

THORNTON LAB

[Ocean Perception]

Center for Integrated Underwater Observation Technology

Underwater Photonics

Graduate School of Frontier Sciences
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<http://ocean.iis.u-tokyo.ac.jp>

A picture speaks a thousand words.
Our challenge is turning thousands of pictures
into simple statements of understanding.

Our research aims to improve deep-sea survey capabilities and

generate insight from the data we obtain. We do this by developing

novel optical sensors, intelligent autonomous platforms and

algorithms to visualise and interpret data in a scalable way.

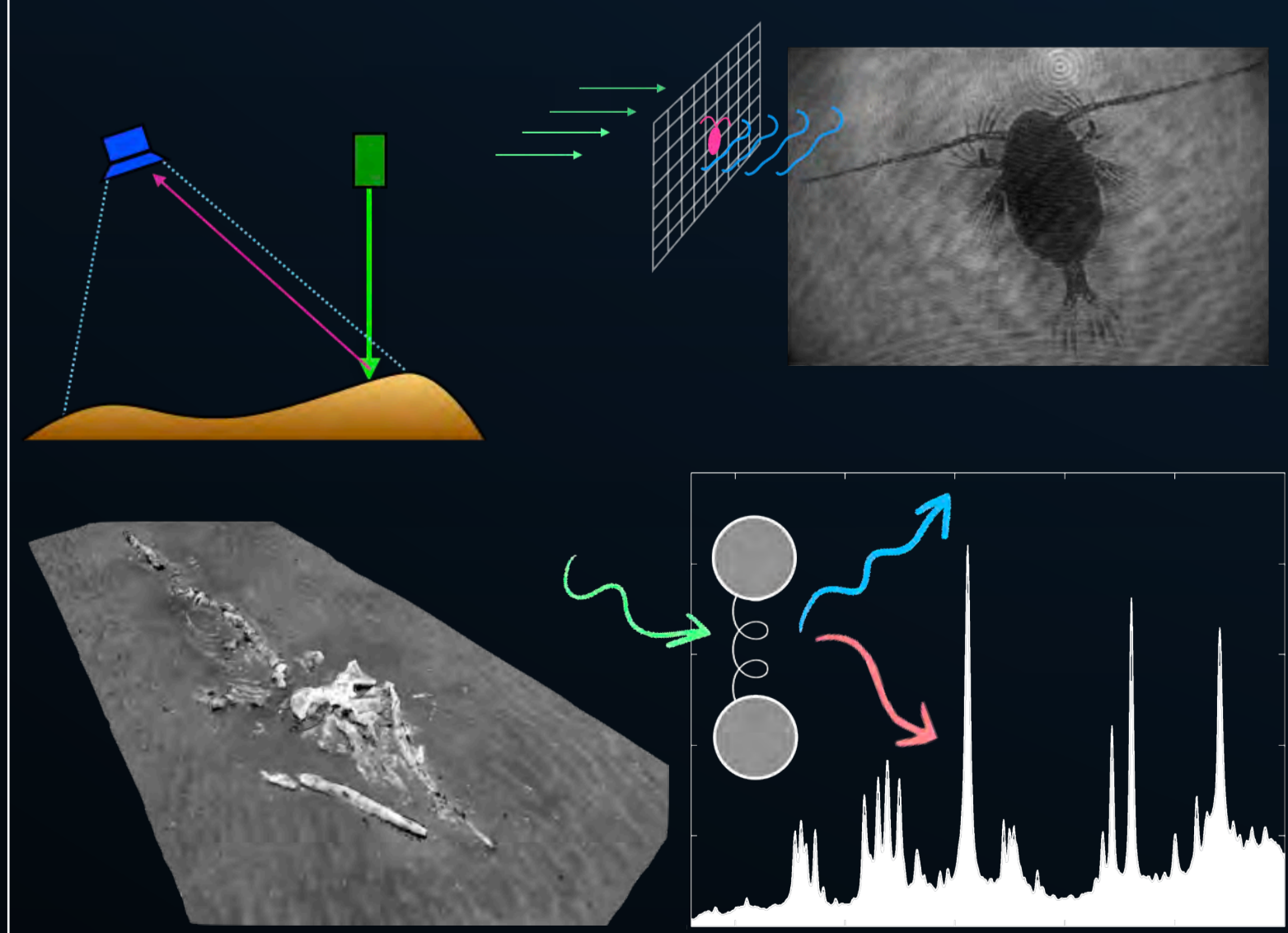
Robotics

Deployment of autonomous vehicles with imaging systems and in situ chemical sensors to survey deep-sea ecology, minerals and pollution.



Sensing

Structured light for wide-area seabed mapping, microparticle imaging using holography and chemical analysis using laser spectroscopy.



Analysis

Physics and location guided machine learning to extract information about seafloor and water column ecology, minerals and pollutants.

