Improvements to R/V *Sally Ride*

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R/V *Sally Ride* Improvements

Overview

- Timeline of Vessel Delivery
- Science verification process
  - Feedback from scientists
- Improvements made
  - Changes to labs and holds
  - Network/Infrastructure upgrades
- Next steps

Research Vessel
SALLY RIDE
• AGOR 28 •

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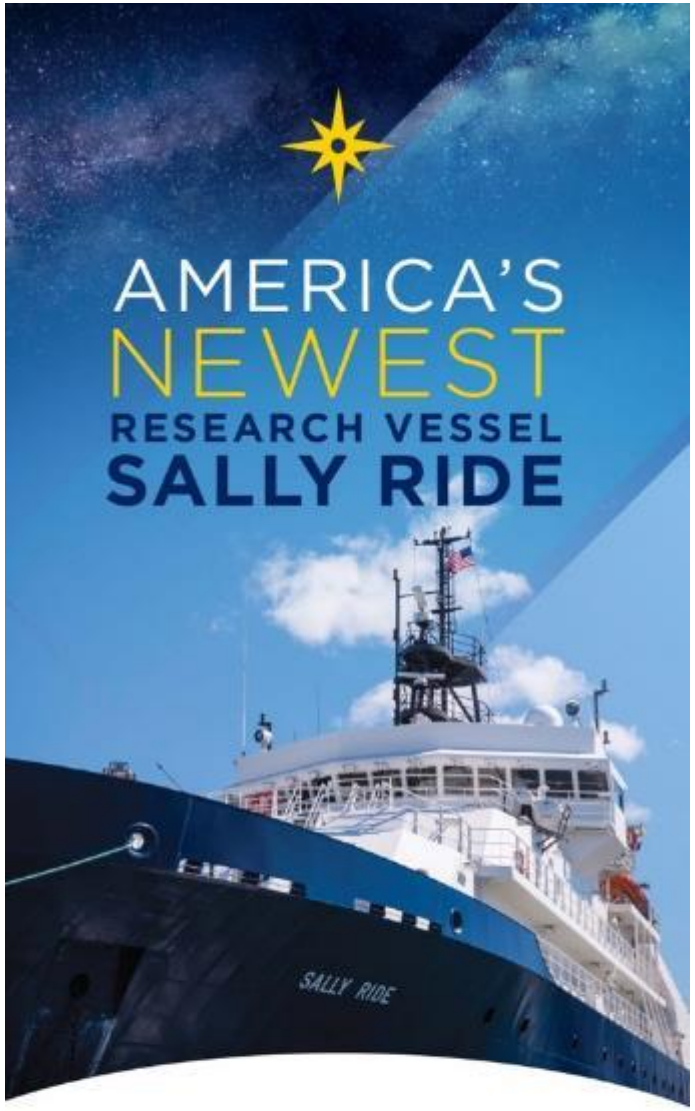
R/V *Sally Ride* Background

- AGOR 28
  - Sister ship of the R/V *Neil Armstrong* (AGOR 27)
  - Auxiliary General Oceanographic Research vessel
- Owned by the Office of Naval Research (ONR)
- Operated by Scripps Institution of Oceanography (SIO)



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- Feb 2012
  - Approved for construction
- July 2016
  - Delivered, outfitting continued
- August 2016
  - SR arrived in home port of San Diego
- Sept-Nov 2016
  - Science verification cruises
- January 2018
  - Month-long in-port maintenance period

R/V *Sally Ride* Survey

- Provided a survey for users asking them to point out shortcomings and to offer suggestions
  - No issue was too great or small
  - Specific questions about:
    - Planning/welcoming aboard experience
    - Installed instruments/equipment
    - Network/computing
    - Ship spaces

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R/V *Sally Ride* Feedback

- Improve amount of empty storage space in labs
  - Increase amount of work bench height and desk height seating
  - Increase configuration flexibility
- Improve use of Science Hold
- Starboard handling system not suitable for MOCNESS
- Lack of video feeds of deck operations
  - Worked with Ship's crew

R/V *Sally Ride* Improvements

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- Aft Hold
  - Workbench, Niskin storage, storage lockers, shelves, chain binders, rope, -80C Freezer
- Restech Locker
  - Organization
- Lab spaces
  - Benchtop replacement and nesting table construction
- Computer lab
  - Organization and many upgrades

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R/V *Sally Ride* Science Hold

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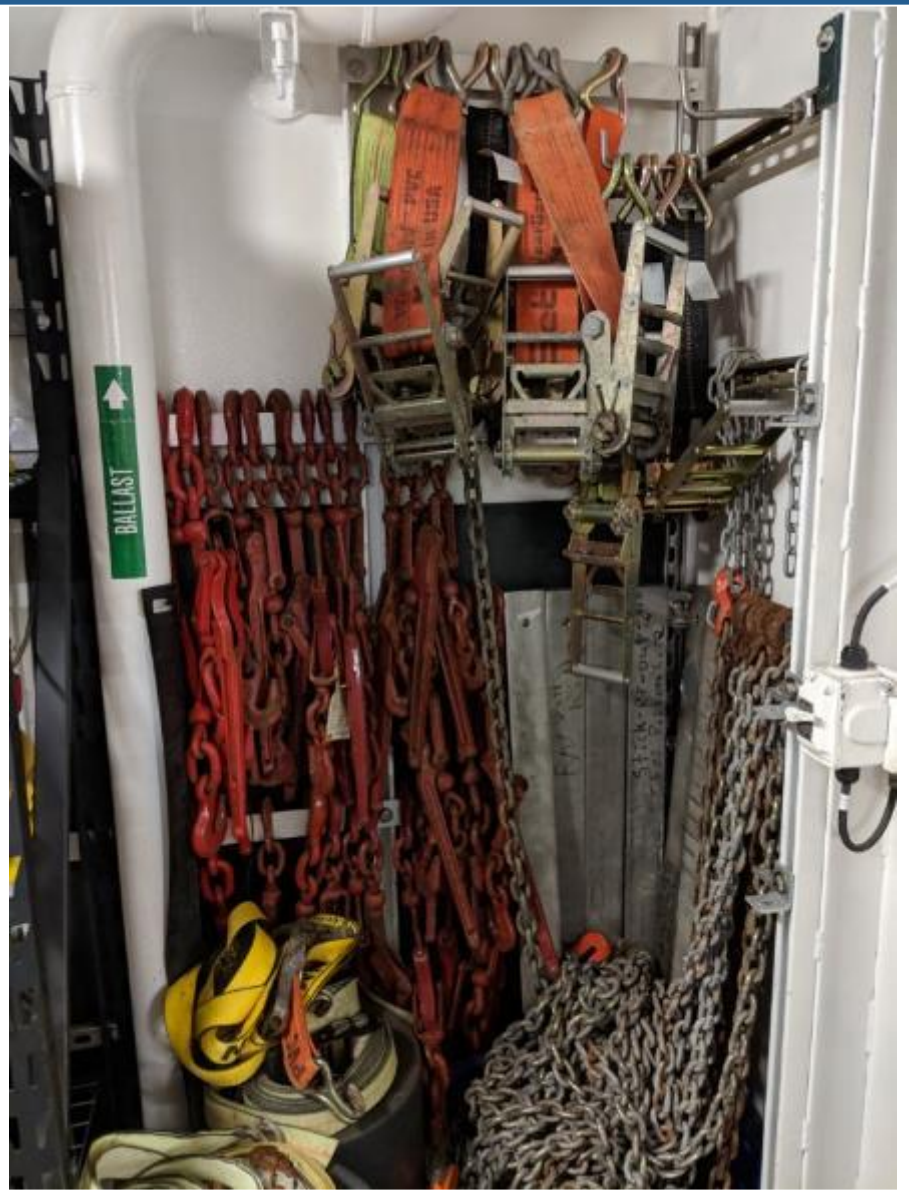

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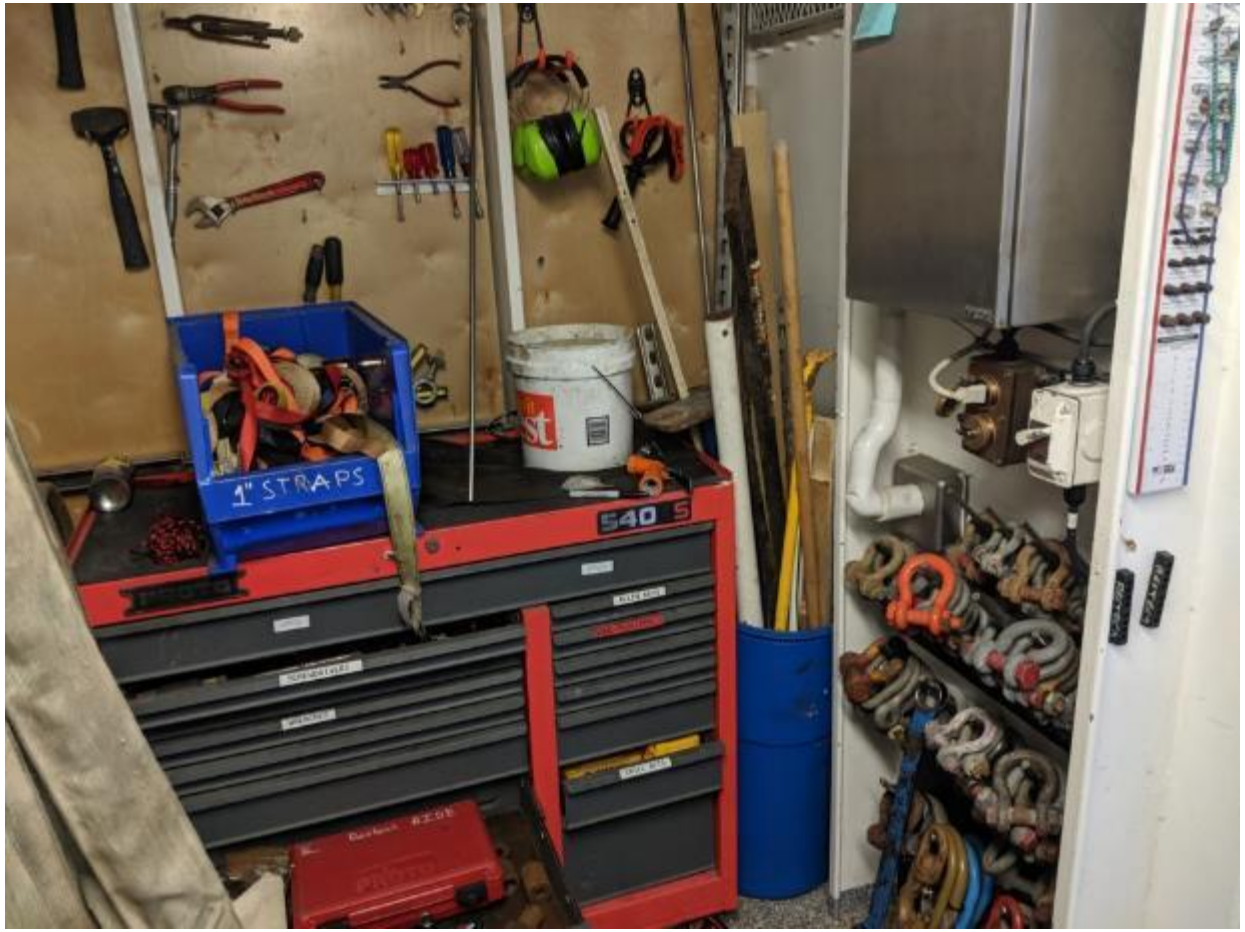
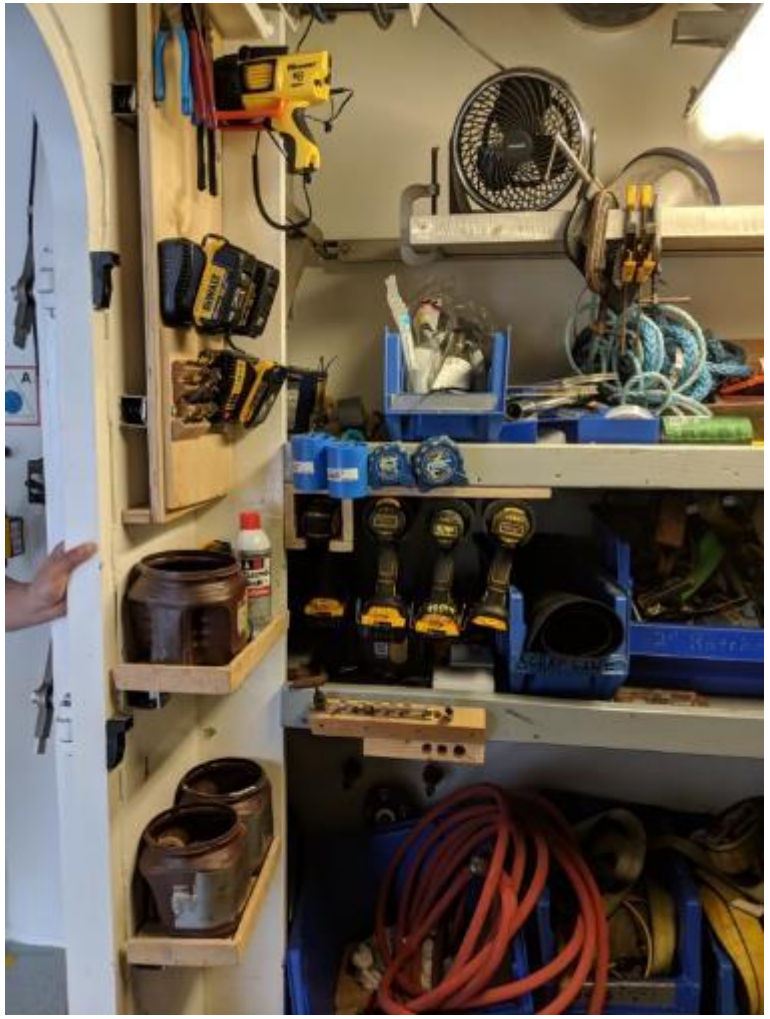
R/V *Sally Ride* Restech Locker





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R/V *Sally Ride* Lab Setup as Delivered

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R/V *Sally Ride* Main Lab

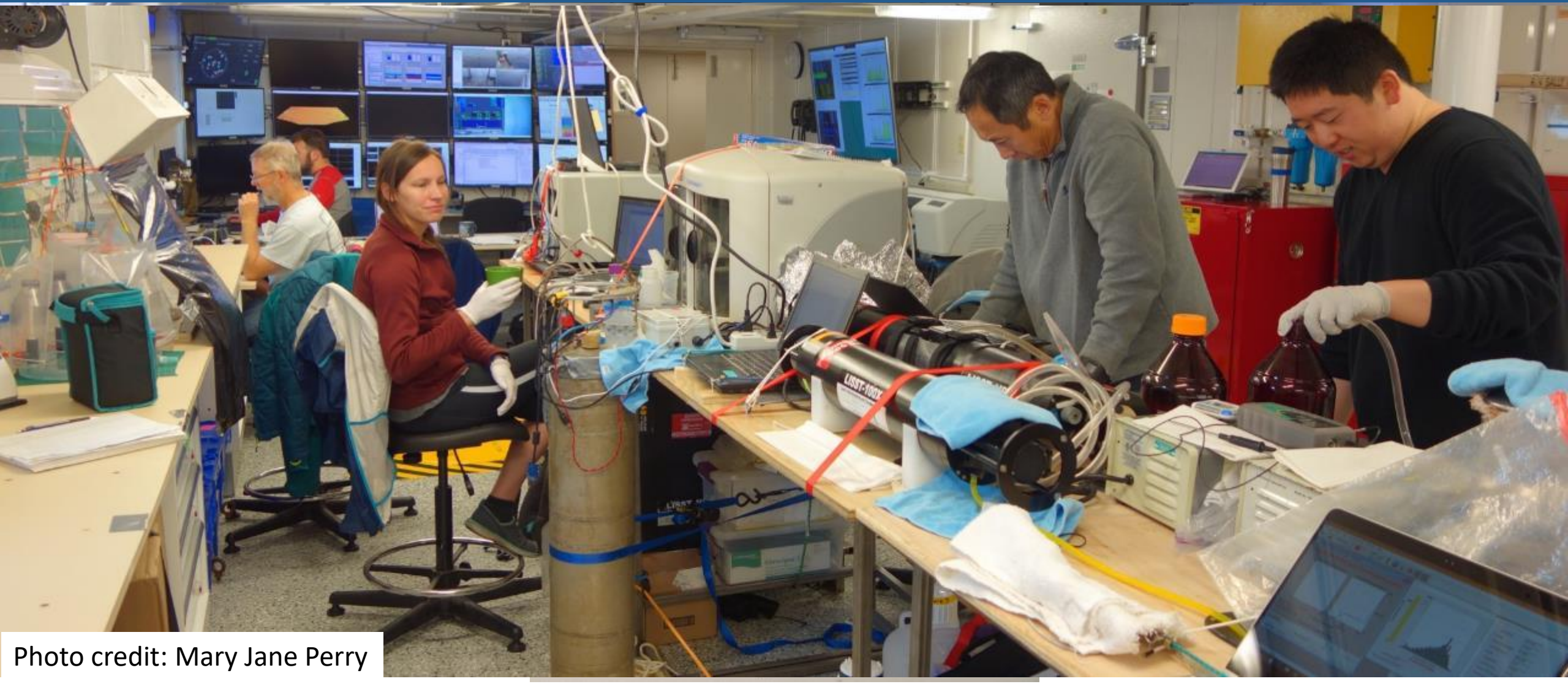

Photo credit: Mary Jane Perry

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Main lab with nesting tables and new benchtops

R/V *Sally Ride* Computer Lab

Computer lab organization

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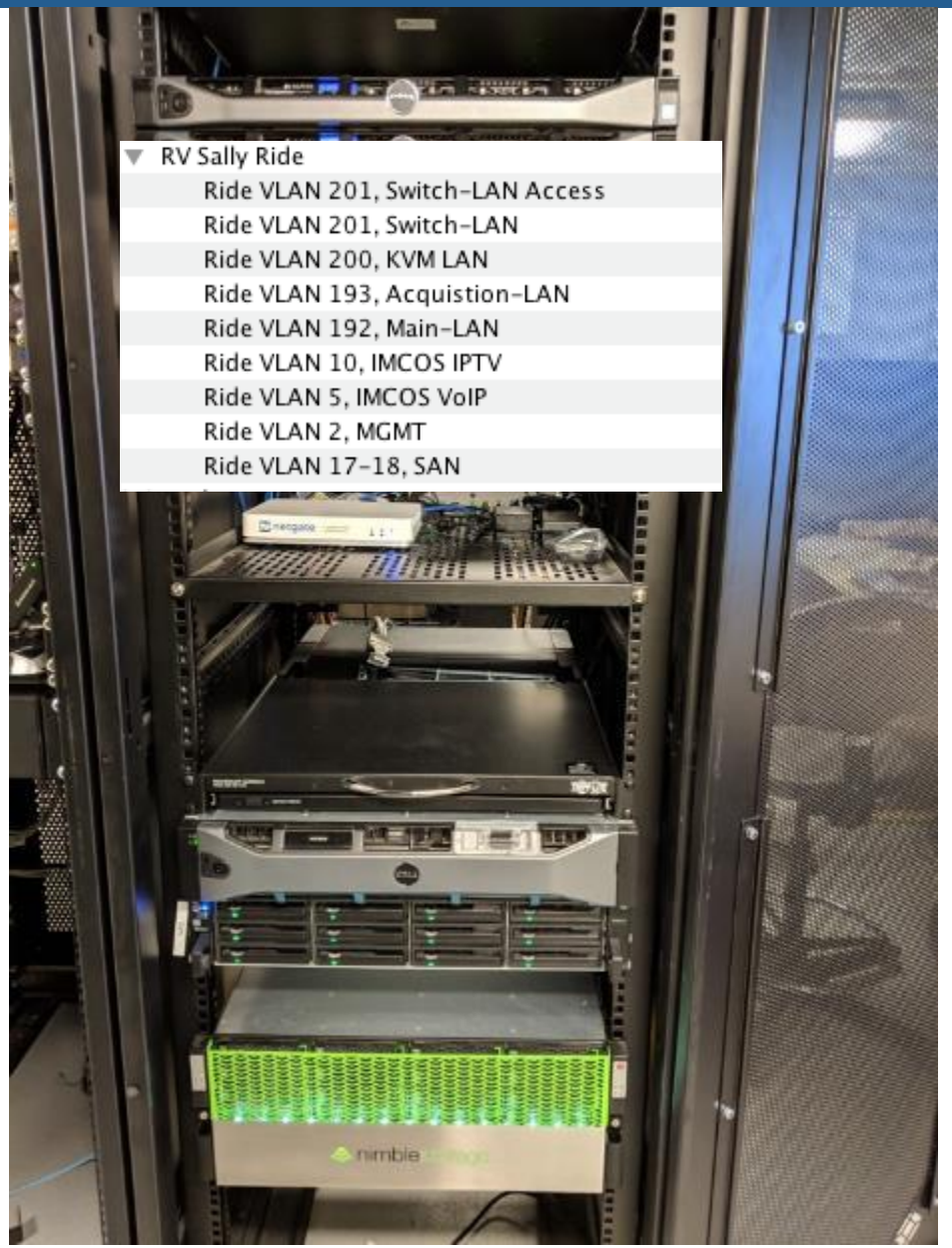
R/V *Sally Ride* Computers/Network

- Network switches
  - Augmented and terminated fiber backbone to service science areas
  - Upgraded backbone (IMCOS, science) from 1GB to redundant 10GB
  - Replaced stateroom switches
- Intermapper device monitor
  - Currently 378 on SR vs. 194 on RR
- Installed KVM over LAN
  - Presentation by Daniel Yang
- Installed High Availability Computing Cluster
  - Presentation by Jon Meyer
- WAPs – Survey and installation



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R/V *Sally Ride* Future Directions

- Continuous improvement
  - Uncontaminated seawater intake airlock
  - pCO_2 installation
  - Prepare for international voyages
- Apply lessons learned to improve R/V *Roger Revelle*
  - Midlife Refit happening in 2019
    - Computing infrastructure
    - Lab spaces redesign