

2024 I'M-SHARP MURI Kickoff Meeting

Dr. Michael Yakes | December 11, 2024 | Arlington, VA - hybrid

Basic Research Innovation and Collaboration Center (BRICC)
4100 N. Fairfax Drive, Suite 450 | Arlington, VA 22203
Zoom ID: To be provided

I'M-SHARP: Interdisciplinary Material Science for the Hyperspectral Remote Sensing of Permafrost

Time	Topic	Speaker
8:00 – 8:30	Check-in	
8:30 – 8:40	Welcome and opening comments	Tugce Baser – SLU
8:40 – 9:00	Program logistics	Michael Yakes – AFSOR
9:00 – 9:10	IMSHARP program overview	Tugce Baser – SLU

Thrust 1: A unified description of permafrost properties across spectral bands.

9:10 – 9:30	Task Overview and Understanding the effect of permafrost variables and their signatures in the EM spectrum	Lanagan - PSU
9:30 – 9:40	In situ guided permafrost phantoms	Go Iwahana - UAF
9:40 – 9:50	Hyperspectral sensing of permafrost	Sagan - SLU
9:50 – 10:00	Polarization effects	Ozdemir – SLU
10:00 – 10:15	Discussion	
10:15 – 10:30	BREAK	

Thrust 2: Electromagnetic signatures of permafrost interfaces and phase change behaviors

10:30 – 10:50	Task Overview and Thermodynamics of subsurface multiphysics processes in permafrost and their surface manifestations	Baser – SLU
10:50 – 11:00	The effects of interfaces on the EM behavior of permafrost	Lanagan - PSU
11:00 – 11:10	Dynamic hyperspectral signatures of permafrost	Sagan – SLU
11:10 – 11:25	Discussion	
11:25 – 12:30	LUNCH	

Thrust 3: Theoretical framework and models for permafrost remote sensing		
12:30 – 12:50	Task Overview and Theoretical electromagnetic models	Johnson - OSU
12:50 – 1:00	Empirical electromagnetic models	Ball – OSU
1:00 – 1:10	Integration of polarization in the theoretical models	Ozdemir – SLU
1:10 – 1:25	Discussion	
Thrust 4: Bridging spatial, temporal, and spectral scales in permafrost monitoring and Summary		
1:25 – 1:40	Task Overview and Impact of scaling in hyperspectral sensing	Sagan - SLU
1:40 – 1:50	Field campaigns in PFRR	Go Iwahana - UAF
2:00 – 2:10	Validation of EM model	Johnson - OSU
2:10 – 3:00	Summary of goals & discussion	MURI team and POs
3:00	ADJOURNED	