

ROPOS

CANADIAN SCIENTIFIC SUBMERSIBLE FACILITY

SCIENCE FIRST.

A global leader in remotely operated submersible systems.

SCIENCE DRIVEN.

Our world-class ROV is designed for science-based research missions and piloted by the most experienced technicians available.

SCIENCE READY.

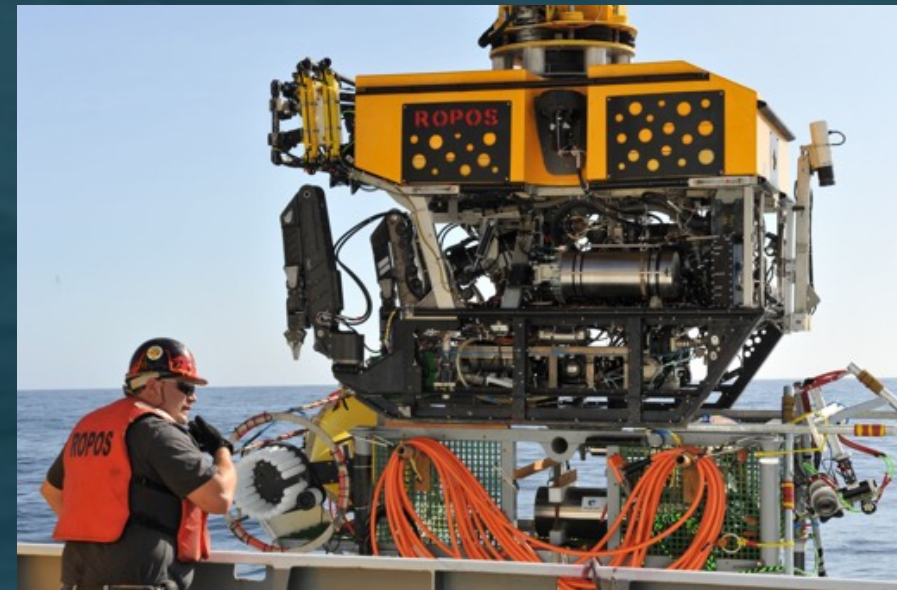
Our ROV is designed and equipped with leading edge technology, premium HD video cameras and instrumentation.

SCIENCE NOW.

With our technology and tools, fewer ship days are required and multiple experiments can be conducted at one time. Deployment is safe, fast and efficient.



- Not-for-Profit - user pay facility
- Experienced operators and mature systems increasing efficiency
- Reliable – 98% Uptime - Minimal Maintenance Time
- State of the art technology
- Flexible System Options, i.e. Docking Head A-frame operations to full depth



SYSTEM OPTIONS



1000M COASTAL SYSTEM

- Uses a small synthetic-tether winch
- Can be operated from vessels as small as ~100 ft long



4000M WITH A-FRAME DOCKING HEAD

- Highly cost-effective
- Can be operated from a coastal class (regional scale) vessel



4000M WITH LAUNCH & RECOVERY SYSTEM

- Increased weather window
- Reduced deck-crew requirements
- Typically used with a global class vessel

VESSEL DIVERSITY



- NOAA Ship Henry Bigelow – 210ft
- NOAA Ship McArthur II – 224ft
- R/V Atlantis – 273ft
- R/V Thomas G. Thompson – 275ft
- NOAA Ship Ronald H. Brown – 275ft
- NOAA Ship Discoverer – 303ft
- CS Dependable – 456ft



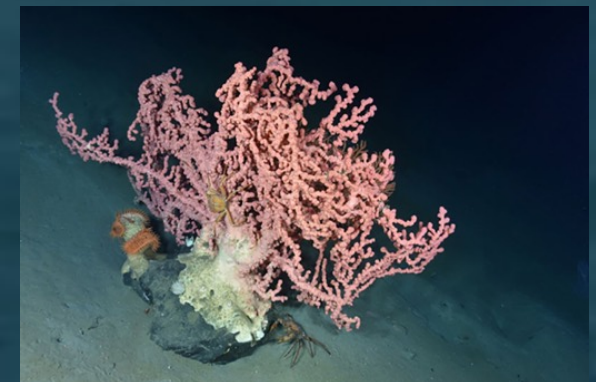
- CCGS RB Young – 105ft
- CCGS Vector – 131ft
- HMCS Dawson – 205ft
- CCGS Parizeau – 211ft
- CCGS Tully – 226ft
- CFAV Quest – 235ft
- HMCS Endeavour – 236ft
- CCGS Martha Black – 272ft
- CCGS Hudson – 296ft
- M/V Kigoriak – 298ft



- R/V Pelagia (Netherlands) – 216ft
- R/V Tan Kah Kee (China) – 254ft
- R/V Falkor (Cayman Islands) – 272ft
- RRS James Clark Ross (United Kingdom) – 324ft
- R/V Sonne (Germany) – 387ft
- CS Giulio Verne (Italy) 436ft
- R/V Akademik Tryoshnikov (Russia) – 439ft

MISSION HIGHLIGHT - NOAA SHIP BIGELOW 2014, 2017, 2019

- Operations on this vessel to 3000m
- Full depth capability (4000m) & comprehensive sampling
- Docking Head (A-Frame) Operations w/ or w/o Container Lab
- Excellent hybrid option for ~200ft vessels (regional scale)
- Surveyed canyon, slope, and basin areas, with concurrent sampling of environmental factors (i.e., depth, salinity, temperature, dissolved oxygen)
- Assessed & collected deep-sea corals for analyses on abundance, distribution, size, taxonomic classifications, reproduction, age, genetic studies;



MISSION HIGHLIGHT – CCGS VECTOR 2005 TO 2017

- Up to 1000m depth
- Overboard sheave operations, stacked winch & levelwind
- Excellent option for very small vessels
 - Requires as little as ~150 square feet of deck space¹
- Still provides comprehensive sampling suite:
 - Core tubes, water sampling, suction sampling, bioboxes, etc.



¹ Assuming adequate ship specifications (power, lab space, hydraulics, etc.)

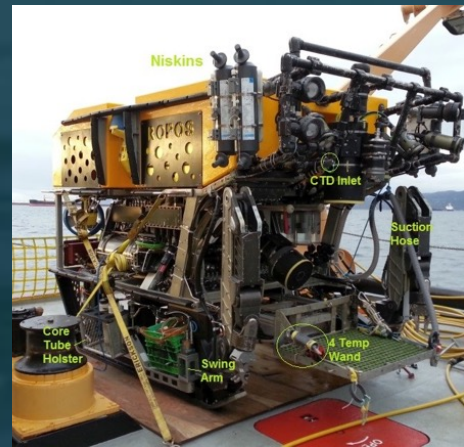
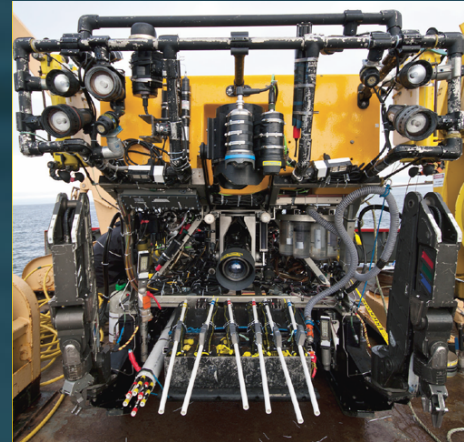
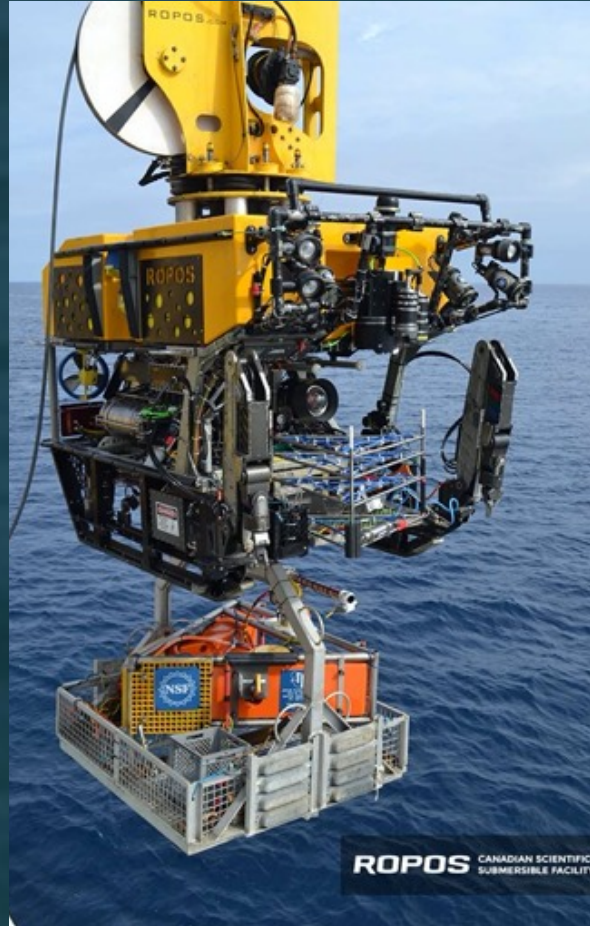
MISSION HIGHLIGHT – R/V TAN KAH KEE 2018

- 4000m depth in the South China Sea
- Demonstrated the logistical capabilities of the ROPOS team
 - First installation on this ship
 - First mobilisation/demobilisation in this port/country
 - First-time users of the ROPOS system
- Exceptionally successful mission
- Supported a substantial social media engagement project (livestreaming with over 180,000 viewers concurrently)
- Provided substantial sampling (hundreds of pounds of rock & manganese samples)











SCIENCE CAPABILITIES

- Multi-disciplinary dives
- World-leading HD Video
- CTD with pH and O₂
- Core tubes
- Water Sampling
- Variable-speed suction sampling
- High Temperature Probes
- Gastight Samplers
- ... and more



RECENT IMPROVEMENTS

-  1. Docking Head Operations on vessels with appropriate A-Frame.
-  2. Two new higher strength, longer reaching spatially correspondent manipulators.
-  3. New DVL increasing the height off seafloor we can attain bottom lock.
-  4. New DSC for increased resolution and light sensitivity.
-  5. New Operations, Work and Power cube containers.
-  6. Longer umbilical for a working depth of 4000 metres.
-  7. New Deck HPU, twin 75HP power packs as opposed to one 150HP.
-  8. New state-of-the-art custom-built telemetry system

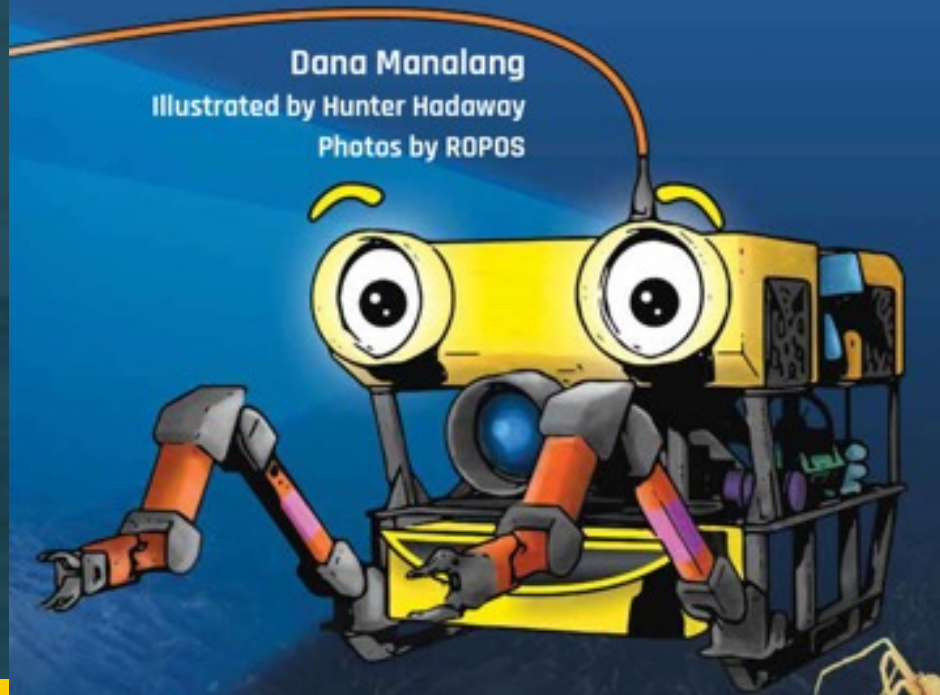
Dana Manalang

Ocean Systems Engineer APL-UW



ROPOS AND THE UNDERWATER VOLCANO

Dana Manalang
Illustrated by Hunter Hadaway
Photos by ROPOS



ROPOS



Questions?

ROPOS.COM



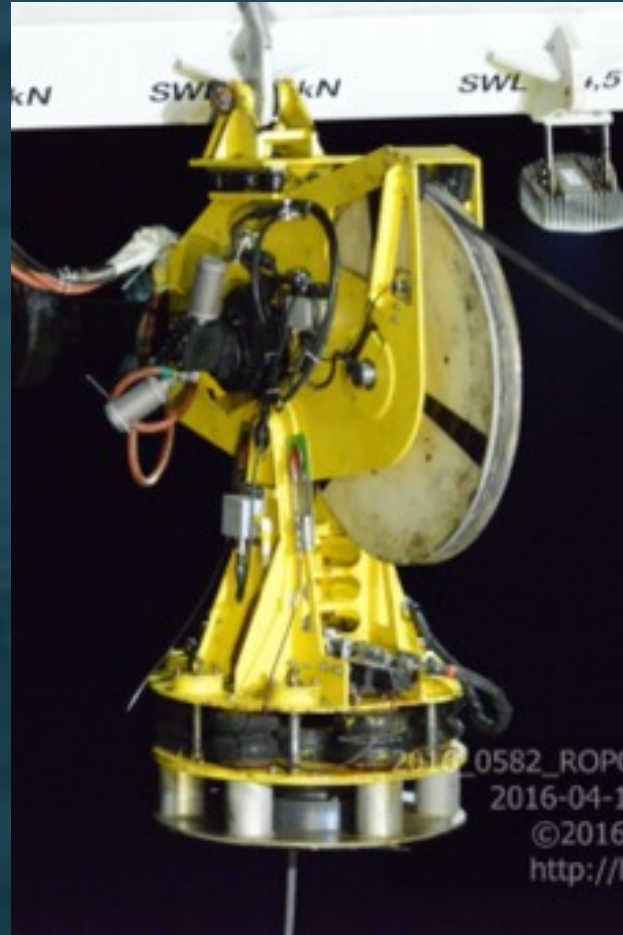
THANK YOU

VISIT US AT: WWW.ROPOS.COM

APPENDICES



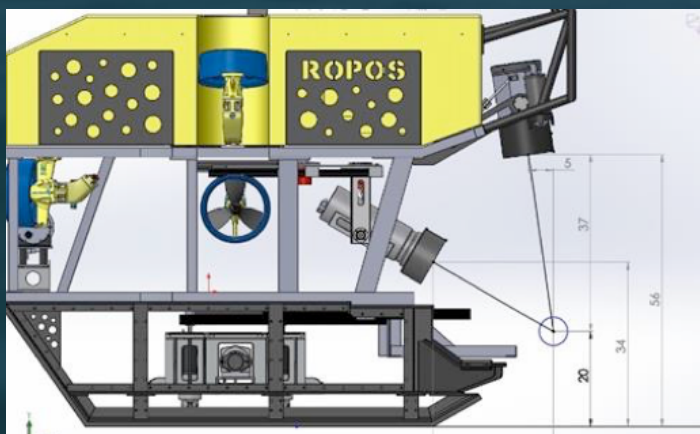
DOCKING HEAD



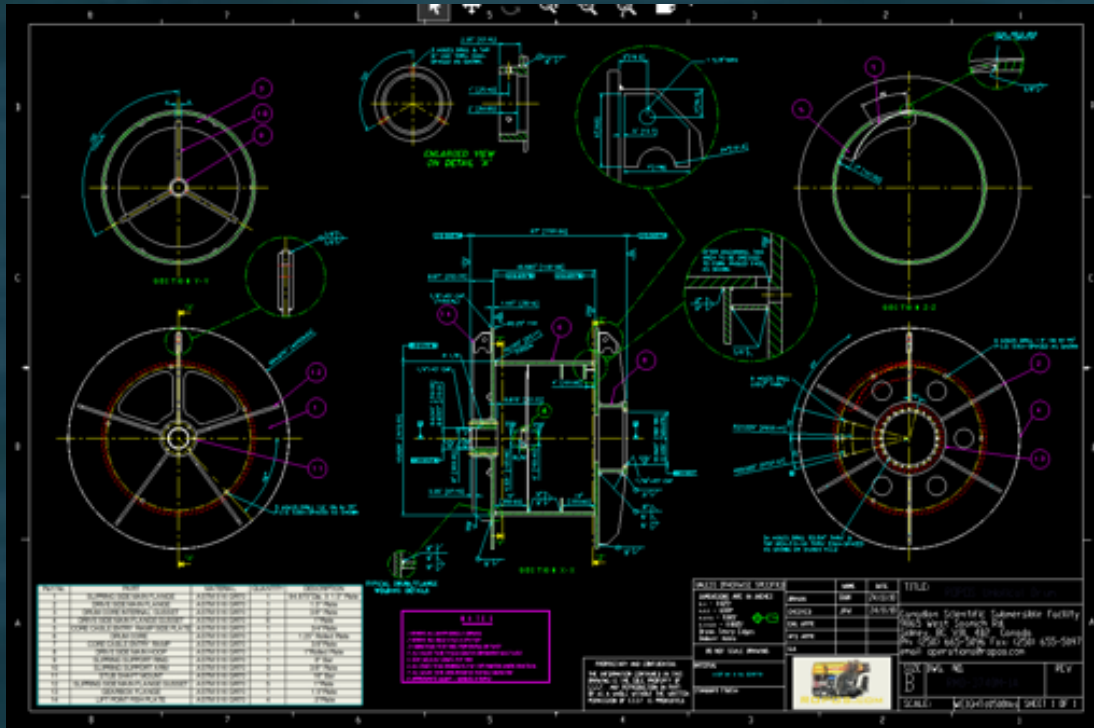
FIBER OPTIC GYROCOMPASS & DOPPLER VELOCITY LOG



NEW DIGITAL STILL CAMERA



DRUM/CABLE OPTIONS



STATE-OF-THE-ART TELEMETRY



HYDRAULIC POWER



CONTAINERS & POWERCUBE

