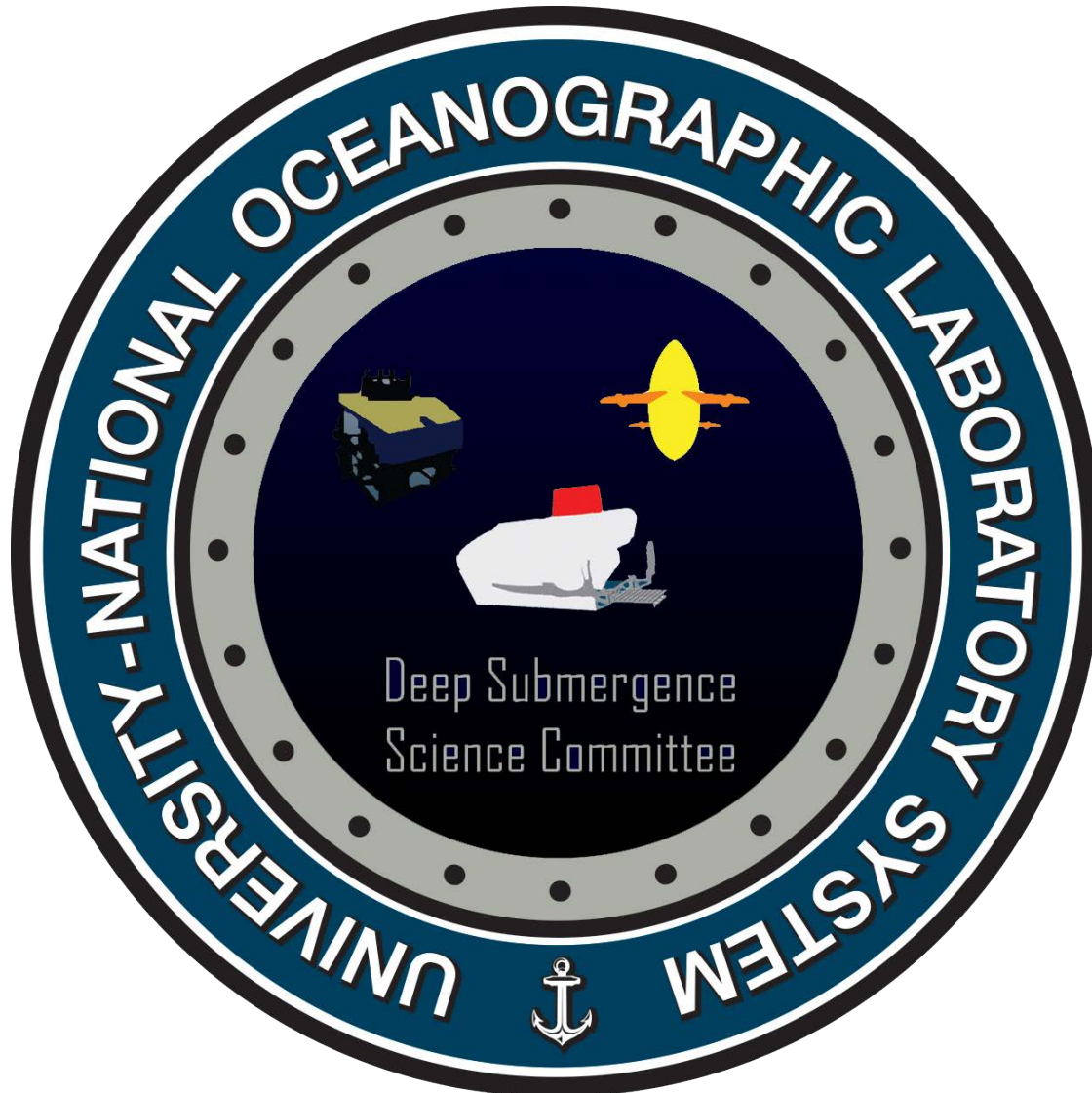


DeSSC Fall Meeting  
December 14<sup>th</sup>, 2014



# DeSSC meeting agenda

- Brief introduction of early career scientists
- Agency Introductions and Reports
- Student and Early Career Scientist Presentations I
- Vehicle Operations Summary
- PI reports, Facility Operators Report
  
- *lunch*
  
- Scheduling
- Vehicle debriefs
- Data mgmt plan
- New User program; Presentations II
- *HOV Alvin* upgrade
- Emerging technologies
- Closing remarks

# DeSSC membership

## Current members

Amanda Demopoulos (USGS)  
Dave Emerson (*Bigelow*)  
Vicki Ferrini (*LDEO*)  
Peter Girguis, Chair (*Harvard*)  
Breea Govenar (*Rhode Island Coll.*)  
Nick Hayman (*UTIG*)  
Laura Lapham (*Univ. Maryland*)  
George Luther (*Univ. Delaware*)  
John Wiltshire (*Univ. Hawaii*)

Rob Munier (*ex-officio, WHOI*)  
Tim Shank (*ex-officio, WHOI*)  
Adam Soule (*ex-officio, WHOI*)



## retirees and new folk !

**Wiebke Ziebis (USC) rotated off in 2014**  
Many thanks for her dedicated service!



**A big WELCOME to Adam**  
**Soule, NDSF Chief Scientist**





# NDSF/DeSSC highlights and accomplishments

## Deep-sea submersible Alvin turns 50...



# Emerging technologies and broader activities

- NSF-INSPIRE project, TREET (Chris German)
- *Nereid* Under Ice vehicle operations (Andy Bowen)
- Autonomous Surface Vehicle tender for Sentry (Andy Bowen)
- Loss of *Nereus*: Future plans (Rob Munier)
- Full Ocean Depth HROV - Schmidt Ocean Institute (Victor Zykov)
- Ocean Observing Initiative (OOI) Regional Scale Node (RSN; Deb Kelley)
- HURL, ALOHA Observatory, and U. Hawaii's new ROV (Bruce Howe)
- Scripps Institution of Oceanography's new ROV (Drew Cole)
- Additional updates from the audience

# *In lieu of a 7 minute presentation...*

## the ROV Global Explorer

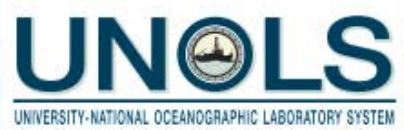
- *3km ROV leased by Deep Sea Systems Inc. for scientific research and documentary work.*
- *System offers a full suite of **sampling tools, sensors, & cameras***
  - ***4K video; stereo 3D HDTV; digital stills***
  - ***Telepresence / live broadcast from any vessel.***
  - ***Navigation services & equip.***
- *Access deep water with these tools from **smaller, low cost vessels** like RV Pelican and Walton Smith.*
- *Dante DelGrosso = Global Explorer's manager is here to answer any questions.*



**Stay on time**



# DeSSC website upgrade and *Alvin* upgrade



## DEEP SUBMERGENCE SCIENCE COMMITTEE (DESSC)

HOME / DEEP SUBMERGENCE SCIENCE COMMITTEE (DESSC)



WHOI Appoints Adam Soule as Chief Scientist of the NDSF

### ANNOUNCEMENTS

The Deep Submergence Science Committee (DeSSC) is a committee of scientists who provide support and advice to the National Deep Submergence Facility

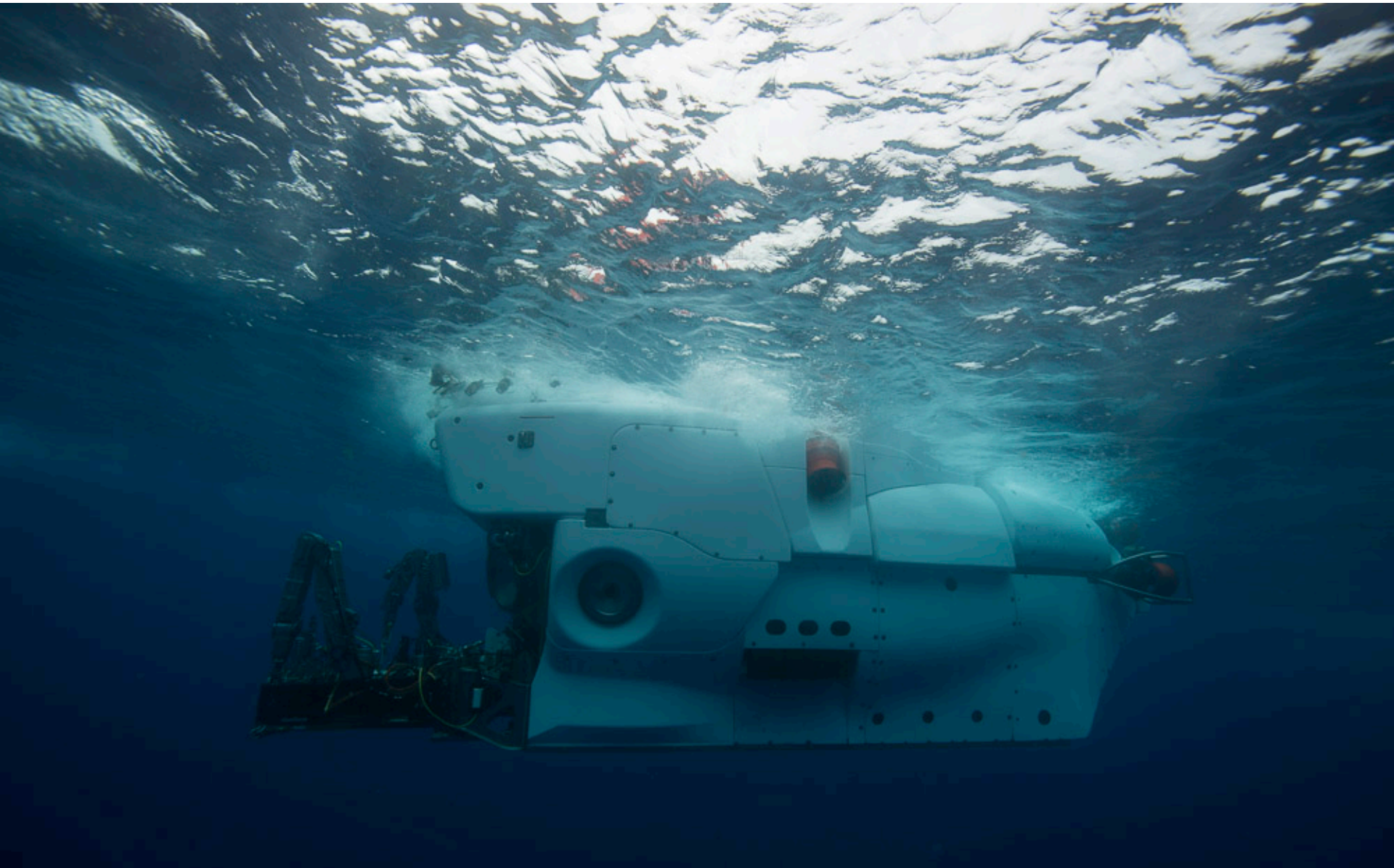
Overview

### The DEep Submergence Science Committee

### Upcoming Meetings

2014 DESSC Winter Meeting  
12/14/2014 San Francisco, CA

# *Alvin* Science Verification Cruise

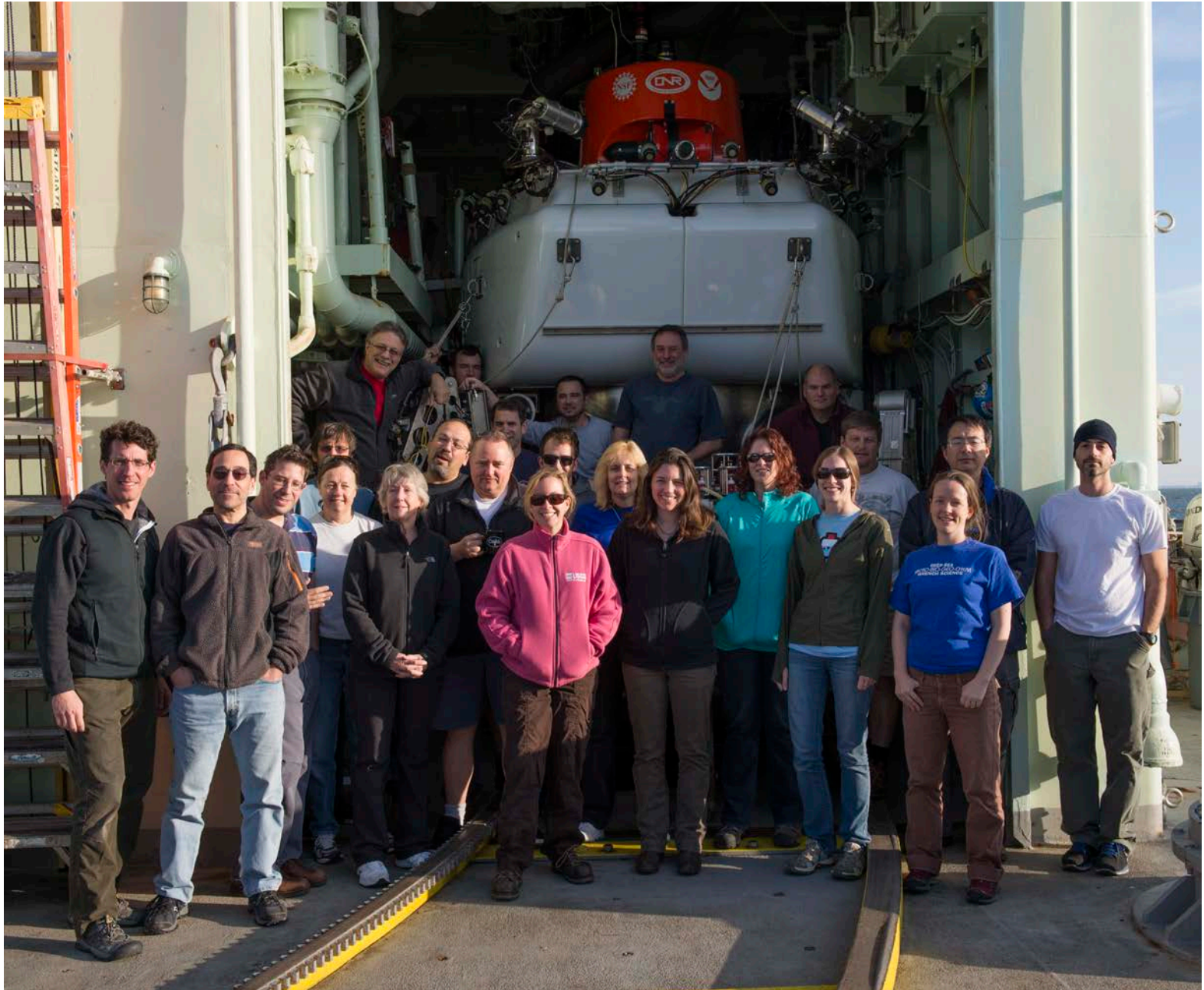




# Leg 1 participants



# Leg 2 participants





# *A shout out for Susan Humphris*



# ***Alvin* Science Verification Cruise**

From March 14 to 26, 2014, with support from NSF and ONR, twenty eight scientists and engineers from a variety of institutions sailed with the *DSV Alvin* to “road-test” the new vehicle in the Gulf of Mexico.

## **6 dives designed to shake out the bugs**

### **\*\*Good news\*\***

- Viewports, ergonomics are phenomenal !
- Vehicle handles well underwater
- Battery life, in general, is comparable

# ***Alvin* Science Verification Cruise**

## **\*\*Bad news\*\***

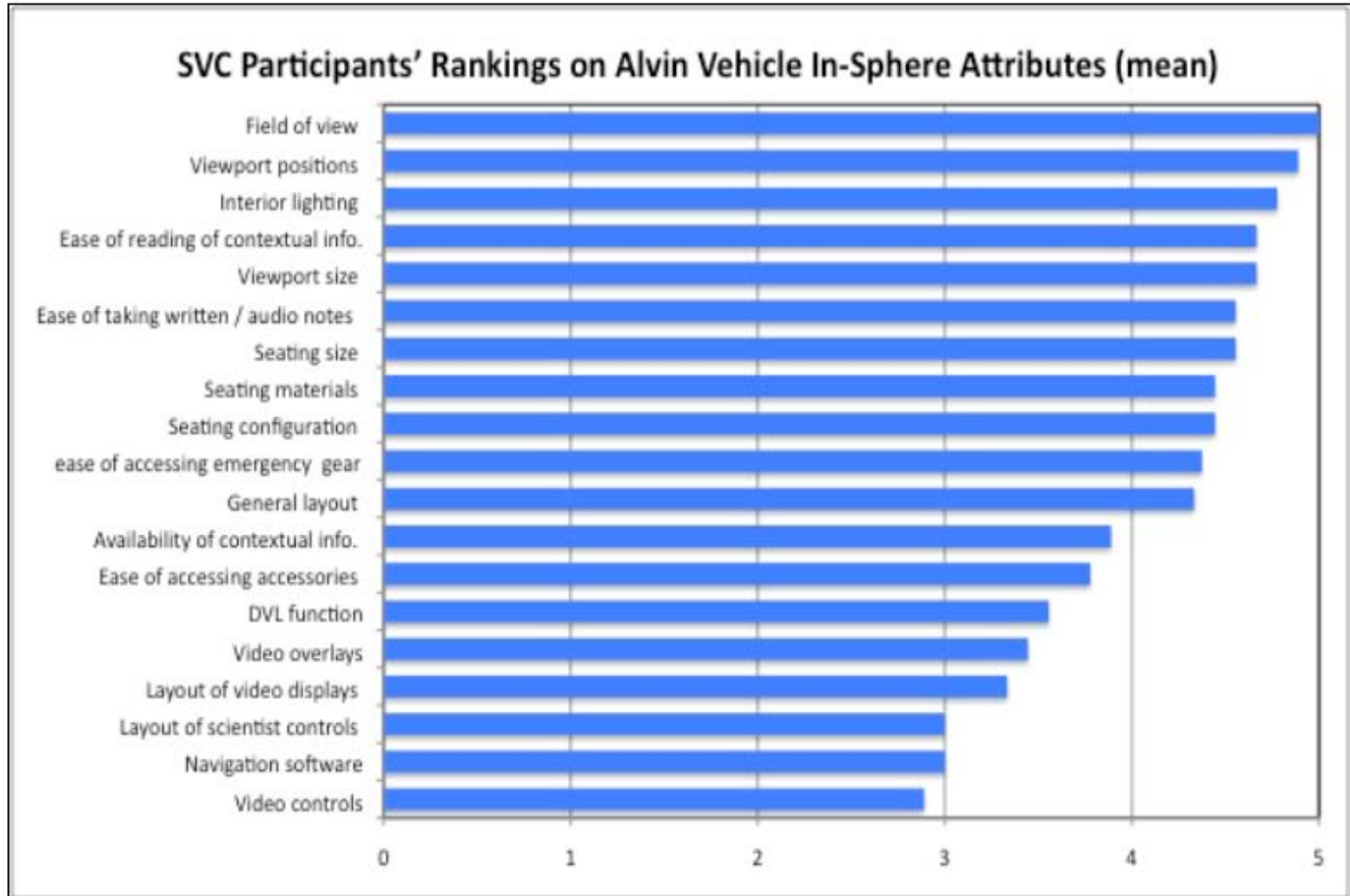
- Video/stillframe recording was compromised
- Some serial communications issues
- Concerns about battery life
- Scrubber fan motor died, cut program short

## **\*\*More good news!\*\***

- Video/stillframe recording issues ~99% resolved
- Serial communications issues resolved
- Battery life issues resolved
- Scrubber fan motor issue resolved (?)

# Alvin Science Verification Cruise

Participants contributed to quantitative and qualitative assessments



All of these data are online at the UNOLS website



# Science Verification Cruise (SVC) website

## Alvin Science Verification Cruise



Image credits: *Alvin* in the Hanger (left), photo by George Luther (U. Delaware); DSV-2 Alvin print (right), drawing by Kenn Berry

[Project Background](#)

[Cruise Objectives](#)

[Cruise Assessment](#)

[Cruise Data and Samples](#)

### Cruise Outreach & Publications:

#### Alvin Science Verification Cruise Website:

Cruise activities, videos, images and posts while at sea are documented on the WHOI website at:  
<http://alvinverification.whoi.edu/>

#### Wired.com, by Jeffrey Marlow:

<http://www.wired.com/wiredscience/2014/03/re-introducing-deep-submergence-vehicle-alvin/>

[http://archive.unols.org/committees/dessc/SVC\\_March2014/SVC\\_Products\\_and\\_Assessment.html](http://archive.unols.org/committees/dessc/SVC_March2014/SVC_Products_and_Assessment.html)

# Media coverage

Wired.com, by Jeffrey Marlow:

<http://www.wired.com/wiredscience/2014/03/re-introducing-deep-submergence-vehicle-alvin/>

<http://www.wired.com/wiredscience/2014/03/alvins-return-sea/>

Oceanus Article:

*At 50, Alvin Gets an Extreme Makeover - Same name, but dramatically upgraded submersible*

By Lonny Lippsett :: Originally published online June 11, 2014 : In print Vol. 51, No.1, Summer 2014

<http://www.whoi.edu/oceanus/feature/at-age-50--alvin-gets-an-extreme-makeover>

EOS article on Alvin's 50th Birthday:

*Fifty Years of Deep Ocean Exploration With the DSV Alvin* *Fifty Years of Deep Ocean Exploration With the DSV Alvin*

BY S. E. HUMPHRIS, C. R. GERMAN, AND J. P. HICKEY

Physics Today:

*Researchers get back to the deep*

by Toni Feder

Citation: Physics Today 67(6), 29 (2014); doi: 10.1063/PT.3.2415

View online: <http://dx.doi.org/10.1063/PT.3.2415>

A birthday wish from an *Alvin* alum who now works at MO BIO Inc:

<http://www.youtube.com/watch?v=0oXGT3YXTF8>

Deep-Sea Life:

Issue 3, May 2014

Welcome to the NEW Alvin!

by Jeffrey Marlow, California Institute of Technology

<http://www.indeep-project.org/sites/indeep-project.org/f/document/DSL3.pdf>

Marine Technology News:

*Upgraded Alvin Sub Passes Scientific Sea Trials*

March 28, 2014

<http://www.marinetechologynews.com/news/upgraded-alvin-passes-scientific-489179>

Smithsonian.com:

*Fast Forward: The Alvin Will Make The Ocean More Accessible Than Ever Before - A League of Its Own*

By Erica R. Hendry

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June 2014

<http://www.smithsonianmag.com/innovation/fast-forward-180951444/?no-ist>



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