454-7458

15-1-A3.02-9595 ARC

[Wind Shift Detection Model](#) [52]

Mosaic ATM, Inc.

540 Fort Evans Road, Suite 300

Leesburg, VA 20176

Chris Stevenson (540) 454-7458

15-1-A3.02-9593 ARC

[Probabilistic Trajectory Constraint Modeler](#) [53]

Near Earth Autonomy, Inc.

5001 Baum Boulevard, Suite 750

Pittsburgh, PA 15213

Marcel Bergerman (412) 513-6110

15-1-A3.02-9077 ARC

[Autonomous, Safe Take-Off and Landing Operations for Unmanned Aerial Vehicles in the National Airspace](#) [54]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

Victor Cheng (650) 559-8585

15-1-A3.01-8953 ARC

[Airport Gate Activity Monitoring Tool Suite for Improved Turnaround Prediction](#) [55]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

Victor Cheng (650) 559-8585

15-1-A3.02-8950 ARC

[Generic FMS Platform for Evaluation of Autonomous Trajectory-Based Operation Concepts](#) [56]

Optimal Synthesis, Inc.

95 First Street, Suite 240

Los Altos, CA 94022

Victor Cheng (650) 559-8585

15-1-A3.02-8949 ARC

[Autonomous Airport Operations for Safe and Efficient Use of Airports](#) [57]

Resilient Ops, Inc

4 Albamont Road

Winchester, MA 1890

Bala Chandran (650) 248-8285

15-1-A3.02-8660 ARC

[A Framework for Autonomous Trajectory-Based Operations](#) [58]

Resilient Ops, Inc

4 Albamont Road

Winchester, MA 1890

Bala Chandran (650) 248-8285

15-1-A3.01-8620 ARC

[A SMART NAS Toolkit for Optimality Metrics Overlay](#) [59]

Robust Analytics

2053 Liza Way

Gambrills, MD 21054

Peter Kostiuk (410) 980-3667

15-1-A3.01-9499 ARC

[Networked ATM for Efficient Routing](#) [60]

The Innovation Laboratory, Inc.

Portland, OR 97201

Michelle Camarda (503) 242-1761

15-1-A3.02-9408 ARC

[Convective Induced Turbulence Detection in Oceanic Trajectory-Based Operations](#) [61]

The Innovation Laboratory, Inc.

Portland, OR 97201

Michelle Camarda (503) 242-1761

15-1-A3.01-9208 ARC

[Trajectory-Based Operations \(TBO\) Cost Estimation](#) [62]

The Innovation Laboratory, Inc.

Portland, OR 97201

Michelle Camarda (503) 242-1761

15-1-A3.02-9395 ARC

[Auto-Suggest Capability via Machine Learning in SMART NAS](#) [63]

WxOps, Inc.

500 Ala Moana Blvd Suite 400

Honolulu, HI 96813

Scott Shipley (571) 309-6024

15-1-A3.03-8717 ARC

[Transported Turbulence during Climb, Cruise and Descent](#) [64]

• **H1 In-Situ Resource Utilization (6)**

Deep Space Industries Inc.

18711 South Egret Bay Boulevard, #603

Houston, TX 77058

David Gump (703) 623-9616

15-1-H1.01-9186 JSC

[Task-Specific Asteroid Simulants for Ground Testing](#) [65]

Grainflow Dynamics, Inc.

1141 Catalina Drive, PMB 270

Livermore, CA 94550

Otis Walton (925) 447-4293

15-1-H1.01-9564 JSC

[Small Body Regolith Extraction System](#) [66]

Honeybee Robotics, Ltd.

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Chris Chapman (626) 459-7802

15-1-H1.01-9667 JSC

[Planetary Volatiles Extractor for In Situ Resource Utilization](#) [67]

ICS Associates, Inc.

11404 Camaloa Avenue

Lake View Terrace, CA 91342

Joel Sercel (818) 422-0514

15-1-H1.01-9278 JSC

[Demonstration of "Optical Mining" For Excavation of Asteroids and Production of Mission Consumables](#) [68]

Pioneer Astronautics

11111 West 8th Avenue, Unit A

Lakewood, CO 80215

Robert Zubrin (303) 980-0890

15-1-H1.01-9764 JSC

[Carbonaceous Asteroid Volatile Recovery \(CAVoR\) system](#) [69]

Space Resources Extraction Technology

3708 Nolen Avenue Southeast

Huntsville, AL 35801

Edwin Ethridge (256) 520-4242

15-1-H1.01-9984 JSC

[Microwave Extraction of Water from Boreholes in Regolith](#) [70]

- **H2 Space Transportation (21)**

Arkansas Power Electronics International, Inc.

535 West Research Center Boulevard

Fayetteville, AR 72701

Sharmila Mounce (479) 443-5759

15-1-H2.02-9359 MSFC

[Extreme Temperature Radiation Tolerant Instrumentation for Nuclear Thermal Propulsion Engines](#) [71]

Barber-Nichols, Inc.

6325 West 55th

Arvada, CO 80002

Jeff Shull (303) 421-8111

15-1-H2.01-9651 GRC

[Enabling Pump Technologies for Deep Throttle Ascent/Descent Engine Operation](#) [72]

ElectroDynamic Applications, Inc.

P.O. Box 131460

Ann Arbor, MI 48105

Jonathan Zagel (734) 786-1434

15-1-H2.03-8803 GRC

[Integrated Energetic Ion Mitigation for High Power Plasma Cathodes](#) [73]

Florida Turbine Technologies, Inc.

1701 Military Trail, Suite 110

Jupiter, FL 33458

Lloyd Mazer (561) 427-6337

15-1-H2.02-8968 MSFC

[Long Life Bearings for Nuclear Thermal Propulsion](#) [74]

Florida Turbine Technologies, Inc.

1701 Military Trail, Suite 110

Jupiter, FL 33458

Lloyd Mazer (561) 427-6337

15-1-H2.01-9299 GRC

[Additive Manufacturing Applied to LOX - Methane Turbopumps](#) [75]

Gloyer-Taylor Laboratories, LLC

112 Mitchell Boulevard

Tullahoma, TN 37388

Paul Gloyer (931) 455-7333

15-1-H2.04-9987 GRC

[Light Weight Insulated Spherical Cryotank](#) [76]

KT Engineering Corporation

238 Business Park Boulevard, Building 23B Suite J

Madison, AL 35758

Richard Webb (256) 461-8522

15-1-H2.01-8863 GRC

[In-Space LOX/Methane Pintle Propulsion Engine \(LMPPE\) Evaluation and Demonstration](#) [77]

Madison CryoGroup, LLC

8540 Greenway Boulevard, #203

Middleton, WI 53562

James Maddocks (608) 265-4246

15-1-H2.04-8862 GRC

[Pulsating Heat Pipe for Cryogenic Fluid Management](#) [78]

Parabilis Space Technologies, Inc.

1145 Linda Vista Drive

San Marcos, CA 92078

Richard Slansky (855) 727-2245

15-1-H2.01-9296 GRC

[Additively Manufactured Monolithic LOx/Methane Vortex RCS Thruster](#) [79]

Paragon Space Development Corporation

3481 East Michigan Street

Tucson, AZ 85714

Carole Leon (520) 382-4814

15-1-H2.04-9337 GRC

[Fabric, Inflated, Insulating Shroud for Cryogenic In-Space Transportation](#) [80]

Plasma Processes, LLC

4914 Moores Mill Road

Huntsville, AL 35811

Angela Hattaway (256) 851-7653

15-1-H2.01-9267 GRC

[Thermo-Catalytic Ignition of Cryogenic Oxygen-Methane](#) [81]

Plasma Processes, LLC

4914 Moores Mill Road

Huntsville, AL 35811

Timothy McKechnie (256) 851-7653

15-1-H2.02-9101 MSFC

[Advanced Zirconium Carbide Tie-Tubes for NTP](#) [82]

Quest Thermal Group

6452 Fig Street Unit A

Arvada, CO 80004

Alan Kopelove (303) 395-3100

15-1-H2.04-9559 GRC

[Integrated Launch Vehicle - Load Responsive MLI: High Performance during Launch Ascent, In-Air, On-Orbit and On-Mars](#) [83]

Quest Thermal Group

6452 Fig Street Unit A

Arvada, CO 80004

Alan Kopelove (303) 395-3100

15-1-H2.04-9218 GRC

[Vapor Cooled Structure MLI: Efficient Vapor Cooling of Structural Elements](#) [84]

Special Aerospace Services

3005 30th Street

Boulder, CO 80301

Kimberley Lopez (303) 747-6885

15-1-H2.01-8819 GRC

[ORSC Methane Ascent/Descent Engine Technology Development](#) [85]

Transition45 Technologies, Inc.

1739 North Case Street

Orange, CA 92865

Edward Chen (714) 283-2118

15-1-H2.03-9179 GRC

[Rapid Manufacturing of High Power Electric Propulsion Components](#) [86]

Transition45 Technologies, Inc.

1739 North Case Street

Orange, CA 92865

Edward Chen (714) 283-2118

15-1-H2.01-9172 GRC

[Bulk Nano-structured Materials for Turbomachinery Components](#) [87]

Ultra Safe Nuclear Corporation

186 Piedra Loop

Los Alamos, NM 87544

Francesco Venneri (858) 353-9895

15-1-H2.02-9127 MSFC

[Passive Technology to Improve Criticality Control of NTP Reactors](#) [88]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

15-1-H2.01-8906 GRC

[Low-Cost, Lightweight Transpiration-Cooled LOX/CH4 Engine](#) [89]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

15-1-H2.04-8901 GRC

[Parahydrogen-Orthohydrogen Catalytic Conversion for Cryogenic Propellant Passive Heat Shielding](#) [90]

Ventions, LLC

1142 Howard Street

San Francisco, CA 94103

Amit Mehra (202) 213-2846

15-1-H2.01-9859 GRC

[Small-Scale, Methane-Fueled Reaction Control Engines for In-Space Propulsion](#) [91]

• **H3 Life Support and Habitation Systems (12)**

Aerosol Dynamics Inc.

935 Grayson Street

Berkeley, CA 94710

Susanne Hering (510) 649-9360

15-1-H3.01-8848 JPL

[An Airborne Particulate Monitor for Spacecraft](#) [92]

Creare, LLC

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

15-1-H3.03-8856 MSFC

[A Robust, Gravity-Insensitive, High-Temperature Condenser](#) [93]

Giner, Inc.

89 Rumford Avenue

Newton, MA 2466

Cortney Mittelsteadt (781) 529-0529

15-1-H3.03-9254 MSFC

[Oxygen Recovery From Carbon Dioxide Through Electrolysis](#) [94]

InnovaPrep, LLC

132 East Main Street

Drexel, MO 64742

Ann Packingham (816) 619-3375

15-1-H3.01-9921 JPL

[Rapid Concentration for Improved Detection of Microbes in ISS Potable Water](#) [95]

Leiden Measurement Technology, LLC

751 Laurel St #344

San Carlos, CA 94087

Richard Quinn (650) 691-8573

15-1-H3.01-8900 JPL

[Microchip Capillary Electrophoresis for In Situ Water Analysis](#) [96]

Lynntech, Inc.

2501 Earl Rudder Freeway South

College Station, TX 77845

Darla Hisaw (979) 764-2200

15-1-H3.01-9305 JPL

[Reagent Regenerative Microgravity Compatible Inorganic Ion Analyzer](#) [97]

Mainstream Engineering Corporation

200 Yellow Place

Rockledge, FL 32955

Michael Rizzo (321) 631-3550

15-1-H3.03-9079 MSFC

[Designer Fluid for use in a Single Loop Variable Heat Rejection Thermal Control System](#) [98]

Materials Modification, Inc.

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

15-1-H3.03-8782 MSFC

[Multifunctional Dust Filters for Crew Cabin Air Purification](#) [99]

Pancopia, Inc.

1100 Exploration Way, Suite 302Q

Hampton, VA 23666

William Cumbie (757) 344-8607

15-1-H3.02-9111 KSC

[Rapid Activation of Biological Wastewater Treatment Systems](#) [100]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 1810

B. David Green (978) 689-0003

15-1-H3.02-9680 KSC

[Solar Plant Growth System for Food Production in Space Exploration Missions](#) [101]

Spectral Sciences, Inc.

4 Fourth Avenue

Burlington, MA 1803

Leslie McCarthy (781) 273-4770

15-1-H3.01-9673 JPL

[Spacecraft Potable Water Monitor](#) [102]

UMPQUA Research Company

P.O. Box 609

Myrtle Creek, OR 97457

John Aker (541) 863-2655

15-1-H3.03-9701 MSFC

[Nautilus Centripetal Capillary Condenser](#) [103]

- **H4 Extra-Vehicular Activity and Crew Survival Systems Technology (8)**

Air-Lock, Inc.

Wampus Lane

Milford, CT 6460

Brian Battisti (203) 878-4691

15-1-H4.02-9792 JSC

[Contact Stress Design Parameters for Titanium Bearings](#) [104]

Cybernet Systems Corporation

3741 Plaza Drive

Ann Arbor, MI 48108

Norma Heller (734) 668-2567

15-1-H4.03-9054 JSC

[E VA Space Suit Power, Avionics, and Software Systems](#) [105]

Final Frontier Design

313 7th Avenue, Suite 3L

Brooklyn, NY 11215

Theodore Southern (347) 512-0082

15-1-H4.02-9511 JSC

[High Pressure EVA Glove \(HPEG\)](#) [106]

Innoflight, Inc.

9985 Pacific Heights Boulevard, Suite 250

San Diego, CA 92121

David Andaleon (858) 638-1580

15-1-H4.03-9399 JSC

[Compact Wireless EVA Communications System \(CWECS\)](#) [107]

Kennon Products, Inc.

2071 North Main Street

Sheridan, WY 82801

Ronald Kensey (307) 751-1125

15-1-H4.01-9899 JSC

[Lightweight, Compact Survival Rafts](#) [108]

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Melissa Campbell (540) 626-6266

15-1-H4.02-9073 JSC

[Self-Healing, Self-Diagnosing Multifunctional Hybrid Sil Composites for EVA Space Suit Pressure Garment Systems](#) [109]

Omni Measurement Systems, Inc

808 Hercules Drive

Colchester, VT 5446

Mark Harvie (802) 238-9634

15-1-H4.01-8817 JSC

[In-Suit Waste Management Technologies](#) [110]

Silicon Technologies, Inc.

4568 South Highland Drive, Suite 300

Holladay, UT 84117

Thomas Wolf (801) 913-4332

15-1-H4.03-9650 JSC

[Audio ADC](#) [111]

• **H5 Lightweight Spacecraft Materials and Structures (14)**

Analytical Mechanics Associates, Inc.

21 Enterprise Parkway, Suite 300

Hampton, VA 23666

Jamie Garrett (757) 865-0000

15-1-H5.01-8958 LaRC

[X-Boom](#) [112]

Angstrom Designs, Inc.

P.O. Box 2032

Santa Barbara, CA 93120

Timothy Halsey (805) 284-4535

15-1-H5.01-9640 LaRC

[Compact Telescoping Array Design and Development](#) [113]

ATA Engineering, Inc.

13290 Evening Creek Drive South, Suite 250

San Diego, CA 92128

Joshua Davis (858) 480-2028

15-1-H5.01-9790 LaRC

[Active Gravity Offloading System for Deployable Solar Array Structures](#) [114]

Aurora Flight Sciences Corporation

90 Broadway, 11th Floor

Cambridge, MA 2142

Scott Hart (617) 500-4892

15-1-H5.03-9848 LaRC

[In-situ Sensing for Multi-Functional Structures](#) [115]

CFD Research Corporation

701 McMillian Way Northwest, Suite D

Huntsville, AL 35806

Silvia Harvey (256) 726-4858

15-1-H5.01-9816 LaRC

[Lightweight Inflatable Structural Airlock \(LISA\)](#) [116]

Concepts to Systems, Inc.

500 Stinson Drive

Danville, VA 24540

Lena Lee (310) 850-1594

15-1-H5.03-9735 LaRC

[Metamaterials-Inspired Aerospace Structures \(MIAS\)](#) [117]

Plasma Processes, LLC

4914 Moores Mill Road

Huntsville, AL 35811

Angela Hattaway (256) 851-7653

15-1-H5.02-9227 MSFC

[Metallic Joining to Advanced Ceramic Composites](#) [118]

Powdermet, Inc.

24112 Rockwell Drive

Euclid, OH 44117

andrew sherman (216) 404-0053

15-1-H5.02-9115 MSFC

[Multifunctional Tank Structure with Integral TPS](#) [119]

ROCCOR, LLC

500 South Arthur, Unit 300

Louisville, CO 80027

Douglas Campbell (720) 300-8167

15-1-H5.01-9228 LaRC

[Robust, Highly Scalable Solar Array System](#) [120]

S. D. Miller and Associates, PLLC

216 West Cherry Avenue, Building 2

Flagstaff, AZ 86001

Stephen Miller (928) 779-5000

15-1-H5.02-9569 MSFC

[Enabling Technology for Thermal Protection on HIAD and Other Hypersonic Missions](#) [121]

San Diego Composites, Inc.

9220 Activity Road

San Diego, CA 92126

Adrian Romanyszyn (858) 751-0450

15-1-H5.01-8614 LaRC

[Advanced Composite Truss \(ACT\) Printing for Large Solar Array Structures](#) [122]

Sheridan Solutions, LLC

745 Woodhill Drive

Saline, MI 48176

John Sheridan (734) 604-1120

15-1-H5.03-9682 LaRC

[Ultrasonic Additive Manufacturing for Multifunctional Structural Materials with Embedded Capabilities](#) [123]

TIAX LLC

35 Hartwell Avenue

Lexington, MA 2421

Renee Wong (781) 879-1286

15-1-H5.03-9416 LaRC

[Multifunctional Composite for Integrated Strain, Damage and Temperature Sensing](#) [124]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

15-1-H5.02-8903 MSFC

[Rapid Manufacturing of Durable, Cost-Effective Ceramic Matrix Composites for High Temperature Structures](#) [125]

• **H6 Autonomous and Robotic Systems (6)**

American GNC Corporation

888 Easy Street

Simi Valley, CA 93065

Emily Melgarejo (805) 582-0582

15-1-H6.01-8753 JSC

[Real-Time Integrated Navigation System for Planetary Exploration \(RT-INSPEX\)](#) [126]

Busek Company, Inc.

11 Tech Circle

Natick, MA 1760

Judy Budny (508) 655-5565

15-1-H6.01-9110 JSC

[SOUL System Maturation](#) [127]

Energid Technologies

One Mifflin Place, Suite 400

Cambridge, MA 2138

James English (888) 547-4100

15-1-H6.01-9378 JSC

[Stochastic Robotic Simulation Tool](#) [128]

Physical Optics Corporation

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

15-1-H6.01-9902 JSC

[Robotic Autonomous Navigation and Orientation Tracking System](#) [129]

Swift Engineering, Inc.

1141 Via Callejon

San Clemente, CA 92673

Jonathan Faiella (949) 492-6608

15-1-H6.01-9381 JSC

[Surround Visual & Sensory Feedback for Robotic Arm Pilots](#) [130]

TRAC Labs, Inc.

100 North East Loop 410, Suite 520

San Antonio, TX 78216

David Kortenkamp (281) 461-7886

15-1-H6.01-8613 JSC

[Bridging the Gap Between Procedure Definition and Robot Execution](#) [131]

- **H7 Entry, Descent, and Landing Technologies (6)**

- **EPIR, Inc.**

- 590 Territorial Drive

- Bolingbrook, IL 60440

- Sivalingam Sivananthan (630) 771-0203

- 15-1-H7.01-9872 ARC

- [Next generation HgCdTe FPAs for high frame rate characterization of thermal protective systems](#) [132]

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

- 300 East Swedesford Road

- Wayne, PA 19087

- Brian Sullivan (610) 964-6131

- 15-1-H7.01-8805 ARC

- [Investigation of Effect of High, Short Duration Temperatures on Fiber Graphitization and Resulting Property Changes in 3D Woven TPS Preforms During Entry Trajectories](#) [133]

- **MetroLaser, Inc.**

- 22941 Mill Creek Drive

- Laguna Hills, CA 92653

- Cecil Hess (949) 553-0688

- 15-1-H7.02-9691 ARC

- [Short Pulsed Laser Methods for Velocimetry and Thermometry in High Enthalpy Facilities](#) [134]

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

- 19805 Hamilton Avenue

- Torrance, CA 90502

- Nahum Gat (310) 756-0520

- 15-1-H7.01-9767 ARC

- [Heat Shield Recession Measurements Using Remote Spectral Sensors](#) [135]

Physical Optics Corporation

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

15-1-H7.01-9025 ARC

[Embedded Multifunctional Optical Sensor System](#) [136]

Spectabit Optics, LLC

22941 Mill Creek Drive

Laguna Hills, CA 92653

Benjamin Buckner (714) 757-4187

15-1-H7.02-9142 ARC

[Digital Focusing Schlieren for Hypervelocity Ground Testing](#) [137]

• **H8 High Efficiency Space Power Systems (6)**

Creare, LLC

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

15-1-H8.01-8888 GRC

[Ultra-Compact Heat Rejection System for Fission Surface Power](#) [138]

Dioxide Materials, Inc.

3998 FAU Blvd #300

Boca Raton, FL 33431

Rich masel (217) 239-1400

15-1-H8.02-9936 GRC

[Room Temperature Electrolyzers For Oxygen Generation On Mars](#) [139]

MicroLink Devices, Inc.

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 920-9705

15-1-H8.03-9072 GRC

[Radiation Hard, High Efficiency, Quadruple Junction Solar Cells Based on InGaAsN](#) [140]

nVizix, LLC

127 Greyrock Place, Suite 1212

Stamford, CT 6901

Elie Track (914) 953-2069

15-1-H8.03-9093 GRC

[Light-Weight, Flexible, High Efficiency Vacuum Photo-Thermo-Voltaic Solar Cells](#) [141]

Precision Combustion, Inc.

410 Sackett Point Road

North Haven, CT 6473

Amit Kumar (203) 287-3700

15-1-H8.02-9587 GRC

[Efficient, High Power Density Hydrocarbon-Fueled Solid Oxide Stack System](#) [142]

The Peregrine Falcon Corporation

1051 Serpentine Lane, Suite 100

Pleasanton, CA 94566

Robert Hardesty (925) 461-6800

15-1-H8.01-8946 GRC

[Pulsating Heat Pipes](#) [143]

• **H9 Space Communications and Navigation (SCaN) (10)**

Advanced Space, LLC

2100 Central Ave Suite 102

Boulder, CO 80301

Bradley Cheetham (607) 316-1273

15-1-H9.03-9689 GSFC

[Improved Navigation for Highly Dynamic Environments](#) [144]

Applied Technology Associates

1300 Britt Street Southeast

Albuquerque, NM 87123

Tom Edmondson (505) 767-1214

15-1-H9.01-9686 JPL

[Stable Platform for Optical Communications \(SPOC\)](#) [145]

Emergent Space Technologies, Inc.

6411 Ivy Lane, Suite 303

Greenbelt, MD 20770

Everett Cary (301) 345-1535

15-1-H9.03-9090 GSFC

[World-Class Visualizations in GMAT](#) [146]

G. A. Tyler Associates, Inc dba the Optical Sciences Company

1341 South Sunkist Street

Anaheim, CA 92806

Glenn Tyler (714) 772-7668

15-1-H9.01-9298 JPL

[NASA Laser Communications with Adaptive Optics and Linear Mode Photon Counting](#) [147]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

15-1-H9.02-9004 GRC

[Cognitive Engine enabled Mission-aware Intelligent Communication System for Space Networking](#) [148]

Polaronyx, Inc.

2526 Qume Drive, Suites 17 and 18

San Jose, CA 95131

Jian Liu (408) 573-0930

15-1-H9.01-9619 JPL

[100W High Efficiency 1550 nm Pulsed Fiber Laser](#) [149]

Q-Peak, Inc.

135 South Road

Bedford, MA 1730

B. David Green (978) 689-0003

15-1-H9.01-9626 JPL

[High Average Power Fiber Laser for Satellite Communications](#) [150]

Vescent Photonics, Inc.

14998 West 6th Avenue, #700

Golden, CO 80401

Ruth McCurry (303) 296-6766

15-1-H9.01-8772 JPL

[Electro-Optically Scanned Micro-Laser Communication Module](#) [151]

Voxel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

15-1-H9.01-8987 JPL

[Single-photon Lasercom Readout Integrated Circuit \(ROIC\)](#) [152]

Voxel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

15-1-H9.01-8990 JPL

[High Channel Count Time-to-Digital Converter and Lasercom Processor](#) [153]

• **H10 Ground Processing (5)**

Amsen Technologies, LLC

1684 South Research Loop, Suite 518

Tucson, AZ 85710

Hongxing Hu (520) 546-6944

15-1-H10.01-8895 SSC

[Helium Recovery System Based on High-Performance Proton Exchange Membranes](#) [154]

FuelCellsEtc

1902 Pinon, Suite B

College Station, TX 77845

Daniel Westerheim (979) 635-4706

15-1-H10.01-8880 SSC

[Integrated Stack and Advanced MEAs for High-Yield, Long-Life Helium Reclamation System](#) [155]

KWJ Engineering, Inc

8430 Central Avenue, Suite 2D

Newark, CA 94560

Melvin Findlay (510) 405-5911

15-1-H10.01-8807 SSC

[MEMS Sensor Arrays for Cryogenic Propellant Applications](#) [156]

Makel Engineering, Inc.

1585 Marauder Street

Chico, CA 95973

Darby Makel (530) 895-2771

15-1-H10.01-8857 SSC

[Multi-Species Chemical Microsensor For Real Time Cryogenic Purge Line Monitoring](#) [157]

Sustainable Innovations, LLC

111 Roberts Street, Suite J

East Hartford, CT 6108

Trent Molter (860) 289-0159

15-1-H10.01-8824 SSC

[Highly Efficient Electrochemical Cryogenic Purge Gas Recovery System](#) [158]

• **H11 Radiation Protection (8)**

Amchemteq, Inc

7052 South Eagle Valley Road

Port Matilda, PA 16801

venkat Mani (814) 234-0123

15-1-H11.01-9158 LaRC

[Epoxy/UHMWPE Composite Hybridized with Gadolinium Nanoparticles for Space Exploration](#) [159]

Applied Poleramic, Inc.

6166 Egret Court

Benicia, CA 94510

Doyle Dixon (707) 747-6738

15-1-H11.01-9861 LaRC

[Multifunctional Structural Composites for Radiation Shielding](#) [160]

Brimrose Technology Corporation

P.O. Box 616, 19 Loveton Circle

Sparks, MD 21152

Diane Murray (936) 588-6901

15-1-H11.01-9623 LaRC

[Novel Approach In Fabrication Of Shielding Composite Materials By Emerging Field Assisted Sintering Technique \(FAST\)](#) [161]

Gloyer-Taylor Laboratories, LLC

112 Mitchell Boulevard

Tullahoma, TN 37388

Paul Gloyer (931) 455-7333

15-1-H11.01-9772 LaRC

[Multifunctional BHL Radiation Shield](#) [162]

International Scientific Technologies, Inc.

P.O. Box 757

Dublin, VA 24084

Wanda Gibson (540) 633-1424

15-1-H11.01-8821 LaRC

[Hydrogen-rich Interpenetrating Polymer Networks for Radiation-Shield Structures](#) [163]

International Scientific Technologies, Inc.

P.O. Box 757

Dublin, VA 24084

Wanda Gibson (540) 633-1424

15-1-H11.01-8820 LaRC

[Hydrogenous Polymer-Regolith Composites for Radiation-Shielding Materials](#) [164]

Nanosonic, Inc.

158 Wheatland Drive

Pembroke, VA 24136

Melissa Campbell (540) 626-6266

15-1-H11.01-8870 LaRC

[High Hydrogen Thoraeus Rubber Gossamer Radiation Shielding for Human Protection](#) [165]

TDA Research, Inc.

12345 West 52nd Avenue

Wheat Ridge, CO 80033

John Wright (303) 940-2300

15-1-H11.01-9318 LaRC

[Multifunctional Polyolefin Matrix Composite Structures](#) [166]

• **H12 Human Research and Health Maintenance (3)**

Charles River Analytics, Inc.

625 Mount Auburn Street

Cambridge, MA 2138

Yvonne Fuller (617) 491-3474

15-1-H12.02-9970 JSC

[Cognitive Assessment and Prediction to Promote Individualized Capability Augmentation and Reduce Decrement \(CAPT PICARD\)](#) [167]

Physical Sciences, Inc.

20 New England Business Center

Andover, MA 1810

B. David Green (978) 689-0003

15-1-H12.01-9633 GRC

[Optical System for Monitoring Net Ocular Blood Flow](#) [168]

SIFT, LLC

319 Noth 1st Avenue, Suite 400

Minneapolis, MN 55401

Linda Holje (612) 226-5061

15-1-H12.02-9934 JSC

[ATHENA - Appraisal of Task Health and Effort through Non-Intrusive Assessments](#) [169]

• **H13 Non-Destructive Evaluation (5)**

Advanced Systems & Technologies, Inc.

12 Mauchly, Building H

Irvine, CA 92618

Vladimir Markov (949) 733-3355

15-1-H13.02-8935 LaRC

[Reconfigurable Optical Velocimeter for Autonomous Structural Inspection in Space \(ROVASIS\)](#) [170]

Physical Optics Corporation

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

15-1-H13.02-9289 LaRC

[Microwave Inspection Nondestructive Imaging Array](#) [171]

Systems & Processes Engineering Corp

6800 Burleson Road, Bldg 320

Austin, TX 78744

Joseph Priest (512) 479-7732

15-1-H13.02-9522 LaRC

[Space Vehicle Inspection High Range Resolution & Raman Spectral LIDAR](#) [172]

Texas Research Institute Austin, Inc.

9063 Bee Caves Road

Austin, TX 78733

Annette Pizzini (512) 263-2101

15-1-H13.01-8878 LaRC

[NDE Big Data Framework](#) [173]

X-wave Innovations, Inc.

407 Upshire Circle

Gaithersburg, MD 20878

Jennifer Duan (240) 364-6015

15-1-H13.02-8642 LaRC

[An Advanced Ultrasonic Imaging System using Time-Reversal MUSIC Technique for Rapid Inspection of Ultra Large, Complex Composite Structures](#) [174]

- **H14 International Space Station (ISS) Demonstration and Development of Improved Exploration Technologies and Increased ISS Utilization (10)**

Boulder Nonlinear Systems, Inc.

450 Courtney Way, Unit 107

Lafayette, CO 80026

Mark Tanner (303) 604-0077

15-1-H14.01-9699 JSC

[LMM Holographic Optical Tweezers \(HOT\) Module](#) [175]

Cornerstone Research Group, Inc.

2750 Indian Ripple Road

Dayton, OH 45440

Stephen Vining (937) 320-1877

15-1-H14.03-9603 MSFC

[Reversible Copolymer Materials for FDM 3-D Printing of Non-Standard Plastics](#) [176]

Giner, Inc.

89 Rumford Avenue

Newton, MA 2466

Cortney Mittelsteadt (781) 529-0529

15-1-H14.02-9260 JSC

[High Pressure Electrochemical Oxygen Generation for ISS](#) [177]

IRPI, LLC

7929 Southwest Burns Way, Suite A

Wilsonville, OR 97070

Ryan Jenson (503) 545-2501

15-1-H14.01-9251 JSC

[ISS Testbed for Capillary Two-Phase Flow Device Qualification](#) [178]

Tech4Imaging, LLC

4171 Fairfax Drive

Columbus, OH 43220

Qussai Marashdeh (614) 214-2655

15-1-H14.01-9375 JSC

[Multi Phase Flow Decomposition and Imaging Using Electrical Capacitance Volume Tomography Sensors](#) [179]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

15-1-H14.01-9736 JSC

[Electrical Microgravity Research in Colloidal Development Platform](#) [180]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

15-1-H14.01-9877 JSC

[Snap Freezer for ISS](#) [181]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

15-1-H14.01-9875 JSC

[Rodent Centrifuge Facility for ISS Life and Microgravity Science Research](#) [182]

Techshot, Inc.

7200 Highway 150

Greenville, IN 47124

Mark Deuser (812) 923-9591

15-1-H14.03-9732 MSFC

[Space Plastic Recycling System](#) [183]

Tethers Unlimited, Inc.

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Russell Dula (425) 486-0100

15-1-H14.03-9324 MSFC

[CRISSP - Customizable Recyclable International Space Station Packaging](#) [184]

• **S1 Sensors, Detectors and Instruments (45)**

AdValue Photonics, Inc.

3440 East Britannia Drive, Suite 190

Tucson, AZ 85706

Shibin Jiang (520) 790-5468

15-1-S1.01-8973 LaRC

[Radiation-Hardened 1.55 Micron Fiber Laser for Coherent LIDAR](#) [185]

AdValue Photonics, Inc.

3440 East Britannia Drive, Suite 190

Tucson, AZ 85706

Shibin Jiang (520) 790-5468

15-1-S1.01-8972 LaRC

[Highly Efficient 2 Micron Wavelength Fiber Laser](#) [186]

ADVR, Inc.

2310 University Way, Building 1-1

Bozeman, MT 59715

Betsy Heckel (406) 522-0388

15-1-S1.07-9654 GSFC

[A Multi-Wavelength Seed Derived Laser for In-Situ Validation of Airborne Remote Sensing Instruments](#) [187]

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 1821

George Wittreich (978) 663-9500

15-1-S1.07-9996 GSFC

[3-color DPAS Aerosol Absorption Monitor](#) [188]

Alphacore, Inc.

1616 East Main Street, Suite 221

Tucson, AZ 85203

Esko Mikkola (520) 647-4445

15-1-S1.02-8978 JPL

[Radiation-Hard Ka-Band Power Amplifier for CubeSats](#) [189]

AOSense, Inc.

929 E Arques Ave

Sunnyvale, CA 94085

Brenton Young (408) 735-9500

15-1-S1.09-8809 JPL

[Stabilized Portable External Cavity Laser \(SPECL\)](#) [190]

Biospherical Instruments, Inc.

5340 Riley Street

San Diego, CA 92110

John Morrow (619) 686-1888

15-1-S1.07-8995 GSFC

[14-Decades Calibration in Airborne Detectors for Environmental Science \(14DeCADES\)](#) [191]

Boston Applied Technologies, Inc.

6F Gill Street

Woburn, MA 1801

Yingyin Zou (781) 935-2800

15-1-S1.07-9270 GSFC

[Mobile Passive MWIR Gas Imager](#) [192]

Boulder Nonlinear Systems, Inc.

450 Courtney Way, Unit 107

Lafayette, CO 80026

Mark Tanner (303) 604-0077

15-1-S1.07-9700 GSFC

[Compact 3D Wind Sensor for Unmanned Aerial Vehicles](#) [193]

Bridger Photonics, Inc.

2310 University Way, Building, 4-4

Bozeman, MT 59715

Peter Roos (406) 585-2774

15-1-S1.01-8695 LaRC

[Compact, Rugged and Low-Cost Atmospheric Ozone DIAL Transmitter](#) [194]

Composite Technology Development, Inc.

2600 Campus Drive, Suite D

Lafayette, CO 80026

Lori Bass (303) 664-0394

15-1-S1.05-8837 GSFC

[Electric Potential and Field Instrument for CubeSat \(EPIC\)](#) [195]

Connecticut Analytical Corporation

696 Amity Road

Bethany, CT 6524

Joseph Bango (203) 393-9666

15-1-S1.06-9867 JPL

[Low Power Miniature Colloidal High Vacuum Pump](#) [196]

CoolCAD Electronics, LLC

7101 Poplar Avenue

Takoma Park, MD 20912

Neil Goldsman (301) 405-3363

15-1-S1.04-8822 GSFC

[Large Area Silicon Carbide Photodiode Active Pixel Sensor](#) [197]

Creare, LLC

16 Great Hollow Road

Hanover, NH 3755

Robert Kline-Schoder (603) 643-3800

15-1-S1.10-8853 GSFC

[A High Efficiency 30 K Cryocooler with Low Temperature Heat Sink](#) [198]

Energy Research Company

1250 South Avenue

Plainfield, NJ 7062

Arel Weisberg (908) 561-8110

15-1-S1.06-9844 JPL

[Compact High Performance Spectrometers Using Computational Imaging](#) [199]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

15-1-S1.03-9811 JPL

[Spaceflight 2 um Tm Fiber MOPA Amplifier](#) [200]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

15-1-S1.01-9810 LaRC

[3D Imaging Cubesat Lidar for Asteroid and Planetary Sciences](#) [201]

Fibertek, Inc.

13605 Dulles Technology Drive

Herndon, VA 20171

Tracy Perinis (703) 471-7671

15-1-S1.01-9914 LaRC

[Novel Solid State Lasers for Space-Based Water Vapor DIAL](#) [202]

GATR Technologies

11506 Gilleland Road

Huntsville, AL 35803

Janette Rawls (256) 704-5611

15-1-S1.02-9271 JPL

[Cubesat Collapsible Composite Antenna](#) [203]

Honeybee Robotics, Ltd.

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Chris Chapman (626) 459-7802

15-1-S1.06-9575 JPL

[Lunar Heat Flow Probe](#) [204]

Incom, Inc.

294 Southbridge Road

Charlton, MA 1507

Steve Morrill (508) 909-2316

15-1-S1.05-9590 GSFC

[Curved Microchannel Plates for Spaceflight Mass Spectrometers](#) [205]

IntelliEPI IR, Inc.

201 East Arapaho Road Suite 210

Richardson, TX 75081

Paul Pinsukanjana (972) 814-6050

15-1-S1.03-9391 JPL

[Type II SLS Materials Development for Space-based FPA Applications](#) [206]

Intelligent Automation, Inc.

15400 Calhoun Drive, Suite 190

Rockville, MD 20855

Mark James (301) 294-5221

15-1-S1.02-9012 JPL

[Scalable Architectures for Distributed Beam-Forming Synthetic Aperture Radar \(DBSAR\)](#) [207]

Iris Technology Corporation

P.O. Box 5838

Irvine, CA 92616

Mitul Jambusaria (949) 975-8410

15-1-S1.10-9837 GSFC

[CubeSat Cryocooler System \(CCS\)](#) [208]

Leiden Measurement Technology, LLC

751 Laurel St #344

San Carlos, CA 94087

Richard Quinn (650) 691-8573

15-1-S1.08-8855 ARC

[Novel Microfluidic Advances Enabling Autonomous, Long-Duration, Analysis of Nitrite/Nitrate](#) [209]

Luminit, LLC

1850 West 205 Street

Torrance, CA 90501

Emmanuel Gorce (310) 320-1066

15-1-S1.08-9925 ARC

[Multi Wavelength Greenhouse gas LIDAR \(MUGGLE\)](#) [210]

Michigan Aerospace Corporation

1777 Highland Drive, Suite B

Ann Arbor, MI 48108

John Dodds (734) 975-8777

15-1-S1.07-9520 GSFC

[eVADE: Volcanic Ash Detection Raman LIDAR](#) [211]

Micro Harmonics Corporation

1320 Ohio Street, Suite H-1

Waynesboro, VA 22980

David Porterfield (434) 409-4044

15-1-S1.02-9516 JPL

[Low-Loss Ferrite Components for NASA Missions](#) [212]

Nuvotronics, LLC

7586 Old Peppers Ferry Loop

Radford, VA 24141

Scott Meller (800) 341-2333

15-1-S1.02-9069 JPL

[Robust Microfabricated Interconnect Technologies: DC to THz](#) [213]

Ozark Integrated Circuits, Inc.

700 West Research Center Boulevard

Fayetteville, AR 72701

Anthony Francis (479) 575-1600

15-1-S1.04-9563 GSFC

[Highly Scalable SiC UV Imager for Earth & Planetary Science](#) [214]

Ozark Integrated Circuits, Inc.

700 West Research Center Boulevard

Fayetteville, AR 72701

Anthony Francis (479) 575-1600

15-1-S1.06-9561 JPL

[A SiC-based Microcontroller for High-Temperature In-Situ Instruments and Systems](#) [215]

Photodigm, Inc.

1155 East Collins Boulevard, #200

Richardson, TX 75081

Karen Goodwin (972) 235-7584

15-1-S1.01-9731 LaRC

[Integrated Miniature DBR Laser Module for Lidar Instruments](#) [216]

Physical Optics Corporation

1845 West 205th Street

Torrance, CA 90501

Gordon Drew (310) 320-3088

15-1-S1.09-9462 JPL

[Miniature Optical Isolator](#) [217]

Princeton Lightwave, Inc.

2555 Route 130 South, Suite 1

Cranbury, NJ 8512

Mark Itzler (609) 495-2551

15-1-S1.01-9021 LaRC

[High-Power Tunable SeedLaser for Methane LIDAR Transmitter](#) [218]

QmagiQ

22 Cotton Road, Unit H, Suite 180

Nashua, NH 3063

Mani Sundaram (603) 821-3092

15-1-S1.03-9136 JPL

[Antimony-Based Focal Plane Arrays for Shortwave-Infrared to Visible Applications](#) [219]

Sequoia Scientific, Inc.

2700 Richards Road

Bellevue, WA 98005

Yogesh Agrawal (425) 641-0944

15-1-S1.08-9386 ARC

[Instrument for Measurement of Oceanic Particle Size Distribution from Submicron to Mesoplankton](#) [220]

SibellOptics, LLC

815 Beauprez Avenue

Lafayette, CO 80026

Russell Sibell (303) 913-1772

15-1-S1.01-8825 LaRC

[Development of a High Energy Er-Fiber Amplifier for a Space-based Wind, Aerosol, and Range Lidar Sensor](#) [221]

Southwest Sciences, Inc.

1570 Pacheco Street, Suite E-11

Santa Fe, NM 87505

Alan Stanton (505) 984-1322

15-1-S1.07-9285 GSFC

[Instrument for Airborne Measurement of Carbonyl Sulfide](#) [222]

Superconducting Systems, Inc.

900 Middlesex Turnpike

Billerica, MA 1821

Shahin Pourrahimi (978) 935-2805

15-1-S1.10-8676 GSFC

[Shielded 3T HTS ADR Magnet Operating at 30-40 K](#) [223]

Tendeg LLC

686 S Taylor Ave Ste 108

Louisville, CO 80027

Douglas Campbell (720) 300-8167

15-1-S1.02-9216 JPL

[ROC-Rib Deployable Ka-Band Antenna for Nanosatellites](#) [224]

Twinleaf, LLC

848 Alexander Road

Princeton, NJ 8540

Elizabeth Foley (609) 759-0859

15-1-S1.05-8714 GSFC

[Space-Qualified Compact Optical Magnetometer](#) [225]

Vescent Photonics, Inc.

14998 West 6th Avenue, #700

Golden, CO 80401

Ruth McCurry (303) 296-6766

15-1-S1.09-8674 JPL

[Robust Frequency Combs and Lasers for Optical Clocks and Sensing](#) [226]

Virginia Diodes, Inc.

979 Second Street, Southeast

Charlottesville, VA 22902

Thomas Crowe (434) 297-3257

15-1-S1.02-9911 JPL

[Frequency Multipliers for 200-400GHz](#) [227]

Vista Photonics, Inc.

4611 Research Park Circle B220

Las Cruces, NM 88001

Jeffery Pilgrim (505) 216-2287

15-1-S1.07-8840 GSFC

[Real-Time Airborne Infra-Red Carbon Dioxide Analyzer](#) [228]

Voxel, Inc.

15985 Northwest Schendel Avenue, Suite 200

Beaverton, OR 97006

Debra Ozuna (971) 223-5646

15-1-S1.06-8989 JPL

[Compact High-Resolution, Time-Resolved Intensified Image Sensor](#) [229]

• **S2 Advanced Telescope Systems (15)**

Apre Instruments, LLC

2440 West Ruthrauff Road, Suite 100

Tucson, AZ 85745

Robert Smythe (860) 398-5764

15-1-S2.04-9249 GSFC

[Low Coherence, Spectrally Modulated, Spherical Wavefront Probe for Nanometer Level Free-Form Metrology](#) [230]

Boston Micromachines Corporation

30 Spinelli Place

Cambridge, MA 2138

Paul Bierden (617) 868-4178

15-1-S2.01-9488 JPL

[Improved Yield, Performance and Reliability of High-Actuator-Count Deformable Mirrors](#) [231]

Dallas Optical Systems, Inc.

1790 Connie Lane

Rockwall, TX 75032

John Casstevens (972) 564-1156

15-1-S2.03-9125 MSFC

[Additive Manufactured Very Light Weight Diamond Turned Aspheric Mirror](#) [232]

Extreme Diagnostics, Inc.

6960 Firerock Court

Boulder, CO 80301

Robert Owen (303) 523-8924

15-1-S2.02-9994 JPL

[Macro-Fiber Composite-based actuators for space](#) [233]

Lightweight Telescopes, Inc.

5469 Hound Hill Court

Columbia, MD 21045

Peter Chen (410) 992-3914

15-1-S2.03-8703 MSFC

[High Performance Consumer-Affordable Nanocomposite Mirrors with Supersmooth Surfaces, Precise Figuring, and Innovative 3D Printed Structures](#) [234]

Microscale, Inc.

800 West Cummings Park, Suite 3350

Woburn, MA 1801

xingtao wu (339) 927-1996

15-1-S2.01-8685 JPL

[Single Crystal Piezoelectric Stack Actuator DM with Integrated Low-Power HVA-Based Driver ASIC](#) [235]

Mindrum Precision, Inc.

10000 4th Street

Rancho Cucamonga, CA 91730

Adam Pohl (909) 989-1728

15-1-S2.04-9666 GSFC

[Precollimator Manufacturing for X-ray Telescopes](#) [236]

Optimax Systems, Inc.

6367 Dean Parkway

Ontario, NY 14519

Tom Kelly (585) 217-0729

15-1-S2.04-9683 GSFC

[Manufacture of Monolithic Telescope with a Freeform Surface](#) [237]

Optimax Systems, Inc.

6367 Dean Parkway

Ontario, NY 14519

Tom Kelly (585) 217-0729

15-1-S2.04-9355 GSFC

[Freeform Optics: A Non-Contact "Test Plate" for Manufacturing](#) [238]

Optimax Systems, Inc.

6367 Dean Parkway

Ontario, NY 14519

Tom Kelly (585) 217-0729

15-1-S2.03-9591 MSFC

[Additive Manufacturing for Lightweight Reflective Optics](#) [239]

ROCCOR, LLC

500 South Arthur, Unit 300

Louisville, CO 80027

Douglas Campbell (720) 300-8167

15-1-S2.02-9221 JPL

[Dimensionally Stable Structural Space Cable](#) [240]

Second Star Algonumerix

19 West Street

Needham, MA 2494

Anastasia Tyurina (781) 400-1323

15-1-S2.04-9193 GSFC

[InTILF Method for Analysis of Polished Mirror Surfaces](#) [241]

Semplastics EHC, LLC

269 Aulin Avenue, Suite 1003

Oviedo, FL 32765

Barbara Hopkins (407) 353-6885

15-1-S2.03-9856 MSFC

[Ultra-low Cost, Lightweight, Molded, Chalcogenide Glass-Silicon Oxycarbide Composite Mirror Components](#) [242]

Sunlite Science & Technology, Inc.

4811 Quail Crest Place

Lawrence, KS 66049

Fong Suo (785) 856-0219

15-1-S2.01-9534 JPL

[Switching Electronics for Space-based Telescopes with Advanced AO Systems](#) [243]

Trex Enterprises Corporation

10455 Pacific Center Court

San Diego, CA 92121

Deborah Doyle (858) 646-5462

15-1-S2.03-9297 MSFC

[Diffusion Bonded CVC SiC for Large UVOIR Telescope Mirrors and Structures](#) [244]

• **S3 Spacecraft and Platform Subsystems (42)**

Advanced Cooling Technologies, Inc.

1046 New Holland Avenue

Lancaster, PA 17601

William Anderson (717) 295-6104

15-1-S3.07-9409 GSFC

[Two-phase Pumped Loop for Spacecraft Thermal Control](#) [245]

Adventium Enterprises, LLC

111 Third Avenue South, Suite 100

Minneapolis, MN 55401

Lindsey Hillesheim (612) 481-0533

15-1-S3.09-9203 GSFC

[Non Invasive Instrumentation For Single Event Effects \(NIISEE\)](#) [246]

Aerodyne Research, Inc.

45 Manning Road

Billerica, MA 1821

George Wittreich (978) 932-0215

15-1-S3.01-9314 GRC

[Dwell Mechanism for Increasing Free-Piston Stirling Engine Specific Power and Efficiency](#) [247]

Applied Material Systems Engineering, Inc. (AMSENG)

2309 Pennsbury Court

Schaumburg, IL 60194

Mukund Deshpande (630) 372-9650

15-1-S3.07-9425 GSFC

[Innovations for the Affordable Conductive Thermal Control Material Systems for Space Applications](#) [248]

Busek Company, Inc.

11 Tech Circle

Natick, MA 1760

Judy Budny (508) 655-5565

15-1-S3.02-8954 GRC

[High Performance Iodine Feed System](#) [249]

Busek Company, Inc.

11 Tech Circle

Natick, MA 1760

Judy Budny (508) 655-5565

15-1-S3.02-8993 GRC

[Iodine-Compatible C12A7 Electride Hollow Cathode](#) [250]

Combustion Research and Flow Technology

6210 Keller's Church Road

Pipersville, PA 18947

Katherine Young (215) 766-1520

15-1-S3.07-9437 GSFC

[Coupling Existing Software Paradigms for Thermal Control System Analysis of Re-Entry Vehicles](#) [251]

Converter Source, LLC

16922 South Canaan Road

Athens, OH 45701

David Gedeon (740) 592-5166

15-1-S3.01-9476 GRC

[Novel Ring-Configuration Double-Acting Free-Piston Stirling Converter](#) [252]

Digital Optics Technologies, Inc.

1645 Hicks Road, Suite R

Rolling Meadows, IL 60008

Rabia Shahriar (847) 358-2592

15-1-S3.08-9455 MSFC

[Fast Light Enhanced Active and Passive Gyroscopes, Accelerometers and Fiber-Optic Sensors](#) [253]

Digital Solid State Propulsion, Inc

5475 Louie Lane, Suite D

Reno, NV 89511

Wayne Sawka (775) 851-4443

15-1-S3.02-9769 GRC

[Green Electric Monopropellant \(GEM\) Fueled Pulsed Plasma Thruster](#) [254]

Dynsan, LLC

8000 Madison Boulevard, Suite D102 PMB303

Madison, AL 35758

Maciej Z. Pindera (256) 468-6458

15-1-S3.04-9554 GSFC

[Optimization Of Fuel Consumption Using Atmospheric Vertical Air Currents](#) [255]

ElectroChem, Inc.

400 West Cummings Park

Woburn, MA 1801

Radha Jalan (781) 938-5300

15-1-S3.06-9407 GSFC

[Advanced Onboard Energy Storage Solution for Balloons](#) [256]

EOTRON, LLC

3516 Seagate Way, Suite 140

Oceanside, CA 92056

Gerald Kim (760) 707-6955

15-1-S3.07-9949 GSFC

[Silicon Cold Plate for CubeSat/SmallSat Thermal Control](#) [257]

FastCAP Systems Corporation

21 Drydock Avenue

Boston, MA 2210

Jamie Beard (857) 239-7500

15-1-S3.03-8980 GRC

[Wide Operating Temperature Range Ruggedized Ultracapacitor For Deep Space Exploration](#) [258]

Flight Works, Inc.

17905 Sky Park Circle, Suite F

Irvine, CA 92614

Eric Besnard (949) 387-9552

15-1-S3.02-9803 GRC

[Micropump for MON-25/MMH Propulsion and Attitude Control](#) [259]

Freedom Photonics, LLC

41 Aero Camino

Santa Barbara, CA 93117

Milan Mashanovitch (805) 967-4900

15-1-S3.05-8747 GSFC

[Compact Ultrasensitive Erbium-doped Waveguide Optical Gyros](#) [260]

GeneSiC Semiconductor, Inc.

43670 Trade Center Place, Suite 155

Dulles, VA 20166

Ranbir Singh (703) 996-8200

15-1-S3.03-9258 GRC

[Rad-hard 1200 V SiC MOSFETs and Schottky Rectifiers for a 30 kW PPU](#) [261]

Honeybee Robotics, Ltd.

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Chris Chapman (212) 966-0661

15-1-S3.09-8661 GSFC

[Miniaturized System-in-Package Motor Controller for Spacecraft and Orbital Instruments](#) [262]

i2C Solutions

500 South Arthur Avenue

Louisville, CO 80027

Doug Campbell (720) 300-8167

15-1-S3.07-9239 GSFC

[Flexible 2-Phase Thermal Strap for Small Sats](#) [263]

Innoflight, Inc.

9985 Pacific Heights Boulevard, Suite 250

San Diego, CA 92121

David Andaleon (858) 638-1580

15-1-S3.09-9398 GSFC

[Software Redundancy Framework for COTS SoC FPGAs](#) [264]

Innosense, LLC

2531 West 237th Street, Suite 127

Torrance, CA 90505

Kisholoy Goswami (310) 530-2011

15-1-S3.07-9570 GSFC

[Modified Ionic Liquids for Thermal Properties in CubeSats](#) [265]

Intelligent Fiber Optic Systems Corporation

2363 Calle Del Mundo

Santa Clara, CA 95054

Behzad Moslehi (408) 565-9004

15-1-S3.05-9717 GSFC

[Innovative Fiber-Optic Gyroscopes \(FOGs\) for High Accuracy Space Applications](#) [266]

KBN Optics, LLC

15 Wind Tree Circle

Pittsford, NY 14534

Jerry Kuper (585) 748-0959

15-1-S3.08-9199 MSFC

[Slow-Light-Enhanced Spectral Interferometers](#) [267]

Lenzner Research, LLC

125 East Canyon View Drive

Tucson, AZ 85704

Matthias Lenzner (347) 301-5402

15-1-S3.08-9443 MSFC

[Study of Sensitivity Enhancement and Dead Band Elimination in Laser Gyros](#) [268]

LoadPath

933 San Mateo Boulevard Northeast, Suite 500-326

Albuquerque, NM 87108

Adam Biskner (505) 331-5331

15-1-S3.07-9621 GSFC

[High heat flux Enhanced Acquisition and Transport system for Small spacecraft](#) [269]

Mesa Photonics, LLC

1550 Pacheco Street

Santa Fe, NM 87505

David Bomse (505) 216-5015

15-1-S3.04-9392 GSFC

[Cloud Droplet Characterization System for Unmanned Aircraft](#) [270]

MicroLink Devices, Inc.

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 920-9705

15-1-S3.01-9281 GRC

[Large-Area, Multi-Junction, Epitaxial Lift-Off Solar Cells with Backside Contacts](#) [271]

MicroLink Devices, Inc.

6457 Howard Street

Niles, IL 60714

Noren Pan (847) 920-9705

15-1-S3.01-9275 GRC

[Flexible ELO Solar Cells with Ultra-High Specific Power and Areal Power Density](#) [272]

Pioneer Astronautics

11111 West 8th Avenue, Unit A

Lakewood, CO 80215

Robert Zubrin (303) 980-0890

15-1-S3.02-9159 GRC

[Nitrous Ethane-Ethylene Rocket with Hypergolic Ignition](#) [273]

Plasma Controls, LLC

1180 La Eda Lane

Fort Collins, CO 80526

Casey Farnell (970) 581-2239

15-1-S3.02-8693 GRC

[Electride Hollow Cathode](#) [274]

Powdermet, Inc.

24112 Rockwell Drive

Euclid, OH 44117

Andrew Sherman (216) 404-0053

15-1-S3.03-8858 GRC

[Wide Temperature, High Voltage and Energy Density Capacitors for Aerospace Exploration](#) [275]

QorTek, Inc.

1965 Lycoming Creek Road, Suite 205

Williamsport, PA 17701

Cathy Bower (570) 322-2700

15-1-S3.03-9105 GRC

[Extreme Environment Compatible Ceramic Enhanced PEBB Devices \(EE-PEBB\)](#) [276]

Sheridan Solutions, LLC

745 Woodhill Drive

Saline, MI 48176

John Sheridan (734) 604-1120

15-1-S3.07-9989 GSFC

[Ultrasonic Additive Manufacturing for Capillary Heat Transfer Devices and Integrated Heat Exchangers](#) [277]

Silicon Space Technology Corporation

2028 East Ben White Boulevard, Suite 220

Austin, TX 78741

Garry Nash (631) 559-1550

15-1-S3.09-9956 GSFC

[Radiation Hardened ARM Micro Controller Module](#) [278]

STARA Technologies, Inc.

1620 West Sunrise Boulevard

Gilbert, AZ 85233

Thomas Glenn (480) 850-1555

15-1-S3.04-9800 GSFC

[Precision Guided Parafoil System For Sounding Rocket Recovery](#) [279]

Systems & Processes Engineering Corp

6800 Burleson Road, Bldg 320

Austin, TX 78744

Joseph Priest (512) 479-7732

15-1-S3.04-9526 GSFC

[Miniature UAV Wind LIDAR & Flight Extension System](#) [280]

Systems & Processes Engineering Corp

6800 Burleson Road, Bldg 320

Austin, TX 78744

Joseph Priest (512) 479-7732

15-1-S3.05-9525 GSFC

[Miniature HD6D Navigation and Rendezvous LIDAR & Software](#) [281]

Systema Technologies, Inc.

10809 120th Avenue Northeast

Kirkland, WA 98033

Tom Prenzlow (425) 487-4020

15-1-S3.02-9325 GRC

[Miniaturized Lightweight Monopropellant Feed System for Nano- and Micro-satellites](#) [282]

Tethers Unlimited, Inc.

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Robert Hoyt (425) 486-0100

15-1-S3.06-9331 GSFC

[VORTEX Gimbal](#) [283]

Torch Technologies, Incorporated

4035 Chris Drive

Huntsville , AL 35802

Kenneth Lones (256) 319-6019

15-1-S3.08-9572 MSFC

[Slow and Fast Light](#) [284]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

15-1-S3.02-8908 GRC

[Green Monopropellant Secondary Payload Propulsion System](#) [285]

Ultramet

12173 Montague Street

Pacoima, CA 91331

Craig Ward (818) 899-0236

15-1-S3.02-8905 GRC

[Low-Cost, Lightweight, High-Performance CMC Combustion Chamber for HAN-Based Monopropellant Engines](#) [286]

• **S4 Robotic Exploration Technologies (14)**

Advanced Scientific Concepts, LLC

135 East Ortega Street

Santa Barbara, CA 93101

JoAnn Stettner (805) 966-3331

15-1-S4.01-8929 JPL

[3D Flash LIDAR Megapixel High Speed Array](#) [287]

Arctic Slope Technical Services

7000 Muirkirk Meadows Drive, Suite 100

Beltsville, MD 20705

David Dempsey (301) 837-9029

15-1-S4.03-9756 JPL

[High Performance Nozzle for Mars Ascent Vehicle](#) [288]

Coherent Applications, Inc.

20 Research Drive, Suite 500

Hampton, VA 23666

Diego Pierrottet (757) 927-5556

15-1-S4.01-9888 JPL

[Terminal Descent Lidar System](#) [289]

FastCAP Systems Corporation

21 Drydock Avenue

Boston, MA 2210

Jamie Beard (857) 239-7500

15-1-S4.04-8951 JPL

[Ultra-High Temperature Solid State Ultracapacitor Operating at 300C For Extreme Environments](#) [290]

Honeybee Robotics, Ltd.

Building 3, Suite 1005 63 Flushing Avenue Unit 150

Brooklyn, NY 11205

Chris Chapman (626) 459-7802

15-1-S4.05-9420 JPL

[Development of a Hermetically Sealed Canister for Sample Return Missions](#) [291]

Irvine Sensors Corporation

3001 Red Hill Avenue, B3-108

Costa Mesa, CA 92626

Daryl Smetana (714) 444-8760

15-1-S4.01-9473 JPL

[High Resolution, High Sensitivity LIDAR for Robotic Space Operation Support](#) [292]

Microcosm, Inc.

4940 West 147th Street

Hawthorne, CA 90250

Chris Maruyama (310) 219-2700

15-1-S4.03-9958 JPL

[Single-Stage, Gelled Hydrazine System for Mars Ascent Vehicle Propulsion](#) [293]

Motiv Space Systems, Inc.

350 North Halstead Street

Pasadena, CA 91107

Tom McCarthy (626) 389-5783

15-1-S4.04-9151 JPL

[Dual Axis Controller for Extreme Environments](#) [294]

Photon Systems, Inc.

1512 Industrial Park Street

Covina, CA 91722

Ray Reid (626) 967-6431

15-1-S4.05-9450 JPL

[Development of Non-Contact Trace Contamination Detection Methods and Instrumentation for Spacecraft Cleaning Validation Using Deep UV Chemical Imaging](#) [295]

Sigma Space Corporation

4600 Forbes Boulevard

Lanham, MD 20706

Timothy Kirk (301) 552-6027

15-1-S4.01-9469 JPL

[A Next Generation Imaging for Space Application](#) [296]

Somatis Sensor Solutions

411 South Hewitt Street

Los Angeles, CA 90013

Nicholas Wettels (213) 477-0710

15-1-S4.02-9372 JPL

[Industrial Electrostatic-Gecko Gripper](#) [297]

Tethers Unlimited, Inc.

11711 North Creek Parkway South, Suite D113

Bothell, WA 98011

Rob Hoyt (425) 486-0100

15-1-S4.02-9332 JPL

[ARACMO: Advanced Regolith Anchoring for Cable-assisted Mobility](#) [298]

UNITED SILICON CARBIDE, INC.

7 Deer Park Drive, Suite E

Monmouth Junction, NJ 8852

Scott Kelly (732) 355-0550

15-1-S4.04-9341 JPL

[Extreme Environment Electronics based on Silicon Carbide](#) [299]

Ventions, LLC

1142 Howard Street

San Francisco, CA 94103

Amit Mehra (202) 213-2846

15-1-S4.03-9675 JPL

[High-Performance, Pump-Fed Propulsion for Mars Ascent Vehicle Applications](#) [300]

• **S5 Information Technologies (9)**

Accelogic, LLC

1633 Bonaventure Boulevard

Weston, FL 33326

Juan Gonzalez (954) 888-4711

15-1-S5.01-9614 ARC

[Accelerating Memory-Access-Limited HPC Applications via Novel Fast Data Compression](#) [301]

Azavea, Inc.

340 North 12th Street, Suite 402B

Philadelphia, PA 19107

Robert Cheetham (215) 701-7713

15-1-S5.02-9041 SSC

[ModelLab: A Cloud-Based Platform to Support Advanced Geospatial Modeling of Earth Observation Data](#) [302]

EM Photonics, Inc.

51 East Main Street, Suite 203

Newark, DE 19711

Eric Kelmelis (302) 456-9003

15-1-S5.01-8794 ARC

[A Scheduling-Based Framework for Efficient Massively Parallel Execution](#) [303]

Geocent, LLC

111 Veterans Boulevard, Suite 1600

Metairie, LA 70005

Cathy Murray (504) 831-1900

15-1-S5.02-8861 SSC

[Cloud-Based Open Data Environment and Flow-based Aggregation Science Tool \(CODEFAST\)](#) [304]

Odyssey Space Research, LLC

1120 NASA Parkway, Suite 505

Houston, TX 77058

Jana Rebmann (281) 862-7819

15-1-S5.05-8971 ARC

[Dynamic State-Based FM Design and Analysis Tool](#) [305]

Okean Solutions, Inc

1463 East Republican Street, 32A

Seattle, WA 98112

Ksenia Kolcio (310) 704-6174

15-1-S5.05-9897 ARC

[Model-Based Off-Nominal State Isolation and Detection System for Autonomous Fault Management](#) [306]

Qualtech Systems, Inc.

100 Corporate Place Suite 220

Rocky Hill, CT 6067

Sudipto Ghoshal (860) 761-9341

15-1-S5.05-9573 ARC

[Fault Management Technologies - Metrics Evaluation and V&V](#) [307]

SPIRITUS, INC

1011 Coronado Ave SE

HUNTSVILLE, AL 35802

Shaneva McReynolds (256) 539-8018

15-1-S5.03-9352 GSFC

[SparkRS - Spark for Remote Sensing](#) [308]

SynaptiCAD Sales, Inc.

605 Alleghany Street

Blacksburg, VA 24060

Donna Mitchell (540) 953-3390

15-1-S5.04-9895 JPL

[Application of SystemVerilog to Science Mission Simulation](#) [309]

- **Z1 Advanced Power and Energy Storage Systems for Cross-Cutting Space Applications (3)**

CFD Research Corporation

701 McMillian Way Northwest, Suite D

Huntsville, AL 35806

Silvia Harvey (256) 726-4858

15-1-Z1.01-9821 GRC

[Thermodynamically Consistent Electrochemical Models for Accelerating Development and Qualification of Power Generation and Storage Systems](#) [310]

Nanohmics, Inc.

6201 East Oltorf Street, Suite 400

Austin, TX 78741

Steve Savoy (512) 389-9990

15-1-Z1.02-9037 JPL

[Development of HighEfficiency Thermionic Power Generator](#) [311]

Spectral Sciences, Inc.

4 Fourth Avenue

Burlington, MA 1803

Leslie McCarthy (781) 273-4770

15-1-Z1.01-9890 GRC

[Electrospray Propulsion Engineering Toolkit \(ESPET\)](#) [312]

- **Z2 Lightweight Materials, Structures, and Advanced Manufacturing/Assembly (3)**

Applied Poleramic, Inc.

6166 Egret Court

Benicia, CA 94510

Doyle Dixon (707) 747-6738

15-1-Z2.01-9669 MSFC

[Infusion Resins for Automated Dry Fiber Placement Products](#) [313]

Automated Dynamics

407 Front Street

Schenectady, NY 12305

David Hauber (518) 377-6471

15-1-Z2.01-9432 MSFC

[Laser Additive Manufacturing of Large Scale Polymer Matrix Composite Structures](#) [314]

Materials Modification, Inc.

2809-K Merrilee Drive

Fairfax, VA 22031

Tirumalai Sudarshan (703) 560-1371

15-1-Z2.01-8616 MSFC

[Resin Infusion Fabrication of nanostructured PMC](#) [315]

• **Z4 Small Spacecraft Technology (3)**

Busek Company, Inc.

11 Tech Circle

Natick, MA 1760

Judy Budny (508) 655-5565

15-1-Z4.01-9244 ARC

[Hybrid Direct Drive PPU for Deep Space CubeSat Propulsion System](#) [316]

ExoTerra Resource, LLC

10579 Bradford Rd, Suite 103

Littleton, CO 80127

Michael VanWoerkom (303) 565-6898

15-1-Z4.01-8766 ARC

[Cubesat SEP Power Module](#) [317]

Space Micro, Inc.

10237 Flanders Court

San Diego, CA 92121

David Strobel (858) 332-0700

15-1-Z4.01-9798 ARC

[Radiation Tolerant Integrated Attitude Determination and Control \(uADCS\) System](#) [318]

• **Z5 Assistive Free-Flyers (3)**

Altius Space Machines, Inc.

3001 Industrial Lane, Unit #5

Broomfield, CO 80020

Jonathan Goff (801) 362-2310

15-1-Z5.01-9370 ARC

[Low-Inertia STEM Arm \(LISA\) Manipulators for Assistive Free-Flyers](#) [319]

Energid Technologies

One Mifflin Place, Suite 400

Cambridge, MA 2138

James English (888) 547-4100

15-1-Z5.01-9128 ARC

[Robotic Arm for Assistive Free-Flyers](#) [320]

Millennium Engineering and Integration Company

2231 Crystal Drive, Suite 711

Arlington, VA 22202

Jackie Chewning (703) 855-1037

15-1-Z5.01-9196 ARC

[Momentum Device Actuated Canfield \(MoDAC\) Manipulator](#) [321]

- **Z6 Advanced Metallic Materials and Processes Innovation (4)**

AlphaSense, Inc.

510 Philadelphia Pike

Wilmington, DE 19809

Xin Zhang (302) 998-1116

15-1-Z6.01-9513 MSFC

[A Novel 3D Printer to Support Additive Manufacturing of Gradient Metal Alloy Structures](#) [322]

Keystone Synergistic Enterprises, Inc.

664 Northwest Enterprise Drive, Suite 118

Port Saint Lucie, FL 34953

Bryant Walker (772) 343-7544

15-1-Z6.01-9018 MSFC

[Advanced Solid-State Joining Processes for 2219 Aluminum Alloys](#) [323]

Sheridan Solutions, LLC

745 Woodhill Drive

Saline, MI 48176

John Sheridan (734) 604-1120

15-1-Z6.01-9993 MSFC

[Ultrasonic Additive Manufacturing for Efficient Space Vehicles](#) [324]

Summit Information Solutions, Inc.

11545 Nuckols Road, Suite B

Glen Allen, VA 23059

Shuganti Caradonna (804) 840-8477

15-1-Z6.01-9454 MSFC

[A Low-Cost Method for Coating of Selective Laser Melting \(SLM\) Manufacturing of Complex High-Precision Components for Spaceflight Applications Using Atomic Layer Deposition \(ALD\)](#) [325]

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