DAY 1	29 April 2019	
0800	**REGISTRATION**	
0850	**OPENING REMARKS: Conference Organizers**	
0900	**WELCOME:**	
0910	**WELCOME**:	
0920	**KEYNOTE: The Honorable James Bridenstine, NASA Administrator (TBC)**	
0940	**BREAK**	
	SESSION 1: KEY DEVELOPMENTS **SESSION ORGANIZERS: Detlef Koschny, Lindley Johnson**	
1000	The United Nations And Planetary Defence: Key Developments Following UNISPACE+50 In 2018	Kofler, OOSA
1012	Planetary Defence India: Capability, future requirements, and Deflection Strategy for 2019 PDC	Singh, ISRO
1024	Planetary defence activities at the European Space Agency	Jehn, ESA
1036	Planetary Defense Program of the United States	Johnson, NASA
1048	Israel Space Agency & Planetary Defense	Harel Ben-Ami, ISA
	SESSION 2: ADVANCEMENTS IN NEO DISCOVERY & CHARACTERIZATION **SESSION ORGANIZERS: Alan Harris (US), James (Gerbs) Bauer, Giovanni Valsecchi, Amy Mainzer**	
1100	Recent Evolutions In ESA's NEO Coordination Centre System	Cano, Italy
1112	NEODyS services migration to ESA's NEO Coordination Centre: the effort and the improvements	Bernardi, Italy
1124	Building the Reference Small Body Population Model	Spahr, USA
1136	NEMO - a global near real-time fireball monitoring system	Drolshagen & Ott, Germany
1148	Observational Activities At ESA's NEO Coordination Centre	Micheli, Italy
1200	Impact Monitoring System of the Institute of Applied Astronomy of the Russian Academy of Sciences	Vavilov, Russia
1212	Update Of NEA Population And Current Survey Status	Harris, USA
1224	Catalina Sky Survey's Increased Discovery and Follow-up Capability	Christensen, USA
1236	**LUNCH**	
	SESSION 2 (CONTINUED)	
1400	Detection Of Small Impacting Asteroids With The ATLAS Telescope System	Denneau, USA
1412	The PAN-STARRS Data Archive — An Invaluable Resource Of Faint Near Earth Object Detections	Wainscoat, USA
1424	The Minor Planet Center Data Processing System	Holman, USA
1436	The Digest2 – NEO classification code	Veres, USA
1448	Is There A Prefered Date For A Possible Impact?	Tancredi Uruguay
1452	The Contribution Of Intermediate- And Long-Period Asteroids To The Overall Large-Body Impact Hazard	Steel, New Zealand
1504	The Earth-Impact Risk From Manx Comets	Ramanjooloo, USA
1516	**BREAK**	
1546	The Impact of Small Near-Earth Asteroid 2018 LA	Farnocchia, USA

1558	Identifying Short-Term Impactors With LSST	Naidu, USA
1610	Recent Results In Characterization Of Near-Earth Objects By The Neowise Mission	Masiero, USA
1622	Rapid Response Characterization of Potential NEO Impactors	Moskovitz, USA
1634	Arecibo Radar Observations Of Potentially Hazardous Asteroids	Taylor, USA
1646	The LCO Follow-up Network for NEOs	Lister, USA
1658	**INJECT: PRESS RELEASE #1**	
1730	**ADJOURN DAY 1**	
	WELCOME RECEPTION (18:00 to 20:00, accompanying persons invited)	

DAY 2	**30 April 2019**	
0820	**INTRODUCTORY REMARKS**	
	Session 2: Continued	
0830	The boulders on asteroid Ryugu: clues to the formation history of the top-shaped morphology	Cheng, China
0842	Faint NEO Observations Using The UH-2.2m Telescope	Fohring, USA
0854	Discovering and Studying Near Earth Objects with The Large Synoptic Survey Telescope (LSST)	Jones, USA
0906	The Near-Earth Object Camera: Overview	Mainzer, USA
0918	NEOCam Survey Cadence and Simulation	Grav, USA
0930	MODE: a new Moving Object Discovery Engine	Cutri, USA
0942	Near-Earth Asteroids Monitoring for Hazard Assessments	Birlan, France
0954	Find_Orb: Orbit Determination and Analysis Software	Gray, USA
1006	**BREAK**	
	SESSION 3: APOPHIS **SESSION ORGANIZERS: Marina Brozovic**	
1036	Apophis 2029: Planetary Defense Opportunity Of The Decade	Binzel, USA
1048	Yarkovsky Acceleration Of (99942) Apophis	Tholen, USA
1100	Abrupt Alteration of Apophis' Spin State Redux	Scheeres, USA
1112	Using a Discrete Element Method to Investigate Seismic Response and Spin Change of 99942 Apophis During its 2029 Tidal Encounter with Earth	DeMartini, USA
1124	Trajectory Concepts For An Apophis Rendezvous Mission	Siddique, USA
1136	Asteroid Probe Experiment: Mission To Apophis	Plescia, USA
1148	AI3: The Asteroid In-Situ Investigation – 3 Ways to measure the interior of asteroid Apophis	Deller, Germany
1200	A Cubesat Mission to Asteroid Apophis Based on M-ARGO?	Koschny, Germany
1212	Science and Planetary Defense Priorities for Spacecraft Encounter Mission Concepts at (99942) Apophis During its 2029 Close Encounter with Earth	Bell, USA
1224	Six Very Close Potentially Hazardous Asteroid Flybys in the Late 2020s	Benner, USA
1236	**LUNCH & SPEAKER**	
1400	Lessons From The 2012 TC4 Campaign: First Global Planetary Defense Exercise	Reddy, USA
1415	**INJECT #2**	
1500	**EXERCISE GROUPS DEVELOP RECOMMENDATIONS**	
1600	**BREAK**	

1630	**GROUPS FEEDBACK RECOMMENDATIONS**	
1700	**DECISION MAKER RESPONSES**	
1730	**ADJOURN DAY 2**	
1730	***POSTER RECEPTION (5:30 to 7:30 PM)***	

DAY 3	**1 May 2019**	
0820	**INTRODUCTORY REMARKS**	
	SESSION 4: DEFLECTION & DISRUPTION MODELS & TESTS **SESSION ORGANIZERS: Patrick Michel, Tom Jones, Andy Cheng**	
0830	Simulation Of The Dart Impact: Effects Of Impact Conditions And Target Properties	Bruck-Syal, USA
0845	Progress At Los Alamos National Laboratory (LANL) On The Inter-Agency Agreement On Planetary Defense	Plesko, USA
0900	Modeling the DART kinetic impactor and crater formation using realistic spacecraft shapes	Owen, USA
0915	Exploring Effects of Spacecraft Geometry and Target Structure on the DART Impact	Stickle, USA
0930	Understanding the Effect of Rubble Pile Structures on Asteroid Deflection	Graninger, USA
0945	Applications Of Dart Impact Simulation Results	Rainey, USA
1000	A Parameter Study On The Effect Of Impactor Size For NASA's Dart Mission	Truitt, USA
1015	**BREAK (30 minutes)**	
1052	Numerical modelling of the DART impact and the importance of the Hera mission	Raducan, UK
1108	Impact simulations of the Double Asteroid Redirection Test (DART) - Results from the HERA Impact Simulation Group	Luther, Germany
1124	Deflection Of A Small Object Using A Kinetic Impactor	Remington, USA
1140	Size Scaling of Momentum Enhancement during Hypervelocity Impact of Porous and Consolidated Rock	Walker, USA
1200	**LUNCH**	
	SESSION 5: MITIGATION CAMPAIGN DESIGN **SESSION ORGANIZERS: Nahum Melamed, Ian Carnelli, Marco Tantardini**	
1330	Double Asteroid Redirection Test	Reed, USA
1342	Observations of Didymos in Support of AIDA/DART	Thomas, USA
1354	Proximity Observations by the Didymos Reconnaissance and Asteroid Camera for OpNav (DRACO)	Ernst, USA
1406	Double Asteroid Redirection Test: Technology and Engineering Challenges	Adams, Usa
1418	Renderer and Camera Emulator (RCE) for NASA'S Double Asteroid Redirection Test (DART)	Mehta, USA
1430	HERA: European component of the Asteroid Impact & Deflection Assessment (AIDA) mission to the binary asteroid Didymos	Michel, France
1442	Hera planned mission and payload operations at close proximity of the Didymos binary asteroid system after DART impact	Karatekin, Belgium
1454	Autonomous GNC and data fusion for the HERA mission	Pellacani, Spain
1506	Asteroid Prospection Explorer (APEX) CubeSat for Hera mission	Kohout, Finland
1518	A Method for Defending Against Long-Period Comets	Eismont, Russia

1530	**BREAK**	
1600	Spacecraft Mission Design For The Mitigation Of The 2019 PDC Hypothetical Asteroid Threat	Barbee, USA
1612	Characterization and deflection missions of the fictitious asteroid 2019 PDC	Roa, USA
1624	See a New World in 17 Hours – First Results, Design and Mission of the Mobile Asteroid Surface Scout (Mascot) on Ryugu	Ho, Germany
1636	More Than One For All – The Synergy of Modularity and Re-Use in Nanolander Development in the Continuation of the Design of Mobile Asteroid Surface Scouts (MASCOT)	Lange, Germany
1648	NEOCAM Instrument Design and Performance Model	Trangsrud, USA
1700	System of Observation of Daytime Asteroids: trajectory and orbit design	Kovalenko, Russia
1712	BIRDY – Potential use of SmallSat for NEO reconnaissance and exploration	Hestroffer, France
1724	**INJECT: PRESS RELEASE #3**	
1800	**ADJOURN DAY 3**	
	PUBLIC EVENT	

DAY 4	**2 May 2019**	
0820	**INTRODUCTORY REMARKS**	
	SESSION 6: IMPACT CONSEQUENCES & DISASTER RESPONSE **SESSION ORGANIZERS: David Morrison, Mark Boslough. L.A. Lewis**	
0830	Atmospheric Injections from Impacts of Kilometer Scale Asteroids	Robertson, USA
0842	Strength and Breakup Factors in Impact Scenario Risk Assessment	Wheeler, USA
0854	Next Steps in Impact Risk Assessment	Mathias, USA
0906	Asteroid to Airburst; Comparing Semi-analytical Airburst Models to Hydrocodes	McMullan, UK
0918	A Comparison Study For Simulations Of The Tunguska Event	Truitt, USA
0930	"Effective Height Of Burst" Revisted	Boslough, USA
0942	Airburst Detection Capability of the Infrasound Segment of the CTBTO International Monitoring System	Brown, Canada
0954	Recent Glass Strewn Field From Fireball Over Chile	Schultz, USA
1006	GPU Parallel Algorithm for Hypersonic Flow Around Asteroid	Bai, China
1018	The Impact Effects Knowledgebase: Fast Prediction of the Consequences of NEO Collisions with Earth	Luther, Germany
1030	**BREAK**	
1100	Simulation of PDC 2019 Asteroid Land and Ocean Impacts: Consequences on US Major Cities for Disaster Response and Management	Ezzedine, USA
1112	Hazard Estimate Of 2019 PDC Impact Scenario	Dang, Ghina
1124	Coordinated Disaster Preparedness And Response For Near-Earth Object (NEO) Threats – Experiences From The "United Nations Platform For Space-Based Information For Disaster Management And Emergency Response (UN-SPIDER)	Ravan, Austria
1136	Intelligent Surge: Improving Healthcare Preparedness In Times Of Disaster	Loschen, USA
1148	Role of Space Technology for Disaster Management: Agenda and Action Plan	Jagannatha, India
1200	**LUNCH & SPEAKER**	
	SESSION 7: ISSUES AFFECTING DECISION TO ACT **SESSION ORGANIZERS: Mariella Graziano, Victoria Friedensen**	

1330	Legality of Planetary Defense Missions and Considerations for International Decision Bodies	Marboe, Austria
1345	Sustainability of International Planetary Defense Decision-Making: What Can Go Wrong Even if We Deflect an Asteroid?	Bohacek, Czech Republic
1400	International Liability and Responsibility Issues in Planetary Defense	Soucek, The Netherlands
1415	Responsibility System on the Defense of Near-Earth Objects	Wang, China
1430	The U.S. National Near-Earth Object Preparedness Strategy and Action Plan: Summary of Progress to Date	Friedensen, USA
1445	Accounting For Violent Conflict Risk In Planetary Defense Decisions	Baum, USA
1500	**BREAK**	
	SESSION 8: COMMUNICATIONS TO THE PUBLIC **SESSION ORGANIZERS: Alex Karl, Jan Osburg**	
1530	A Suggested Communications Standard For Asteroid Impact Alerts	Landis, USA
1545	An analysis of IAWN communication audiences and recommendations to increase publicity among the NEO community and the general public	Karl & Wolfson, Belgium
1600	Planetary Defense In The Classroom, A Social Science Perspective	Haddaji, USA
1615	Planetary Defense Mitigation Gateway: One-Stop Gateway for Pertinent PD-Related Contents	Shams, USA
1630	Poster Presentations	
1645	**INJECT #4**	
1730	**ADJOURN DAY 4**	
	CONFERENCE BANQUET	

DAY 5	**3 May 2019**
0850	**INTRODUCTORY REMARKS**
0900	**Panel Session (Billings)**
1000	**BREAK**
1015	**UPDATE #5**
1045	**GROUP DISCUSSION & RECOMMENDATIONS**
1145	**DECISION MAKER DISCUSSION & DECISIONS**
1230	**LUNCH & SPEAKER**
1400	**DISCUSSION: LESSONS LEARNED AND RECOMMENDATIONS FROM PDC 2019**
1500	***CONFERENCE ENDS***