

# ROV SUBASTIAN

*Schmidt Ocean Institute's*  
**Remotely Operated Vehicle (ROV)**  
**2018 Year end update**





# Introduction

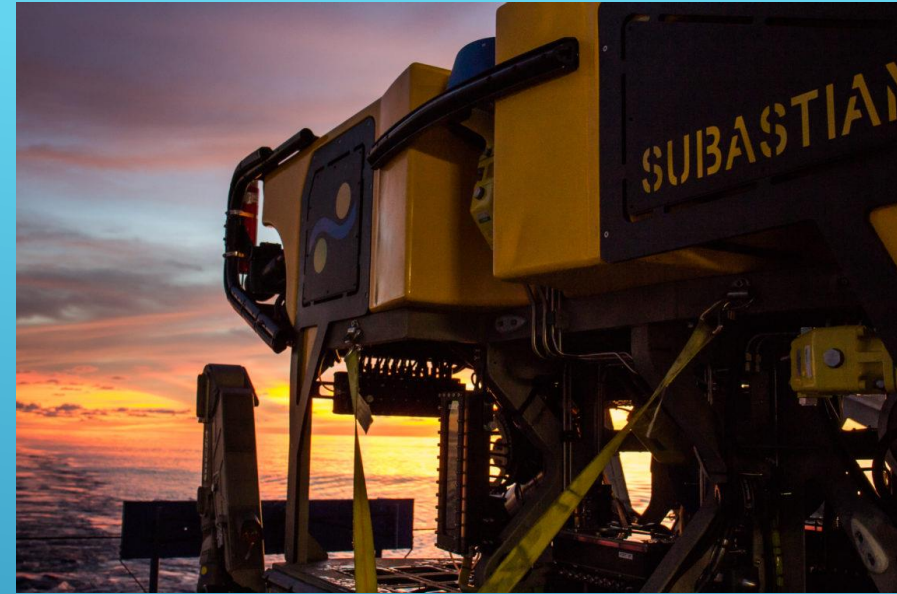
## ➤ Errol Campbell – ROV Manager

## ➤ Schmidt Ocean Institute

- Not for Profit Organization
- Goal to advance global marine research
- Provide state of the art operational, technological and information support
- Pioneering Ocean science and technology projects
- Share what we discover

## ➤ ROV Subastian

- 4500m depth rating
- Development started in 2015
- Integrated onto R/V Falkor in summer of 2016
- Successfully completed 200 Dives to date

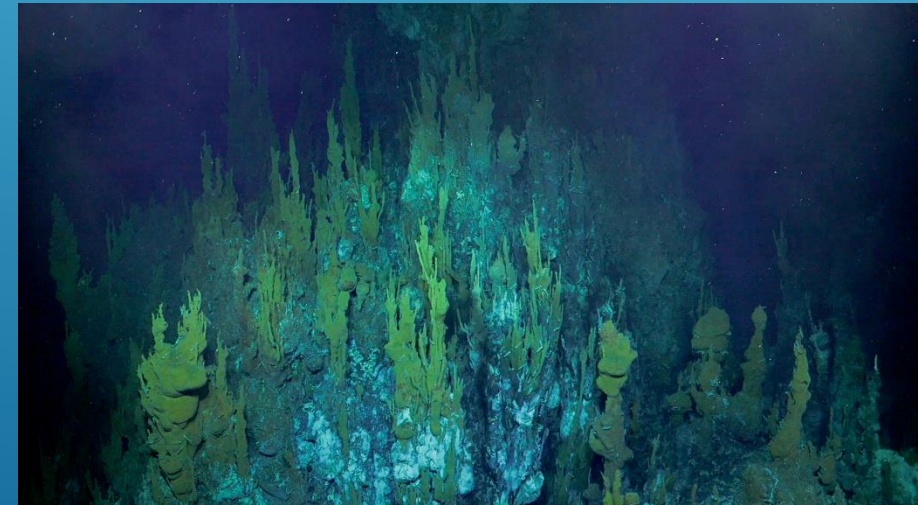
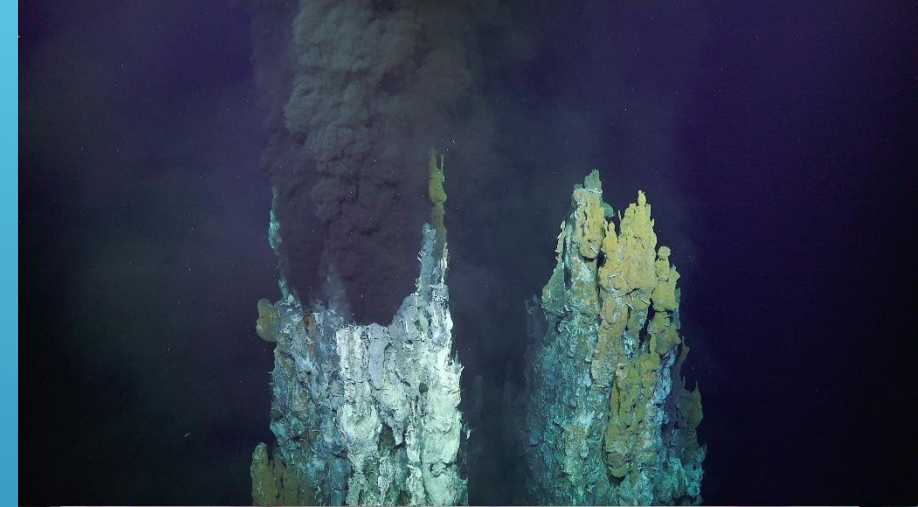
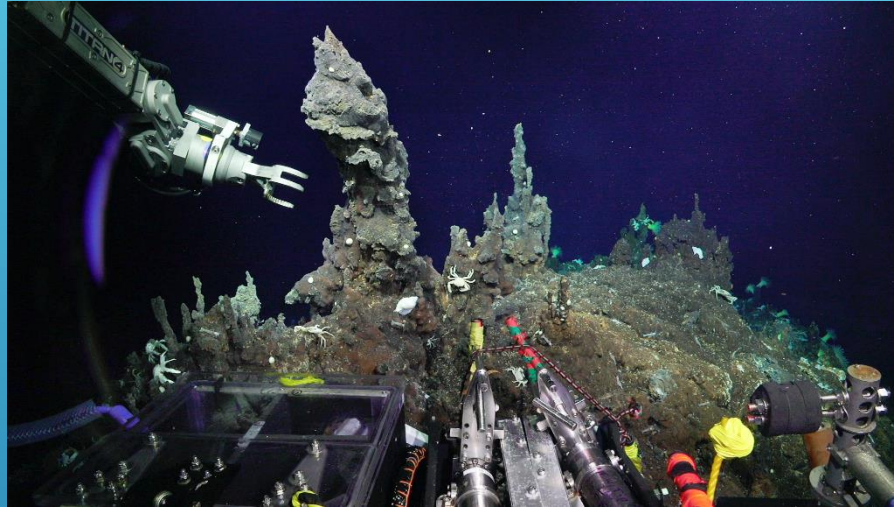




# ROV Subastian's Tool Box - 2018

## ➤ Large array of calibrated sensors and tooling:

- Water samplers
- Suction Sampler
- Temp-Heat Probe
- Bio-Boxes
- Gas tights
- Mapper
- Microbiology cans
- Scoops
- Robo-critters
- Rock Boxes
- Mini-Temp Recorders
- Push cores
- Majors
- O2 Sensors
- CTD
- PH
- SV Probe
- Mini IPS
- Photomosiacing





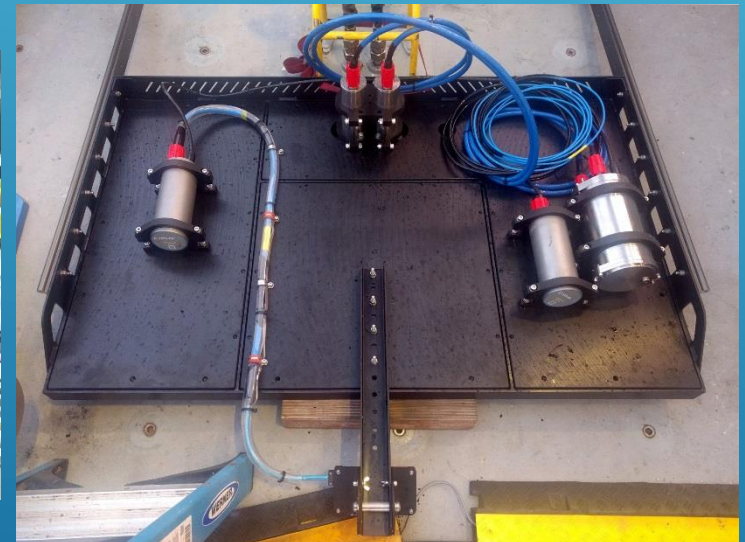
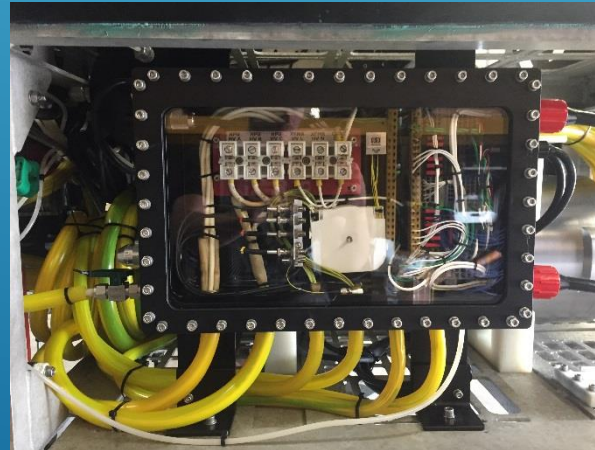
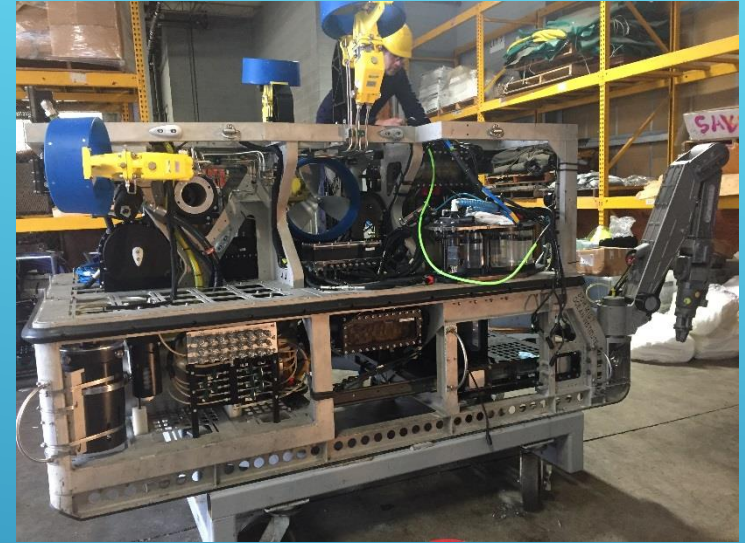
# 2018 R & M rebuild and upgrades

## ➤ Rebuild and Inspections

- Complete strip down, inspection & repair
- Structural inspection of frame & load path, thrusters, manipulators, all major components
- Science, equipment, tooling & sensors

## ➤ Upgrades

- HD Cameras from Fibre to FlexLink system
- New Digital Stills Camera & 2<sup>nd</sup> P & T
- Photomosaicing system
- Lighting systems
- Slide out arms
- Science tooling upgrades
- GSS software updates, waypoint execution & line follow function





# 2018 Post R & M Sea Trials

## ➤ Sea Trials

- Full system test dives & trials
- Tested a new 4K Camera
- Sensor calibration
- GSS software updates, waypoint execution & line follow function
- 3D Printing of parts
- Remote Operation (VPN)

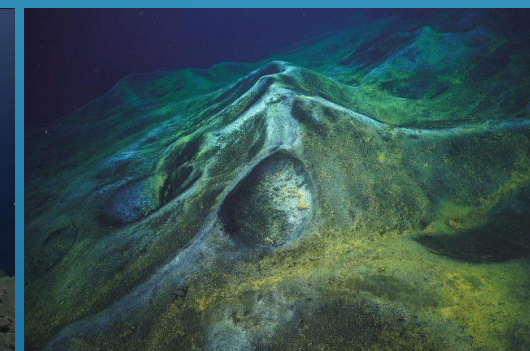
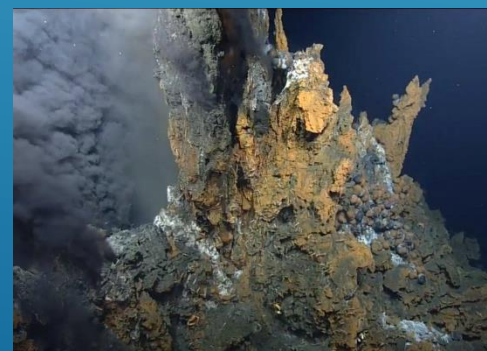




# 2018 ROV Science Missions

## ➤ 2018 ROV Science Missions

- White shark café, studying the area & Great White Sharks
- B Block & B Robison
- Insitu sensor measurement & robotic surveys – Blair Thornton
- Hunting Bubbles: Understanding Rising Plumes of Seafloor Methane
- Anna Michel
- Finding the Missing Link – Characterizing venting and seepage along the CA coast
- Peter Girguis
- Hydrothermal Vents – R Zierenberg
- Exploration With Under-actuated Autonomous Vehicles in Hazardous Environments
- Rich Camilli





**THANK YOU!**  
**[www.schmidtocean.org](http://www.schmidtocean.org)**

**SUBASTIAN**

➤ **[www.schmidtocean.org](http://www.schmidtocean.org)**

- Livestreaming ROV Dives
- Facebook
- YouTube