Agenda for the 20th Advanced Space Propulsion Workshop (ASPW2014)
Ohio Aerospace Institute, Cleveland, Ohio, November 17-19, 2014

	Monday, 17 November	Tuesday, 18 November	Wednesday, 19 November
7:30 AM	Registration		
8:00 AM	**Opening Remarks** I. Mikellides, ASPW Chair (JPL) G. Robinson, Deputy Director, NASA GRC M. Heil, President, OAI	Registration	Registration
8:30 AM	**Keynote Address** J. Adams, NASA Deputy Chief Technologist	**Mission Applications and Systems (J. Gilland)** B. Palaszewski (NASA GRC) "Atmospheric Mining in the Outer Solar System: Design Options & Observational Systems"	**Plenary** R. Turner (ANSER) "NASA Innovative Advanced Concept Program"
9:00 AM	**Nuclear Propulsion (M. LaPointe)** A. Pancotti (MSNW LLC) "The Fusion Driven Rocket"	P. Libraro (Princeton University) "Large-Angle Optimal Low-Thrust Transfer of GEO Satellites Applying a Quaternion-Based Formulation"	**Nuclear Thermal Propulsion (B. Palaszewski)** J. Werner (Idaho National Laboratory) "Development of Bi-Modal Nuclear Thermal Propulsion and Power Fuels"
9:30 AM	S. Thomas (Princeton Satellite Systems) "Direct Fusion Drive"	R. Woolley (Jet Propulsion Laboratory) "Solar Electric Propulsion for Mars Mission Applications"	H. Gerrish (NASA MSFC) "Raising Nuclear Thermal Propulsion (NTP) Technology Readiness Above 3"
10:00 AM	R. Werka (NASA MSFC) "Studies of Fission Fragment Rocket Engine Propelled Spacecraft"	J. Rosenfeld (Thermacore Inc.) "Advancing Space Propulsion System Technology Through Additive Manufactured Heat Pipe Structures"	S. Borowski (NASA GRC) "The Benefits of Nuclear Thermal Propulsion (NTP) in an Evolvable Mars Campaign"
10:30 AM	K. Griffin (Princeton University) "Neutron Shielding Requirements for MW/m D-3He-burning Rocket Engines"	**In-situ Propellant Utilization (H. Gerrish)** D. Chato (NASA GRC) "Refueling with In-Situ Produced Propellants"	**Theory & Numerical Simulation (I. Mikellides)** D. Chap (University of Maryland) "Simulations for Multiple-grid Inertial Electrostatic Confinement"
11:00 AM	G. Miley (University of Illinois) "Comparison of the Viper Pulsed Fusion Rocket to Prior Fusion Space Propulsion Designs"	J. Gilland (OAI) "EP Performance Requirements for In-Situ Propellant Usage"	P. Saripalli (University of Maryland) "Developing Numerical Simulations to Assist in Isolating Excited Nitrous Oxide States"
11:30 AM	**LUNCH**	**LUNCH**	**LUNCH**

1:00 PM	**Advanced Electric Propulsion (I. Mikellides)** R. Thomas (NASA GRC) "Discharge Chamber Measurements of an Annular-Geometry Ion Engine"	**Bus Tour of the NASA Glenn Research Center** **1:00-3:30 pm** **(US Citizens only, meet at the OAI parking lot)**	**Breakthrough Propulsion (I. Mikellides)** H. Fearn (California State University) "Mach Effect Thruster Development"
1:30 PM	J. Brandenburg (Morningstar Applied Physics LLC) "The MET(Microwave Electro-Thermal) Thruster and Mars Missions"		M. Millis (Tau Zero Foundation) "Pondering Breakthrough Propulsion and Inertial Frame Physics"
2:00 PM	A. Pancotti (MSNW LLC) "Adaptive Electric Propulsion for ISRU Missions"		**Advanced Launch Systems (J. Gilland)** K. Parkin (Carnegie Mellon University) "Overview of the Millimeter-Wave Thermal Launch System (MTLS) Project"
2:30 PM	J. Vitucci (University of Maryland) "Development of a Superconducting Magnet System for a Helicon Plasma Thruster"		T. Lambot (Carnegie Mellon University) "Development and Testing of a Refractory Millimeter-Wave Absorbent Heat Exchanger"
3:00 PM	**Break (30 min)**		**Closing Remarks (10 min)** Adjourn
3:30 PM	H. Dragnea (University of Michigan) "Preliminary Results and Future Goals for a Simultaneous Characterization of a Nested-channel Hall Thruster in Experiment and Simulation"		
4:00 PM	**Propellant-less Propulsion (H. Kamhawi)** B. Wiegmann (NASA MSFC) "Electric Sail Propulsion to Enable Heliopause and Beyond Scientific Missions of Discovery"		
4:30 PM	I. Bell, III (University of Michigan) "Exploring the Potential of Miniaturized Electrodynamic Tethers to Enhance Femtosatellites and Picosatellites Capabilities"		
5:00 PM	J. Brandenburg (Morningstar Applied Physics LLC) "The Poynting Motivator, GEM Unification Theory and Possible Utilization of the Quantum Vacuum for Propellant-less Propulsion"		
5:30 PM	**Adjourn**		
6:00 PM			
6:30 PM	**Banquet**, OAI Sunroom Speaker: Dr. G. Schmidt, Chief, Propulsion Division, NASA GRC		

Session Chairs are in **BOLD** next to the session title.