Examples of term projects from prior years:

A Field-Based Approach to Non-Intrusive Load Monitoring
(how to determine currents and voltages on power lines using only emitted radiation)

Stability Analysis of COFFEE Applied to a Small Nonlinear Model
(about a form of ensemble Kalman filter—theory)

Steady and Time-dependent State Estimation for a Tracer Box Model

EOF Analysis on the Temperature-Anomalies - Surface and Thermocline
(EOF means ‘empirical orthogonal function’ and they are related to the singular value decomposition)

Ocean Circulation Estimation (how to do it)

Multi-pass Backscattered Radar Retrieval Algorithm for Soil Moisture Measurement: A Synthetic Experiment for HYDROS
(HYDROS is a yet-to-be-launched spacecraft)

Post-processing of Long Baseline Navigation with a Kalman Smoother-based Algorithm

A Reinterpretation of Temperature-Salinity Space for Salt Finger Observations

Amplitude Versus Offset and Azimuth Analysis with Implications for Fracture Characterization

Making Estimates of North Atlantic DIC: Implications for Anthropogenic CO₂ Calculations

Forward Modeling of Northwest Pacific Free Air Gravity Anomalies

Inferences on a Linear Theory for Thermally Driven Circulation of a Rotating Stratified Fluid

Effects of Transducer Positions on CT Imaging: Genetic Algorithm Approach and Genetic Algorithm GUI Toolbox Developing

An Inverse Model of Bottom Water Salinity (pore waters)
Inferring Atmospheric Aerosol Optical Properties from Satellite Backscattered Radiances Using the Adjoint of a Toy Radiative Transfer Model

Quantitative Comparison of Aerosol Pollution in Satellite Observations and Model Results

Application of Linearized Kalman Filter to Unsaturated Flow in Soils

Assimilation of Radar Rainfall Fields; Learning Exercises in State Estimation and Analysis with the Kalman Filter

An SVD Analysis of Surface Enthalpy Fluxes During Active-Break Cycles of the South Asian Monsoon

Gulf Stream Path Variability Between 75° and 45°W Inferred from SSHA Data

Optimal Minimum Variance Distortionless Beamforming in Noisy Environments

Passive Millimeter Wave Retrieval of Precipitation Utilizing Satellite and a NWP Model

Application of Fourier Methods to Ocean Current Record Analysis

Sensitivity of Absolute Velocity Calculations in the North Atlantic