

## W5 Workshop summary: SUNA Nitrate Sensor Measurements, Calibration and Application

In this workshop the operation of the Sea-Bird Scientific SUNA nitrate sensor will be covered in detail. The goal is to familiarize the attendee with SUNA set up. Discuss the theory of operation, calibration, and natural substances that interfere with the measurement. Finally, we will look at a data set of SUNA profiles collected in Puget Sound along with validation grab samples.

An outline of workshop topics is:

- Introduction – SUNA described
  - What is inside
  - What is outside
  - Accuracy, precision and assumptions
- Theory of operation
  - Review of Beers law
  - Review of law of superposition
  - Discussion of background spectra
  - Decomposing SUNA spectrum
  - Temperature and Salinity sensitivity
  - Calculating Nitrate
- Set up and operation
- Data example
  - Profiles in Puget Sound
  - Spectra collected
  - Validation samples