

MLSOC workshop 13 December 2014

Executive Summary

On Saturday, 13 December 2014 the MLSOC and UNOLS Office conducted a workshop for new users and early career scientist interested in marine seismic research. With presentations by members of the Marcus Langseth Science Oversight Committee (MLSOC), the marine operations group at Lamont-Doherty Earth Observatory (LDEO) and NSF representatives, the workshop centered around the National Oceanographic Seismic Facility at LDEO, the capabilities of the R/V *Marcus Langseth*, as well as aspects of proposal writing, funding, and expedition planning. There were twelve applicants with eleven students attending. All the presentation slides are posted on the UNOLS meeting page web site (<http://www.unols.org/event/early-career-event/2014-mlsoc-early-career-workshop>).

Minutes

Dale Sawyer/Rice University and MLSOC Chair opened the meeting with introductions and a welcome. He provided an overview of the agenda for both this workshop and the MLSOC general meeting held on Sunday, December 14, 2014.

1. Introduction to how things work

UNOLS

Jon Alberts/UNOLS Executive Secretary and Alice Doyle/UNOLS Technical Services Manager introduced the UNOLS organization, its history, current fleet, and recent activities. The process for submitting a UNOLS ship time request form was discussed in detail. All participants were encouraged to contact the UNOLS office with any questions.

Federal Agencies

Bilal Haq, NSF GEO/OCE Program Manager and Jim Holik, NSF OCE Marine Technical Support provided an overview of NSF/MG&G program, the process for submitting proposal and how funding works. He noted that in recent years approximately 30 % of proposals are funded.

MLSOC

Dale Sawyer/Rice University and MLSOC chair led a discussion on the MLSOC. The MLSOC is a standing committee within UNOLS and is charged with overseeing the scientific operation of the vessel as a National Oceanographic Facility. The committee advises on the use of the vessel and acts in an advisory capacity. In an effort to build the user base of the ship, Dale has been reaching out to foreign researchers who may be

interested in using the *Langseth*. The MLSOC is also plays an active role in recommending equipment purchases to the agencies.

Ocean Bottom Seismograph Instrument Pool (OBSIP)

Brent Evers/ OMO Project Manager-Incorporated Research Institutions for Seismology (IRIS) provided an overview of the pool of ocean bottom seismometers which are available to researchers. The OBSIP pool is an NSF funded effort and is a component of the UNOLS scheduling process. This presentation covered the OBSIP organization, the long and short period instruments, current field operations, data available, and the steps to proposing to use the instruments.

2. Overview of the National Oceanographic Seismic Facility, R/V *Marcus Langseth* and Technical Support Provided

Sean Higgins/LDEO Director of the Office of Marine Operations, Robert Steinhaus/LDEO Sr. Science Officer & David Martinson/LDEO Technical Support led a detailed discussion on the capabilities of the R/V *Marcus Langseth*. This presentation covered all aspects of the ship operation, and technical support. The organization of the national facility, the physical layout of the ship, recent cruise data, aspects of environmental compliance, and cruise planning were all covered in detail. They stressed that the LDEO Marine Operations group is there to help, even in the proposal phases. They encouraged the participants to ask questions.

3. Grant Writing for the *Langseth*

Bilal Haq discussed the process of writing proposals and also some specifics on writing proposals for the R/V *Marcus Langseth*. He stressed that proposals must be good enough to rise to the top and the principal investigator (PI) must be persistent to get funding. Transformative proposals are required as there is a lot of competition for the research dollars. Barbara Ransom/NSF GEO/OCE, added that the NSF Program Managers are a resource and encouraged the participants to ask questions of their Program Managers.

The R/V *Marcus Langseth* is the only 3-D academic research vessel in the world and NSF is able to fund and schedule two to three seismic cruises each year due to their expense. Currently NSF MG&G is the only NSF division supporting work on the R/V *Marcus Langseth*.

For NSF programs, the cost of the ship time is not included in the science proposal budget but is covered in facilities. Ship costs are separate from science programs and proposals are reviewed on the scientific merit. The group was reminded that it is a misperception that proposals with ship time are less likely to get funded.

4. From Hypothesis to Cruise- A real life example

Dale Sawyer/Rice shared his experiences proposing and receiving funding of his Galicia-3D program. He covered the development of the hypothesis through several proposal resubmittals to the cruise planning and lessons learned.

This first proposal was submitted in 2005 and required several resubmittals. The main concerns of the reviewers were that the program was too big and also how the data would be processed. There was also concern about whether all of the required resources - the OBSs, the 2nd Vessel (R/V *Poseiden*) and the R/V *Langseth* – could be scheduled together.

Dale eventually scaled back the number of international collaborators and decided to have the data processed commercially. After the proposal was approved, the project then had to wait until the R/V *Marcus Langseth* moved from the Pacific to the Atlantic. Finally, lining up the schedules for the R/V *Langseth*, the OBSs and the R/V *Poseiden* took some doing but worked out in the end and the cruise sailed in May 2013.

Three weeks into the cruise the ship had a port main engine issue and was required to go back into the port of Vigo Spain. The repair took 19 days and the delay caused some people's schedule from continuing on the cruise. Dale then had to do a call for other people to come join the science party.

In the end the cruise was a huge success with an incredible dataset. The data is still in its final processing stages. It was a good example of how, with a lot of persistence, an idea can blossom into a cruise.

5. R/V *Marcus Langseth* Data

Nathan Bangs/UT presented an update on the R/V *Langseth* data set from the Costa Rica CRISP- 3D cruise.

6. Protection of Marine Species and Permitting

Holly Smith/NSF and Debbie Hutchinson/USGS presented an presentation on the requirements to obtain permits for marine seismic exploration cruises. In this report they covered aspects of environmental compliance, the effects of seismic research on marine mammals, the different enforcement agencies, the decision making process and the roles and responsibilities of both the permitting office, the ship operator, and the principal investigator. They stressed that both Holly at NSF and LDEO were there to help the PI through the process.

Conclusion

The workshop concluded with a question and answer session and adjourned at 5:00 pm. A dinner with the Deep Submergence Science Committee Workshop was held that evening.