

Post-Doc Opportunity: Integrated Remote Sensing of Melt Ponds in the Arctic



The Naval Research Laboratory (NRL) invites proposals for post-doctoral research using an integrated remote sensing approach involving active and passive systems to retrieve Arctic melt pond characteristics and dynamics.

Proposals are expected to involve the use of any or a combination of airborne and spaceborne optical, synthetic aperture radar (SAR), and lidar systems to retrieve melt pond parameters. Given that melt dynamics occur at very fine spatial and temporal scales, a synergistic approach that takes advantage of the unique advantages of various remote sensing systems in an integrated manner is encouraged. The retrieved melt pond information will be used to improve sea ice modeling and prediction.

Applicants are expected to possess expertise in processing and analyzing (any of) optical, SAR, or lidar data, with knowledge and skill in several of the following areas: radiative transfer, data fusion, feature extraction, spectral analysis, spectral manipulation of data, polarimetry, and advanced image processing techniques, including statistical methods and machine learning approaches, for processing high-resolution multispectral and hyperspectral imagery.

NRL has several ongoing research projects in the Arctic, focused on developing techniques and tools to understand and monitor environmental changes in the Arctic – including the coastal terrain, the nearshore environment, and sea ice. The selectee will have opportunities to participate in these projects, including field campaigns, as part of their post-doctoral research.

NRL provides access to a number of commercial and custom-built sensing and imaging systems (hyperspectral, multispectral, thermal and polarimetric systems), calibration facilities, and computer resources to perform the work.

The selectee will work as a post-doctoral associate in the Coastal & Ocean Remote Sensing Branch in the Remote Sensing Division at the U.S. Naval Research Laboratory in Washington, D.C.

Eligibility: Applicants should be U.S. citizens or permanent residents (Green Card) and must have obtained their Ph.D. within the last five years at the time of application. Students expected to graduate in 2024 are also eligible.

Stipend & Benefits: A base stipend of \$89,834 plus a professional travel allowance of \$3,000 per year; Health insurance (individual & family coverage) and relocation benefits are available.

How to Apply: NRL recruits post-doctoral associates through the National Research Council's Research Associateship Programs (<https://sites.nationalacademies.org/PGA/RAP/index.htm>). Applications are accepted on a quarterly basis. See the NRC website for application details and deadlines.

Point of Contact: Interested applicants may contact Dr. Wes Moses at wesley.moses@nrl.navy.mil.