

Tuesday, 6 December 2022

0730 - 0830	Registration & Continental Breakfast
0830 - 0850	Welcome Dr. Les Servi, MORS President Dr. Daniel Maxwell, Chair Dr. David Alexander, Chair
0850 - 0935	Keynote Mr. James Appathurai, <i>virtual</i> Deputy Assistant Secretary General for Emerging Security Challenges, NATO
0935 - 0945	MORS DHS Sponsor Welcome and Second Keynote Speaker Introduction Mr. Jonathan McEntee, MORS Sponsor Director, Operations and Requirements Analysis Division, Office of Science and Engineering, U.S. Department of Homeland Security Science & Technology Directorate
0945 - 1030	Keynote Ms. Kathryn Coulter Mitchell Chief of Staff, Science and Technology (S&T) Directorate, DHS
1030 - 1035	Keynote Introduction Dr. Daniel Maxwell, Chair Dr. David Alexander, Chair
1035 - 1110	Keynote Mr. Brad Archer, <i>virtual</i> CEO, Australian Climate Change Authority
1110 - 1115	Keynote Introduction Dr. Daniel Maxwell, Chair Dr. David Alexander, Chair
1115 - 1150	Keynote Mr. R. David Harden CEO, Q2 Impact
1150 - 1155	Keynote Introduction Dr. Daniel Maxwell, Chair Dr. David Alexander, Chair
1155 - 1230	Keynote Dr. Miles Palmer Co-Founder, 8Rivers
1230 - 1400	Lunch

1400 - 1700

Session #1: Impacts on the Homeland

Session Chairs: Dr. Michael Hieb and Ms. Carmen Zapata

1400 - 1415	Session Overview: Ms. Carmen Zapata, DHS\CISA
1415 - 1630	Analytic Methodologies and Tools to Understand the Impact of Climate Change on Critical Infrastructure <ul style="list-style-type: none">- DHS Resilience Framework: Integrating Climate Activities into Department Mission Operations - Ms. Crystall Merlino, DHS, Resilience, Energy, & Sustainability Program, Chief Readiness Support Office- Model-Based Infrastructure Resilience: Quantitative Propagation, Analysis, and Mitigation of Natural (Including Climate-Impacted) and Intentional Threats - Dr. Jean-Paul Watson, DOE Lawrence Livermore National Laboratory- Performance-based Metrics to Measure Social and Economic Impacts of Infrastructure Disruptions - Dr. Robert Jeffers, DOE National Renewable Energy Laboratory
1630 - 1700	Panel: <ul style="list-style-type: none">- Ms. Crystall Merlino, DHS, Resilience, Energy, & Sustainability Program, Chief Readiness Support Office- Dr. Jean-Paul Watson, DOE Lawrence Livermore National Laboratory- Dr. Robert Jeffers, DOE National Renewable Energy Laboratory- Moderator: Ms. Carmen Zapata, DHS\CISA

1700

Reception

La Palapa Too

7500 Montpelier Rd., #101, Montpelier Center, Laurel, MD 20723

Wednesday, 7 December 2022

0700 - 0800

Registration & Continental Breakfast

0800 - 0815

Welcome & Review of Day 1

Dr. Daniel Maxwell, Chair

Dr. David Alexander, Chair

Mr. Greg Keethler, Synthesis Chair

0815 - 1000

Session #2: Science, Technology, and Innovations

Session Chair: Mr. Brian Smith

0815 - 0830	Session Overview: Mr. Brian Smith, Future Schema, LLC
0830 - 0900	Canada1Water: An Integrated Hydro-Climatological Modelling Framework to Facilitate Canadian Security Under Climate Change - Dr. Steven Frey, Aquanty Inc.; Dr. Hazen A. J. Russell, Natural Resources Canada; and Dr. Andre R. Erler, Aquanty Inc. [<i>Virtual</i>]
0900 - 0930	Climate Risk and Resilience Data and Analysis for Decision-Makers - Mr. Kyle Burke Pfeiffer, ANL/FEMA Director, Center for Climate Resilience and Decision Science
0930 - 1000	Sweden and the Societal Security Challenges of Climate Change; Ideas for a Climate Adaptation Research Agenda - Dr. Charles Parker, Uppsala University

1000 - 1030

Break

1030 - 1200 **Session #2: Science, Technology, and Innovations Panel**
Moderator: Mr. Brian Smith

1030 - 1100	Illuminating Social-Physical Infrastructure and Human Intersections for Climate Resilience – Dr. John Dulin & Dr. Jeff Arnold, MITRE
1100 - 1130	Mobile Nuclear Power for use in Expeditionary Operations, Disaster Relief, and Combating Climate Change - Mr. Aaron Horwood, South Carolina University
1130 - 1200	The Role of Artificial Intelligence (AI) in Responding to Climate Change - Mr. Frank Stein, Virginia Tech, National Security Institute, Intelligent Systems Research [<i>Virtual</i>]

1200 - 1330 **Lunch**

1330 - 1515 **Session #3: Impacts on DoD and Other Critical Infrastructure**
Session Chairs: Ms. Brianne Yoo, Mr. Harold “Quin” Lucie, Dr. Jennifer Bewley, and Dr. Abe Holland

1330 - 1345	Session Overview - Dr. Jennifer Bewley, IDA
1345 - 1415	Climate Risks & National Critical Functions - Ms. Paige Morimoto, Risk Analyst, DHS/CISA
1415 - 1445	DoD Risks/Adaptation - Dr. Annalise Blum; A/Director for Global Resilience and Senior Advisor for Climate, ASD Homeland Defense & Hemispheric Affairs, Office of the Undersecretary of Defense for Policy
1445 - 1515	Costing Climate Change Impacts to Public Infrastructure - Mr. Nicholas Rhodes, Principal Economist, Ontario Financial Accountability Office, Canada

1515 - 1545 **Break**

1545 - 1700 **Session #3: Impacts on DoD and Other Critical Infrastructure**
Session Chairs: Ms. Brianne Yoo, Mr. Harold “Quin” Lucie, Dr. Jennifer Bewley, and Dr. Abe Holland

1545 - 1615	Bringing it Together / Case Study - Ms. Angela Urban, Associate Technical Director, Installations and Operational Environment; Construction Engineering Research Laboratory, U.S. Army ERDC-CERL
1615 - 1700	Session Summary – Dr. Abe Holland, IDA Panel Discussion – Moderator: Ms. Brianne Yoo, DHS HQ <ul style="list-style-type: none"> - Dr. Annalise Blum; A/Director for Global Resilience and Senior Advisor for Climate, ASD Homeland Defense & Hemispheric Affairs, Office of the Undersecretary of Defense for Policy - Ms. Paige Morimoto, Risk Analyst, DHS/CISA - Mr. Nicholas Rhodes, Principal Economist, Ontario Financial Accountability Office, Canada - Ms. Angela Urban, Associate Technical Director, Installations and Operational Environment; Construction Engineering Research Laboratory, U.S. Army ERDC-CERL

Thursday, 8 December 2022
0700 - 0800 **Registration & Continental Breakfast**

0800 - 0815 **Welcome & Review of Day 2**
 Dr. Daniel Maxwell, Chair
 Dr. David Alexander, Chair
 Mr. Greg Keethler, Synthesis Chair

0815 - 1200 **Session #4: Impacts of Global Crosscutting Climate Change Risks**
 Session Chairs: Dr. John Hummel, Ms. Bonnie Herriott, and Mr. Chandler Sachs

0815 - 0825	Session Overview - Dr. John Hummel, Argonne National Laboratories & Ms. Bonnie Herriott, DHS/CBP
0825 - 0830	Overview of the “Worldwide Human Geography Database” - Dr. Eric Rasmussen M.D., CEO Infinitum Humanitarian Systems
0830 - 0900	Research and Development Effort in Climate Security Analysis - Ms. Diana Bull, Sandia National Laboratories
0900 - 0930	Climate Impacts and Mitigation Strategies in the Marshall Islands - Dr. Eric Rasmussen M.D., CEO Infinitum Humanitarian Systems
0930 - 1000	Community and Infrastructure Adaptation to Climate Change - Mr. John K. Hutchison, Argonne National Laboratory

1000 - 1030 **Break**

1030 - 1100	EMPOWER: Exploitation of Mesonets for Emergency Preparedness and respOnse in Weather ExtRemes - Dr. Eric Stern, Professor and Faculty Chair, College of Emergency Management, Homeland Security, and Cybersecurity, University at Albany
1100 - 1130	The Swedish Civil Contingencies Agency’s (MSB) Work and Examples of Research About Multiple Natural Hazards - Dr. Ulrika Postgård, Research Coordinator, PhD Physical Geography & Climatology, Swedish Civil Contingencies Agency
1130 - 1200	Nature-Based Solutions for Flood and Erosion Risk Management in Canadian Coastal Settings - Dr. Giovanni Fusia, Defence Scientist, Defence R&D Canada, Centre for Security Science and Mr. Enda Murphy, National Research Council of Canada [<i>Virtual</i>]

1200 - 1330 **Lunch**

1330 - 1630 **Session #5: Impacts on National Security Operational Effectiveness**
 Session Chairs: Dr. George Nikolakakos, Mr. John Conger, and Dr. Lauren Ice

1330 - 1400	Transforming the Battlefield – Why Military Operations Must Account for Climate Change - Mr. John Conger, Center for Climate & Security
1400 - 1430	Exploring Climate Change Adaptation Challenges and Solutions for the Canadian Army and the Wider Canadian Armed Forces - Dr. George Nikolakakos, Defence Scientist, Canadian Army Operational Research & Analysis Team
1430 - 1500	Climate and Readiness: Understanding Climate Vulnerability of U.S. Joint Force Readiness - Dr. Katharina Best and Dr. Scott Stephenson, RAND
1500 - 1530	Training in a Warmer World - Dr. Kristen Ryan, Johns Hopkins University Applied Physics Laboratory
1530 - 1600	NATO High Level Perspectives on Climate Change - Initial Findings From Risk Assessment - LtCol Rene Heise, German Air Force, <i>virtual</i>

1600 - 1630 **Closing Remarks**
 Dr. Daniel Maxwell, Chair
 Dr. David Alexander, Chair
 Mr. Greg Keethler, Synthesis Chair