



Schmidt Research Vessel Foundation Update

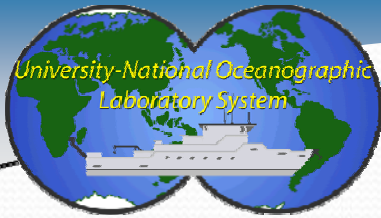


Schmidt Research Vessel Institute

Palo Alto, California- <http://brousz.com/index.html>

501 C3 Organization with a focus on Marine
Science and Oceanography

The mission of Schmidt Research Vessel Institute is to achieve and maintain the position of a world center for unbiased oceanographic information collection and distribution. SRVI will achieve this goal through the application and development of innovative cost-effective research methods and ocean data collection technologies, external collaborations effectively leveraging combined intellectual and technological resources, and providing free and clear access to the generated information worldwide.



Schmidt

Schmidt Research Vessel Institute (SRVI) is a new private oceanographic institution, established to promote exploration and discovery of the world's oceans through improved oceanographic data collection and sharing. SRVI will pursue the application and development of innovative cost-effective research methods and ocean data collection technologies. At this initial stage of our organizational development, we plan to pursue collaborative projects with external research institutions to effectively leverage combined intellectual and technological resources.

SRVI plans to operate two research vessels: 77m **R/V LONE RANGER** will begin a 2 - 3 year service for SRVI in the Gulf of Mexico area in January 2011 with maximum science party of 12. 83m **R/V FALKOR** is planned for re-delivery in March 2011. The FALKOR will be a globally capable vessel with expected service life of ~20 years, suitable to support the maximum science party of 22. Vessel float plans are currently under development and will tentatively include operation in the Gulf of Mexico, Alaskan Arctic, and Pacific in 2011 and 2012 and beyond. Representatives of Science Program Development, Marine Operations, and Engineering divisions of SRVI will be visiting oceanographic research institutions to meet with researchers interested in pursuing collaborative research opportunities aboard the SRVI vessels.



R/V Lone Ranger





R/V Falkor





Schmidt Research Vessel Institute

Mission Statement:

"The mission of the Schmidt Research Vessel Institute is to become a world center for oceanographic data collection and sharing and thereby facilitate exploration and discovery of the world's oceans.



SRVI Goals

- Demonstrate innovative methods and approaches
- Engage external collaborators
- Develop new technologies for use in oceanographic research, data collection, and sharing
- Apply new technologies to studies of the oceans, data collection, and sharing
- Consolidate and share technologies and data



FALKOR LONE RANGER



Schmidt Research
Vessel Institute

Prepared for UNOLS Council and Annual Meetings
October 14-15, 2010

Vessel Deliveries and Cruise Plans

■ Lone Ranger

- ☐ Delivery is scheduled for December 2010
- ☐ First science cruise from Canary Islands to Bermuda
- ☐ Will be arriving at Bermuda at the end of January 2011

■ Falkor

- ☐ Delivery is currently anticipated to be mid 2011
- ☐ Some of the long lead hardware will not be on board (ROVs, LARS, Winches)
- ☐ Cruise plans TBD



Lone Ranger

■ Main Particulars:

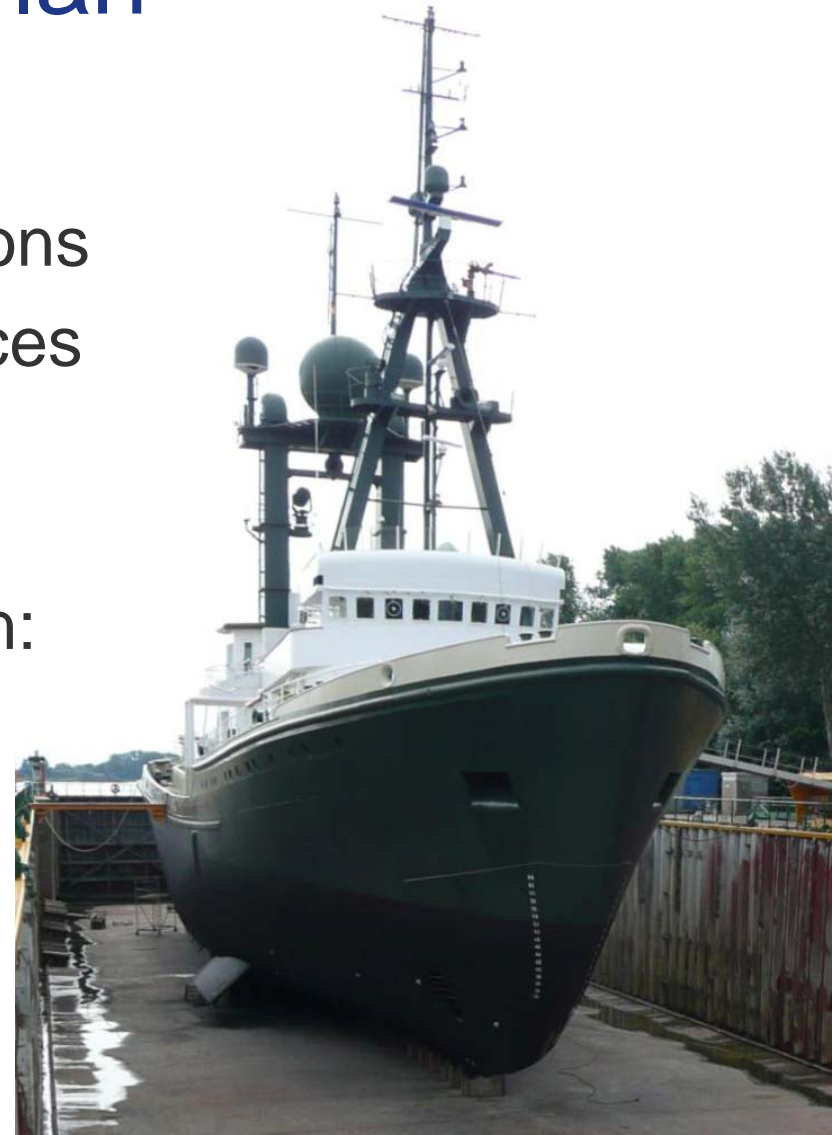
- Length OA 77.4 meters (254 feet)
- Length BP 68.71 meters
- Freeboard ~1 meters
- Breadth (molded) 13.2 meters
- Design Draft 5.58 meters
- Maximum Draft 6.67 meters
- Gross Tonnage 1600 GRT

- Former ocean tug, then private expedition yacht
- Built in 1973 in Bremerhaven Germany
- No Dynamic Positioning
- Zero speed stabilizers



Lone Ranger Refit Plan

- Will remain a private yacht
- Max science party 12 persons
- Currently outfitting lab spaces
- Will be crossing Atlantic following re-delivery
- Intended areas of operation:
Gulf of Mexico,
Caribbean



Lone Ranger Scientific Outfitting

■ Overboarding Operations

- ☐ No Dynamic Positioning
- ☐ Existing 15 ton crane
- ☐ 2 Motorized capstans

■ Diving Operations

- ☐ 7.5 m Parker tender with dedicated heave-compensating deployment crane
- ☐ Two existing diving compressors (to be tested):
 - Air
 - Nitrox
- ☐ Existing diving stairs at stern



Lone Ranger Scientific Outfitting

■ Requested Laboratory Facilities

- ☐ Bench space
- ☐ Sinks with hot and cold fresh water
- ☐ Sea water supply (TBD)
- ☐ -20 C and -80 C freezers (TBD)
- ☐ +4 C refrigerator (TBD)
- ☐ V-Sat (TBD)
- ☐ US power converter (TBD)

■ Existing machine shop



Falkor

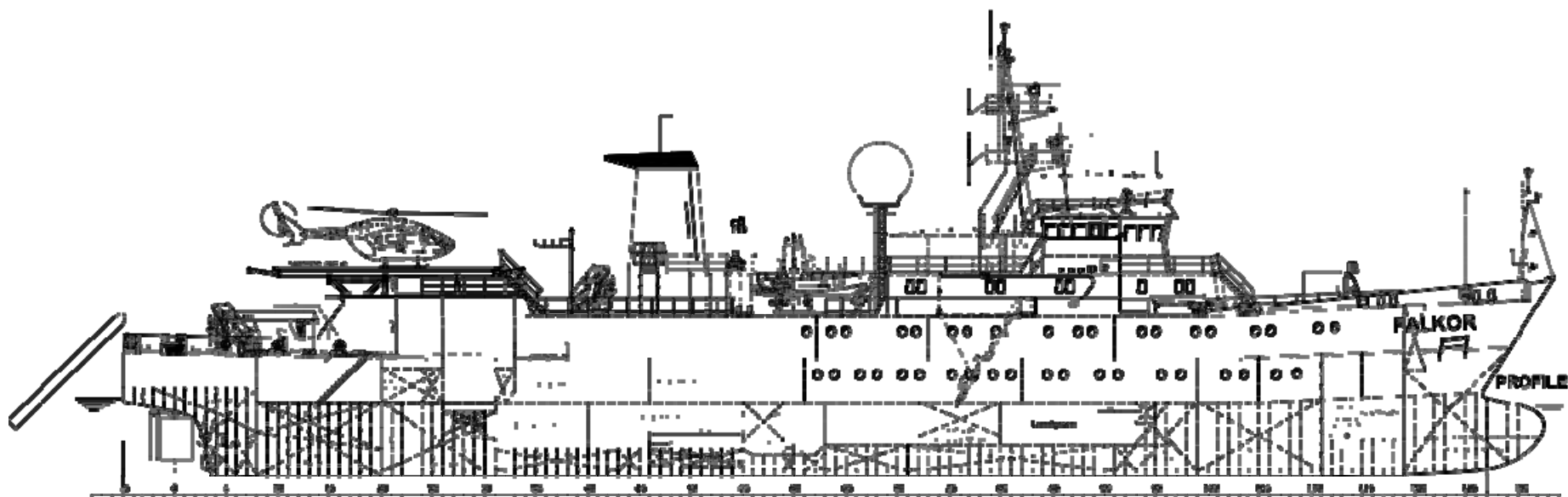
- Former German Fishery Protection Vessel
- Built in 1981 in Lübeck, Germany
- Main Particulars:
 - ❑ Length OA 82.9 m (272 ft)
 - ❑ Freeboard 2.3 m (7.5 ft)
 - ❑ Breadth 13.0 m (42.7 ft)
 - ❑ Draft 4.7 m (15.4 ft)
 - ❑ Depth (molded) 6.7 m (21.9 ft)
 - ❑ Gross Tonnage 1930 GRT
- Dynamic Positioning
- Stabilizers work @ 4+ knots



Falkor Refit Plan

- Will be refit to Special Purpose Ship (SPS) class in 2011
- Max science party 22 persons
- Helipad will be retained





Falkor Scientific Outfitting

■ Working Decks and Overboarding Equipment

- ☐ Configurable Main Deck with UNOLS bolt downs
- ☐ Deck reinforcement up to 0.25 tons per sq. ft.
- ☐ ROV servicing and deployment area on Main deck
- ☐ AUV LARS at aft Main Deck
- ☐ CTD servicing and deployment area on Main deck
- ☐ Two HIAB 301-4 cranes covering all Main Deck areas
- ☐ J-Frame or Telescoping boom (TBD) on Port side
- ☐ Fresh and sea water outlets
- ☐ EU and US power outlets



Falkor Scientific Outfitting

■ Laboratories: Wet Lab area

□ Aft Main Deck

- AUV Garage, 386 sq. ft.
- Wet Lab, 395 sq. ft.
- Workshop for ROV / AUV, 114 sq. ft.
- ROV Workshop, 218 sq. ft.

□ Lower Deck

- Wet Lab, 248 sq. ft.
- Cold Room, 71 sq. ft.
- Science Sample Storage, 149 sq. ft.



Falkor Scientific Outfitting

■ Laboratories: Dry Lab area

- Control Room, 307 sq. ft.
- Dry Lab / Office Space, 233 sq. ft.
- Data Lab, 168 sq. ft.
- Lab Store, 85 sq. ft.



Falkor Scientific Outfitting

■ Scientific Instruments (as currently planned)

☐ Echosounders

- Sonardyne Ranger Pro USBL
- Kongsberg EM 302 1x1 degree MBES
- Kongsberg EM 710 0.5x1 degree MBES
- Kongsberg EA 600 Multi-frequency Hydrographic ES
- Kongsberg EK 60 Multi-freq. Fisheries Research ES
- Knudsen 3260 Single Beam Sub-Bottom Profiler
- RDI ADCP Doppler Velocity Current Profiler 75/300 kHz

☐ V-Sat Internet connectivity

☐ High speed digital network onboard



SRVI Science Areas of Interest

Climate change/human impact and marine ecosystems

- Climate variability and associated change in food webs, marine communities, and biogeochemical cycles.

The sub-seafloor and life at extremes

- Extent, abundance, distribution and diversity of sub-seafloor biosphere (largely unexplored sub-seafloor microbial biosphere.)
- Gas hydrate formation and destabilization

Long-Term ocean observations and prediction

- Exploration through *in situ* measurements of active processes on various timescales from seconds to decades.
- Provide adequate baseline for observing and predicting both temporal and spatial changes.

Establish IT infrastructure supporting accumulation, organization and distribution of oceanographic information globally

- Focus on improvement in the techniques and mechanisms by which data is collected, controlled for quality, made available for researchers, and archived appropriately.



For additional information:

www.srvi.org

Contacts:

- Dr. Victor Zykov (Director of Engineering)
Victor@srvi.org
- Dr. Nancy Prouty (Science Program Coordinator)
Nancy@srvi.org
- Eric King (Marine Operations Manager)
Eric@srvi.org
- Pete Zerr (Marine Operations Manager)
Pzerr@srvi.org

