



International Collaborative Engagement Program for Polar Research ICE-PPR

UNCLASSIFIED//FOUO//REL CAN, DEN, FIN, ISL, NOR, NZL, SWE



Baggrund

- US Office of Naval Research initiativ
- Military-to-Military Samarbejde
- Deltagelse fra civile myndigheder og på sigt industrien
- Formålet er at styrke samarbejde igennem forskning
- Scientific Diplomacy
- Dual Use konceptet



Deltager Lande

- USA
- Canada
- Danmark
- Island
- Norge
- Sverige
- Finland
- New Zealand
- ??



Fokusområder

- Situational Awareness – Lead Danmark
- Human Performance – Lead Canada
- Platforms – Lead Finland
- The Environment – Lead US
- Experiments and Exercises – Lead Canada

- Portal som ISSAFFIK



POC i Danmark

- Situational Awareness – FMI/FCOO
- Human performance – Forsvarets Sundhedstjeneste
- Platforms – FMI
- The Environment – FCOO
- Experiments and Exercises - AKO

Næste møder



- ICE-PPR #3- Foråret 2017
 - Nuuk
 - Fokus Session: Situational Awareness
 - Opdateringer
- ICE-PPR #4- Efterår 2017
 - Hanover, New Hampshire
 - Fokus Session: The Environment
 - Opdateringer
 - Underskrive MoU

Hjemmearbejde



- Kortlægge den arktiske forskning i Danmark og afdække eventuelt mulige projekt emner
- Afdække muligheder for test og forsøg
- Spredte det glade budskab

Hjemmearbejde



- POC ansvar
 - Møder : VTC, teleconference, in-person
 - Drøfte og identificere potentielle projekter/workshops/events
- Indsamle information til portalen - ISSAFFIK



ICE-PPR Working Groups

| Working Groups | | Planned Technical SME Meeting (e.g. VTC) | Identified Potential Project(s) |
|------------------------------|---|--|---------------------------------|
| Topic Areas | WG National Leads | | |
| Situational Awareness | Lead Nation: DEN CAN DEN FIN ISL NOR NZL SWE US- Dr.. Scott Harper (ONR) | | |

- Model-Based Systems-of-Systems Surveillance Network Architecture Design and Assessment
- Workshop on “Gray-Zone” Mitigation Approaches in Polar Regions
- Demo
 - US-led Arctic Mobile Observatory System (AMOS) in 2019
- Nano/micro/cube satellite cooperation
- Communication system cooperation
 - Mesh networks (US)



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| Human Performance | Lead Nation: CAN CAN DEN FIN ISL NOR NZL SWE US- Dr. Tim Bentley (ONR) | | |

- Workshop on Human Performance in Polar Environments (CAN has offered to host)
 - Mounted (in vehicles) and dismounted (not) aspects in cold weather
- FIN-SWE (NORDEFECO) Cold Weather Diving Study
 - Follow-on research opportunities
- Decision Support Systems



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| Platforms | Lead Nation: FIN CAN DEN FIN ISL NOR NZL SWE US- Dr. Tom Fu (ONR) | | |

- US –led Workshop on Power and Energy (microgrids) for remote locations
 - Civilian and military capability needs and technical approaches
- De-icing and icephobic approaches
- Design approaches for surface platforms, particularly unmanned vehicles
- Unattended Platforms/Sensors in the Polar Environment
- Platforms with availability for sensor deployment



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| The Environment | Lead Nation: US CAN DEN FIN ISL NOR NZL SWE US- CDR Blake McBride (ONR) | | |

- Data Collection for Multiple Arctic Regions during the Year of Polar Prediction (YOPP, 2017-2019)
- Use of Arctic environmental dataset for comparison and improvement of modeling approaches- Tools and Simulation Development
 - Circumpolar Waves and wave-sea ice interactions
 - Acoustic propagation (e.g. approaches for signal processing and synthetic training)
 - Electromagnetic Noise Levels (MCM)
 - Ice dynamics (e.g. Glaciers, Antarctic vs Arctic, sea-ice)
- Experiment to track icebergs (RADAR-Sat and Shore Based and AIS on Icebergs)
- Charting and Surveying in Arctic Regions



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| Experimentation, Demonstrations, and Exercises Research Facilities Personnel Exchanges | Lead Nation: CAN CAN- Eric Fournier DEN FIN ISL NOR NZL SWE US- CDR Kelly Taylor (TFCC) | | |

- Repository of information (provided by nations, CAN to host portal- limited access)
 - Demos and Exercises (opportunities for technology, and technology looking for deployment help)
 - R&D Facilities (opportunities for testing, and technology looking for testing)
 - Personnel Exchange (placement opportunities, looking for placements)



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| Technical Topic Information Repository | Lead Nation: CAN DEN FIN ISL NOR NZL SWE US | | |

- Technical Topic Information Repository
 - Architecture provided by CAN
 - Self populated by nations
 - Examples
 - CAN to share Arctic Security Architecture Study
 - FIN-SWE Cold Weather Diving Study



Concept for Demos in 2018 & 2019

- Environmental Data sets- YOPP (2017-2019)
 - Additional Polar Regions (e.g. Canadian Basin, Baffin Bay, North of Norway, Baltic, Southern Ocean, etc)
 - Example: SODA (Canadian Basin - US lead) 2018
 - Potential for non-defense coordination lead
- Observing System Demo (US Lead)
 - Arctic Mobile Observing System (AMOS) Demo (2019)
 - Request for nations to define and propose activities by Fall 2017



Spørgsmål?

