

Underwater Robots: Resources for SeaPerch 2023 Educators

Lessons/Activities/Modules

- [Simple Machines: Robot Building Blocks](#) - NOAA Ocean Exploration Lesson
- [Give Hercules a Helping Claw](#) - OET STEM Learning Module
- [Which Robot When](#) - NOAA Ocean Exploration Lesson
- [Tools of the Trade](#) - OET mini-lesson about the difference between ROVs and AUVs and how to build a mini-crane and pulley system
- [Build-A-Bot](#) - OET design challenge
- [Robotic Arm Kit Activity](#) - OET design challenge
- [LEGO Brick ROV Hercules](#) - OET design challenge
- [LEGO Model Instructions](#) for multiple ocean research vehicles - UNH designed models
- [Codes and Controllers](#) - OET STEM Learning Module

Information Sheets

- [Engineering Design Process Student Handout](#) - NOAA Ocean Exploration Handout
- [Simple Machines Student Handout](#) - NOAA Ocean Exploration Handout
- [What is an ROV?](#) - NOAA Ocean Exploration Fact Sheet
- [What is an AUV?](#) - NOAA Ocean Exploration Fact Sheet
- [ROV Explainer Graphic Poster](#) - OET Ocean Exploration Handout

Presentations

- [Deep-sea Dialogues: Underwater Robots](#) - NOAA Ocean Exploration
- [MATE interview with former ROV engineer and pilot Dan Rogers](#) - MATE ROV competition
- [Ocean Encounters: Extreme Machines](#) - WHOI webinar with James Cameron
- [Ocean Encounters: Alvin](#) - WHOI webinar
- [Ocean Encounters: Robots](#) - WHOI webinar

Images & Videos

- [Observation Platforms: Submersibles](#) - NOAA Ocean Exploration link to explore a number of underwater robots
- [Ocean Technology Video Gallery](#) - NOAA Ocean Exploration
- [Ocean Technology Image Gallery](#) - NOAA Ocean Exploration
- [Robotic Platforms](#) - SOI webpages
- [ROV Hercules Photo Album](#) - OET photo album
- [ROV Argus Technology Page](#) - OET photo album
- [Engineering for Discovery](#)- NOAA Ocean Exploration video on the ROV Deep Discoverer (highlights manipulator arm and the role of telepresence)
- [Nautilus ROV Operations Video Playlist](#) - OET video playlist
- [Beyond the Wow: Complex Robots Need Simple Checklists](#) - OET behind-the-scenes video
- [SuBastian Gallery](#) - SOI images of ROV SuBastian

- [Building SOI's 4500 m ROV](#) - SOI video playlist about the development of ROV SuBastian

Additional Resources

- [Underwater Robots](#) - NOAA Ocean Exploration theme page with relevant education resources
- [Underwater Vehicles](#) - Technology operated by WHOI
- [DriX Autonomous Surface Vehicle](#) - UNH
- [Ocean Exploration Trust Technology pages](#) - Technology pages for all underwater vehicles that operate from E/V Nautilus, including OECI guest vehicles
- OECI, Research and [Technology](#) - OECI

Organizations

- [NOAA Ocean Exploration](#)
- [Ocean Exploration Trust](#) (OET/Nautilus.live.org)
- [Schmidt Ocean Institute](#) (SOI)
- [Woods Hole Oceanographic Institution](#) (WHOI)
- [University of New Hampshire](#) (UNH)
- [Deep Ocean Education Project](#) - New Ocean Exploration Education website featuring resources from NOAA Ocean Exploration, OET, and SOI
- [Marine Advanced Technology and Education Center](#) (MATE)
- [Ocean Exploration Cooperative Institute](#) (OECI)