

# Pahlevan: Maximizing Utility of PACE in *Coastal and Major Freshwater Ecosystems: Advancing Science for Societal Benefits*



**Objective:** Generate *consistent, reliable and advanced* ocean color products for enhanced monitoring of *harmful algal blooms (HABs) and water quality* in the Chesapeake Bay and Lake Erie

- **Approach:** Machine-learning model (e.g., mixture density networks; MDN)
- **Data:** *In situ* optical data + environmental/physical/geographic data
- **Products:**  $a_{ph}$ ,  $b_{bph}$ , phytoplankton groups, and water quality indicators (e.g., chlorophyll-a & SPM)
- **Deliverables:** HICO-derived products – DESIS will be attempted.
- **Stakeholders:** NOAA, ECCC, MD DNR, VDH, OH EPA

